

TABLE OF CONTENTS

INTRODUCTION	1
Ordering Information	2
About ULTRA Scientific	3
Distribution Partners	3
Custom Products	4
Quality Control Laboratory	5
ULTRAgold ISO Guide 34 Certified Reference Materials (CRM)	7
GHS Compliance	10
INORGANIC STANDARDS	11
BUFFERS & REAGENTS	49
ULTRACHECK®	53
EPA METHOD STANDARDS	75
EPA METHOD 500 SERIES	113
EPA METHOD 600 SERIES	191
EPA METHOD 8000 SERIES	241
THE EPA CONTRACT LABORATORY PROGRAM (CLP)	299
UST STANDARDS	315
ADDITIONAL METHODS	353
PCB'S AND RELATED COMPOUNDS	367
SINGLE ANALYTES - NEATS AND SOLUTIONS	390
Pesticides	390
PAHs	409
Additional Neat Compounds	411
Neat Reference Materials Kits	423
LIPIDS	427
ULTRAKITS®	433
CERTAN® Vials	439
Subject Index	441
Catalog Number Index	462
International Distributors	477
Ordering Information	478
Custom Product Order Form	479





ORDERING INFORMATION

Order Register an account at www.ultrasci.com
Email: csr@ultrasci.com
Phone: 800.338.1754 or 401.294.9400
Fax: 401.295.2330

Mail: ULTRA Scientific, Inc.
250 Smith Street
North Kingstown, RI 02852
United States of America

Same Day Shipment Order by 3:00 p.m. Eastern Time and in-stock items can ship same-day if requested. Please specify Saturday delivery when required.

Shipping Shipments via Federal Express or UPS. Freight forwarding and other 3PLs as required.

Payment

- 1) Mastercard®, VISA®, Discover®, American Express®
- 2) Wire Transfer
- 3) Check
- 4) C.O.D.

Terms and Conditions of Sales Prepay, Credit Card, Terms; EXW; ULTRA Scientific, North Kingstown, RI USA. Prices are subject to change without notice.

Minimum Order No minimum order is required.

Satisfaction Guarantee ULTRA Scientific products are guaranteed to be of stated specification during the life of the product, or they will be replaced.

Warranty ULTRA Scientific products are warranted to be of stated quality. No warranties are implied or expressed to merchantability or fitness to a particular purpose. ULTRA's products are available only through ULTRA Scientific or its authorized distributors. No warranties, claims for damages, or other claims will be honored if products are purchased through unauthorized channels.

Technical Service Our Chemists are trained to quickly and expertly assist you with your technical inquiries, problem solving or selection of appropriate standards for a particular testing method. For Technical Service, please call (401) 294-9400 Option #3, (M-F) 8:30 a.m. to 5:00 p.m., or email tech@ultrasci.com.

Packaging Standards are shipped in specially cleaned borosilicate glass ampules, glass vials, polyethylene bottles or the most appropriate packaging to ensure product integrity. All solutions and neat chemicals offered in this catalog conform to US DOT / IATA packaging requirements.

Return Policy Inspect all packages upon receipt. If material is defective or missing, please contact ULTRA immediately. ULTRA's Technical Service Department will, where necessary, issue a Return Materials Authorization (RMA). No return will be accepted without an RMA. All returned material may be subject to a 30% restocking or disposal fee.

ULTRA Express® Price Quote is provided within 2 hours and remains valid for 5 Business Days. Quality Control Validation Level is restricted to Level I - ISO Guide 34. Orders are subject to acceptance by ULTRA Scientific, pending Raw Material availability. Production is prioritized and orders ship same or next day. Orders must ship overnight and customer is responsible for all freight charges, including Hazardous Material Fees.

- Chemicals offered by ULTRA Scientific are for research and development use only and are not for clinical use.
- Products in this catalog may be hazardous; they should only be used by researchers familiar with their properties.
- Data included in this catalog are considered correct and reliable to the best of our knowledge. Please refer to our website for up-to-date product specifications.

Manufactured in an ISO 9001 Registered Facility • Packaged in an ISO Class 7 Clean Room • Verified by an ISO 17025 Accredited Laboratory



ORDER FROM ULTRA SCIENTIFIC

CALL 800.338.1754 • VISIT www.ultrasci.com • E-MAIL csr@ultrasci.com
com



ABOUT ULTRA SCIENTIFIC

When chemical analysis is performed, ULTRA Scientific offers chemical solutions and standards that support quality results.

Founded in 1976, ULTRA Scientific, Inc. is a global leader in analytical chemical solution manufacturing, offering Certified Reference Materials, QC standards, reagents, and other laboratory solutions that meet the needs of laboratory professionals worldwide.

Our extensive catalog listing of chemical standards is complemented by the flexibility to manufacture custom solutions to exacting specifications. ULTRA Scientific sells products and services direct to end-user laboratories, through international and regional distribution, and under OEM partnerships with multinational instrument manufacturers.

ULTRA Scientific operates Omnion Scientific Instruments, a manufacturer of analytical instrumentation and reagents for in-line process controls and nutritional labeling. Platforms include an Ion Selective Electrode Meter for sodium, potassium, calcium, and chloride and an OSI Instrument to test the Oxidative Stability of oils and other fats.

Rely on ULTRA Scientific's 40 years of technical experience in measurement science, providing innovative, quality products in a timely, cost-effective and efficient manner.

PRODUCTS

Certified Reference Materials (CRM)

IQ/OQ/PQ Standards

Quality Check Samples

Reference Materials (RM)

Mobile Phases

Buffers & Reagents

Calibration Standards

Linearity Standards

Diluents & Wash Solutions

MARKETS

Environmental

- ✓ Agricultural
- ✓ Petrochemical
- ✓ Forensics

Life Science

- ✓ Diagnostic
- ✓ Pharmaceutical
- ✓ Bioscience

Research

- ✓ University
- ✓ Governmental

Food & Beverage

Feed & Grain

Industrial & Mining

EUROPEAN SALES AND DISTRIBUTION CENTER

Wherever you are in the world, you can access ULTRA Scientific. With worldwide drop shipping capabilities from our Corporate Headquarters in Rhode Island, USA, ULTRA Scientific also operates European Sales and Distribution Centers and maintains close relationships with select distributors for sales support across the globe.

ULTRA SCIENTIFIC EUROPE GMBH

Werner-von-Siemens-Straße 11
46485 Wesel, Germany

Email: ultra@ultrasci.de

Office: 0049.281.8519165

Fax: 0049.281.8519167

ULTRA SCIENTIFIC ITALIA, S.R.L.

Via Fosse Ardeatine 30
40139 Bologna, Italy

Email: ultra@ultrasci.it

Office: 0039.051.6425042

Fax: 0039.051.6425043

INTERNATIONAL DISTRIBUTION

Visit our website for contacts across the globe:

www.ultrasci.com/distributors

COMPOUNDS

- ✓ Acids
 - ✓ Anilines
 - ✓ Aroclors
 - ✓ Aromatics
 - ✓ Benzidines
 - ✓ Biphenyls
 - ✓ Controlled Substances
 - ✓ Custom Synthesis
 - ✓ Dioxins & Furans
 - ✓ Explosives
 - ✓ Fatty Acids
 - ✓ Halocarbons
 - ✓ Hydrocarbons
 - ✓ Inorganics
 - ✓ Lipids
 - ✓ Metals
 - ✓ Nitrosamines
 - ✓ Organochlorides
 - ✓ Organometallics
 - ✓ PAHs
 - ✓ PBBs & PCBs
 - ✓ Pesticides
 - ✓ Phenols
 - ✓ Phthalates
 - ✓ Solvents
 - ✓ sVOC
 - ✓ Titrants
 - ✓ TOC
 - ✓ Toxicology
 - ✓ Veterinary Drug
 - ✓ VOC
- and many more!

PRODUCTION

Flexible Scale Manufacturing

- ✓ Neat Chemicals
- ✓ Single Analyte Solutions
- ✓ Multi Analyte Solutions

Custom Solutions

- ✓ Extensive Compatibility and Stability Database

Wide Range of Raw Materials

- ✓ Neat Identity and Purity Analysis
- ✓ Extensive Synthesis Department
- ✓ DEA Licensed
- ✓ ATFE Licensed

Accuracy and Precision

- ✓ Data Capture for Manufacturing Data, Quality Control Data with Calculated Uncertainty for Homogeneity, Short Term Stability, Long Term Stability
- ✓ Class A Volumetric Glassware
- ✓ Balances calibrated to NIST Traceable Weights
- ✓ Extensive instrument capabilities including MS IIIQ and GC IIIQ

Aseptic Filling

- ✓ ISO Class 5 and 7 Clean Room

Development to Commercialization

- ✓ OEM Product Formulation
- ✓ Custom Labeling & Packaging

CUSTOM PRODUCTS

Do you need a custom defined reference material or other chemical solution unique to your laboratory or testing procedure? If the product you require is not available as an ULTRA Catalog Product, we are well equipped to prepare it for you on a custom basis. Custom Reference Materials are a fast, economical way to meet your specific laboratory needs.

ULTRA Scientific maintains an expansive compatibility database, integrating 40 years of manufacturing and quality control data to offer stable and reliable custom product formulations. Choose from any of our three Quality Control Validation levels (see page 5).

Log on to www.ultrasci.com and use our convenient quotation request web page, or e-mail your request to quotes@ultrasci.com. You will receive a price quote within 24 hours. Need it even faster? Request our ULTRA Express® – Expedited Turn-Around Service.

ONLINE CATALOG

Discover the ULTRA difference – order online today! www.ultrasci.com

Designed with the customer in mind, ULTRA Scientific's website is informative and easy to use. Search functions allow you to easily find the catalog items you need. If we do not carry the products you require, request a custom quote online or e-mail quotes@ultrasci.com.

Need product information? Search by method, analyte, catalog number, CAS number or product line. Receive free ground shipping for online orders! Additional HAZMAT fees may apply.



QUALITY CONTROL LABORATORY

ULTRA Scientific operates an ISO 17025 Accredited Quality Control Laboratory and is accredited to ISO Guide 34 as a Reference Material Producer for the manufacture of Certified Reference Materials (CRM).

Rely on the expertise of our Applications Development Group for:

- ✓ Method Development
- ✓ Pre- and Post- fill Analysis
- ✓ Stability Testing and Protocols
- ✓ Homogeneity Testing



QUALITY CONTROL VALIDATION LEVELS

Chemical standards manufactured by ULTRA Scientific are supplied with a Lot Specific Certificate of Analysis (CofA) that reflects the associated Quality Control Validation Level. Certificate of Analysis can ship with the product and are available online. All ULTRA Catalog products, unless otherwise noted, are Level II - ISO Guide 34 Reference Materials.

		REPORTED VALUE	REPORTED UNCERTAINTY	FORMER NAME	SOLUTIONS	NEATS	LEAD TIME (CUSTOMS)
Level I	ISO Guide 34 RM	True (Calculated)	U_{char}	Gravimetric	✓	✓	5 Business Days
Level II	ISO Guide 34 RM	True (Analytical)	U_{char}	Full Validation	✓	✓	7 - 10 Business Days
Level III	ISO Guide 34 CRM	Certified	U_{exp}	ISO Guide 34	✓		15 - 20 Business Days

Level I Solution: Reference Material (RM) prepared gravimetrically in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The neat materials used for the product are verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported.

Level I Neat: Reference Material (RM) prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The true value (% purity) is reported.

Level II Solution: Reference Material (RM) prepared gravimetrically in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The neat materials used for the product are verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The analyte concentrations are verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported.

Level II Neat: Reference Material (RM) prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The materials used for this product are verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The true value (% purity), with its uncertainty value calculated at the 95% confidence level, is reported.

Level III Solution: Certified Reference Material (CRM) prepared gravimetrically in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The neat materials used for this product are verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The analyte concentrations are verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the certified value is reported with its uncertainty value calculated as the expanded uncertainty, in accordance with ISO Guide 35.

Please contact tech@ultrasci.com with any questions regarding Certificates of Analysis or QC Validation Levels of any product.

INSTRUMENTATION

- ✓ High Performance Liquid Chromatography Triple Quad Mass Spectrometer (HPLC-MS/MS)
- ✓ High Performance Liquid Chromatography Single Quad Mass Spectrometer (HPLC-MS)
- ✓ High Performance Liquid Chromatography-Diode Array Detector/HPLC-Fluorescence Detector (HPLC-FLD)
- ✓ High Performance Liquid Chromatography-Diode Array Detector/HPLC-Refractive Index Detector (HPLC-RID)
- ✓ Gas Chromatography-Mass Spectrometer/Mass Spectrometer (GC-MS/MS)
- ✓ Gas Chromatography-Mass Spectrometer (GC-MS)
- ✓ Gas Chromatography-Mass Spectrometer/Gas Chromatography-Flame Ionization Detector (FID)
- ✓ Gas Chromatography-Electron Capture Detector (ECD)/Gas Chromatography-Flame Ionization Detector (FID)
- ✓ Gas Chromatography-Flame Ionization Detector (FID)
- ✓ Gas Chromatography-Flame Ionization Detector/Gas Chromatography-Flame Ionization Detector (FID)
- ✓ Differential Scanning Calorimeter (DSC)
- ✓ UV-Vis Spectrophotometer
- ✓ Total Organic Carbon Analyzer (TOC)
- ✓ Oxidative Stability Instrument (OSI)
- ✓ Ion Selective Electrode Meter (ISE)
- ✓ Inductively Coupled Plasma-Optical Emission Spectrometer (ICP-OES)
- ✓ Inductively Coupled Plasma-Mass Spectrometer (ICP-MS)
- ✓ Ion Chromatograph (IC)
- ✓ Cyanide Analyzer w/ UV Digester
- ✓ Refractometer
- ✓ Density Meter
- ✓ Auto-Titrator
- ✓ Karl Fisher Titrator
- ✓ pH/Ion Meter
- ✓ pH/Conductivity Meter

TRIPLE CERTIFICATION



ULTRA Scientific is committed to product integrity by offering customers the assurance of triple certification to ISO Standards.

ULTRA Scientific operates under an ISO 9001 Registered Quality Management System, where an accrediting body (TUV) attests to the quality of our methods, procedures, testing, production, and record keeping.

Our Quality Control Laboratory is accredited to ISO 17025 (ANAB) for technical competence to perform testing of organic and inorganic materials and certified reference materials, as defined in our scope, accessible online at ANAB.org.

ULTRA Scientific is further accredited to ISO Guide 34 (ANAB) for technical competence as a Reference Material Producer of Certified Reference Materials. This requires ULTRA to identify and document the major components of uncertainty including homogeneity, short- and long-term stability, and the uncertainty due to analytical characterization and manufacturing.

ULTRA's most current certifications are accessible at:

<http://www.ultrasci.com/literature.aspx?literatureCategoryID=14>

Producer Name



Certificate of Analysis



Producer Part No.

Product Number: ICP-380
Lot Number: AU-00035

Lot Issue Date: 15-Jun-2010
Expiration Date: 28-Feb-2015

Material Name

Product Name: ULTRAgold[®] Mercury Standard

Description:

This Certified Reference Material (CRM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the certified value is reported with its uncertainty value calculated as the expanded uncertainty, in accordance with ISO Guide 35.

General Description

Analyte	CAS#	Analyte Lot	Certified Value
mercuric nitrate	10045-94-0	NT00039	1003±17µg/mL Mercury
Solvent: 2% nitric acid in water			

Instructions for Appropriate Storage Conditions

Storage: Store at Room Temperature (15-30°C). Do Not Refrigerate.

Store the CRM according to directions noted above. Keep container tightly closed in a dark, dry, and well-ventilated place. Extended storage at temperatures below 4°C or above 35°C is not recommended. Protect from light.

Certified Property Value w/ Statement of Uncertainty

Traceability:

Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:

Uncertainties in certified values are estimated in accordance with ISO Guides 34 and 35, and include assessments of the uncertainty contributions resulting from the gravimetric characterization of the reference material (u_{char}), the packaging of the reference material into individual units (u_{pk}), the transportation of the reference material to the end user (u_{tr}), and the long term storage of the reference material (u_{st}). The uncertainty (U) is reported as an expanded uncertainty, calculated as:

$$U = k \sqrt{u_{char}^2 + u_{pk}^2 + u_{st}^2 + u_{tr}^2}$$

using the coverage factor $k=2$, which gives a level of confidence of approximately 95%.

Homogeneity:

This CRM was formulated and unitized according to an in-house procedure. Statistical analyses were used to compare within-unit and between-unit variations. The uncertainty component resulting from this statistical assessment (u_{hd}) is the reported expanded uncertainty. There is no minimum sub-sample size required.



Certificate of Analysis



ISO Guide 34 Reference Material (CRM)

Product Number: ICP-380
Lot Number: AU-00035

Intended Use:

This CRM is intended as a calibration standard for the quantitative determination of the analytes listed, and for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:

Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the certified value to be valid within the stated uncertainties. Each unit contains slightly more than the stated labeled volume to facilitate transfer of the material for testing.

Should a gas evolution occur after refrigeration, gentle warming (60°C) and shaking of the container is usually sufficient to redissolve the material. If this is unsuccessful, an ultrasonic bath may be used. Solutions containing volatile components (such as gases) should be handled prior to opening to minimize fumes/gas problems.

Hazards:

Refer to the Safety Data Sheet for information regarding this CRM.

Expiration of Certification:

The certification of this CRM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the CRM is handled and stored in accordance with the instructions given in this certificate. This certificate is null and void if the CRM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:

The real-time, long term stability of the CRM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

William J. Kelly
Vice President of Quality

ISO 9001 Registered Quality System – TUV USA

Page 1 of 2

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Intended Use

Instructions for Proper Use

Period of Validity

Certified by ULTRA Scientific



ISO 9001 Registered Quality System TUV USA

Page 2 of 2

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Level II – Certificate of Analysis

Producer Name

Part Number

Lot Number

Material Name

General Description

Formulation

Storage Conditions

Traceability

Uncertainty

Homogeneity

Lot Specific Chromatogram

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: PSI-01UR500
Lot Number: CM-2063

Product Name: Aldrin Solution

Lot Issue Date: 4/28/2015
Expiration Date: 5/31/2017

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	CAS#	Analyte Lot	True Value
aldrin	000308-00-2	RM00635	502.1 ± 2.5 µg/mL

Solvent: Acetone

Storage: Store at 15° to 30°C, Do Not Refrigerate

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibration Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum subsample size required.

Chromatogram:

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: PSI-01UR500
Lot Number: CM-2063

Intended Use:
This RM is intended for the preparation of working reference standards for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainty. Each unit contains slightly more than the stated label volume to facilitate transfer of the material to testing.

Should crystallization occur after refrigeration, gentle warming (40°C) and shaking of the container is usually sufficient to redissolve the material. If this is unsuccessful, an ultrasonic bath may be used. Solutions containing volatile components (such as gases) should be analyzed prior to opening to minimize leakage problems.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, with the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is null if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
The real-time, long-term stability of the RM may be monitored over the lifetime of the certificate. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

W. J. M. J. J. J.
W. J. M. J. J. J.
Vice President USA/UK

ANAB
ANAB

ISO 9001 Registered Quality System – IUV USA

Page 2 of 2

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Page 1 of 2

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- Intended Use
- Instructions for Proper Use
- Period of Validity
- Certified by ULTRA Scientific



ULTRA Scientific Catalog Products are Level II – ISO Guide 34 Reference Materials, unless otherwise specified.



Pesticides and Related Compounds

ULTRA Scientific offers over a thousand pesticide and related compounds as either high purity Neat Reference Materials (RM) or as Single Analyte Solutions. This sections provides a listing of these products, per compound. All products are furnished with a Certificate of Analysis and are available to ship same-day.

Catalog Neat RM are offered in standard packaging sizes of 10mg, 25mg, 50mg and 100mg. The analytical weight is reported directly on the product label and the purity is listed on the Certificate of Analysis. Custom fill amounts and bulk requests are always available.

Single Analyte Solutions are typically formulated at either 100 µg/mL or 1000 µg/mL concentrations in suitable organic solvents, chosen with regard to solubility and stability. Our Part Number Convention key is helpful to identify solvents and concentrations across our product line. If our offering does not meet your needs, please contact ULTRA for an expedited product quotation.

ULTRAGrade® Quality

- ✓ Manufactured in accordance with ISO Guide 34 and under our ISO 9001 registered Quality System
- ✓ High purity solvents and pre-analyzed components, most with >99% purity
- ✓ Gravimetric weigh-in precision of ± 0.5%
- ✓ Analyte concentrations verified by our ISO 17025 Accredited Laboratory

PRODUCT PACKAGING & LABELING

ULTRA SCIENTIFIC
250 Smith Street • N. Kingstown, RI 02882
tel: 401.294.9400 • fax: 401.295.2333
www.ultrascientific.com

Heptachlor Solution

Item: PST-571K1000
Lot: CM-2464
Expires: 06/30/2017

Store at Room Temp (15° to 30°C), Do Not Refrigerate
Made in U.S.A.

DANGER
Acetone
Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.

Keep away from heat, hot surfaces, sparks, open flames and all other ignition sources. No smoking. Keep container tightly closed. Wash thoroughly after handling. Wear protective gloves / eye protection / face protection. INHALER: remove person to fresh air and keep conscious. Call a POISON CENTER / doctor / if you feel unwell!

250 Smith Street
N. Kingstown, RI 02882
www.ultrascientific.com

Heptachlor Solution
Item: PST-571K1000
Lot: CM-2464
Expires: 06/30/2017

FOR LAB USE ONLY
Made in U.S.A.



ULTRA SCIENTIFIC
250 Smith Street • N. Kingstown, RI 02882
tel: 401.294.9400 • fax: 401.295.2333
www.ultrascientific.com

Heptachlor Neat

Item: PST-571
Lot: NT052329
Expires: 09/30/2018

Store at Room Temp (15° to 30°C)
Made in U.S.A.

DANGER
Heptachlor
Suspected of causing cancer. Toxic if swallowed. Toxic in contact with skin. May cause drowsiness or dizziness through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

Obtain special instructions before use. Avoid release to the environment. Wear protective gloves / protective clothing / eye protection / face protection.

IF SWALLOWED: Immediately call a POISON CENTER or ON 30th: Wash with plenty of water.

250 Smith Street
N. Kingstown, RI 02882
www.ultrascientific.com

Heptachlor Neat
Item: PST-571
Lot: NT052329
Expires: 09/30/2018
FAS #: 9006-16-44-8
Serial #: 3007
Weight: 301 mg

FOR LAB USE ONLY
Made in U.S.A.



ULTRA Scientific is a Certified GHS Author for SDS and GHS compliant labeling. Chemical products manufactured and distributed by ULTRA Scientific are compliant with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Safety Data Sheets (SDS) and labels are prepared in accordance with the regulations and in the languages listed below. Additional languages are available upon request. As regulations are updated and expanded, ULTRA will maintain up-to-date records online at www.ultrasci.com. For further information, please contact regulatory@ultrasci.com.



European CLP Regulation

Regulation 1272/2008

- ✓ Chinese (Standard Mandarin)
- ✓ Czech
- ✓ Danish
- ✓ Dutch
- ✓ English
- ✓ Estonian
- ✓ Finnish
- ✓ French
- ✓ German
- ✓ Italian
- ✓ Japanese
- ✓ Korean
- ✓ Polish
- ✓ Portuguese
- ✓ Romanian
- ✓ Russian
- ✓ Spanish
- ✓ Swedish

USA GHS-OSHA Regulation

Hazcom 2012

- ✓ English
- ✓ Spanish
- ✓ French

Chinese GHS Regulation

GB/T 17519-2013 & GB/T 16483-2008

- ✓ Chinese (Standard Mandarin)
- ✓ English



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www.ultrasci.com

危險
heptachlor, ACETONE

高度易燃液体和蒸气长时间或反复接触可能对器官造成损伤 造成严重眼刺激 可能引起昏昏欲睡或晕眩 对水生生物毒性极大并具有长期持续影响 远离热源/火花/明火/热表面。禁止吸烟。洗...后彻底处理。戴防护手套/防护服/眼罩/防护面罩。如吸入:将患者转移到空气新鲜处,休息,保持利于呼吸的体位。如感觉不适,呼叫中毒控制中心或就火灾时:使用...灭火。

Heptachlor Solution

Item: PST-571K1000
Lot: CM-2464
Expires: 6/30/2017



Store at Room Temp (15° to 30°C), Do Not Refrigerate
Made in U.S.A.

欲了解更多信息,請參閱安全數據表



Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



INORGANIC STANDARDS

For ICP, ICP-MS, AA, and Ion Chromatography

ULTRA offers hundreds of NIST traceable inorganic products, including ULTRAGold® single element ISO Guide 34 CRM, EnviroConcentrates™ for ICP and AA analysis, as well as standards for TCLP, ICP-MS, and inorganic environmental methods.

All standards are manufactured in accordance with ISO Guide 34 under ULTRA's ISO 9001 registered quality system and verified by ULTRA's ISO 17025 accredited laboratory. ICP and ICP-MS standards are prepared from starting materials having a purity of 99.999% (where possible), high purity acids, and ASTM Type I water (18 megohm). Standards are traceable to NIST standard reference materials (SRMs) whenever possible.



INORGANIC STANDARDS	PAGE
● ULTRAGOLD® ISO GUIDE 34 CRM	12
● ICP/ICP-MS ENVIROCONCENTRATE KITS	16
● SINGLE ELEMENT ICP AND ICP-MS STANDARDS	17
● SINGLE ELEMENT AA STANDARDS	22
● AA ENVIROCONCENTRATES	24
● QUALITY CONTROL STANDARDS	26
● ICP MULTI-ELEMENT MIXES	28
● EPA METHOD 200.7	32
● EPA METHOD 200.8	36
● ICP-MS STANDARDS	37
● EPA METHOD 6010C	38
● CLP STANDARDS FOR ICP	40
● CLP STANDARDS FOR GFAA	43
● MATRIX MODIFIERS FOR GFAA	43
● SAFE DRINKING WATER ACT	44
● TCLP STANDARDS	44
● ANIONS—IC	45
● TIC/TOC STANDARDS	47
● CYANIDE STANDARDS	47

ISO GUIDE 34 CRM DOCUMENTATION

ULTRAGOLD® ISO GUIDE 34 CRM

Producer Name


Producer Part No.

Material Name

General Description

Instructions for Appropriate Storage Conditions

Certified Property Value w/ Statement of Uncertainty



Certificate of Analysis

ISO Guide 34 Certified Reference Material

Product Number: ICP-380
Lot Number: AU-00035

Lot Issue Date: 15-Jun-2010
Expiration Date: 28-Feb-2015

Product Name: ULTRAgold[®] Mercury Standard

Description:
This Certified Reference Material (CRM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the certified value is reported with its uncertainty value calculated as the expanded uncertainty, in accordance with ISO Guide 35.

Analyte	CAS#	Analyte Lot	Certified Value
mercuric nitrate	10045-94-0	NT00039	1003±17µg/ml Mercury

Solvent: 2% nitric acid in water

Storage: Store at Room Temperature (15-30°C). Do Not Refrigerate.
Store the CRM according to directions noted above. Keep container tightly closed in a dark, dry, and well-ventilated place. Extended storage at temperatures below 4°C or above 35°C is not recommended. Protect from light.

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.


Estimation of Uncertainties:
Uncertainties in certified values are estimated in accordance with ISO Guides 34 and 35, and include assessments of the uncertainty contributions resulting from the gravimetric characterization of the reference material (u_{char}), the packaging of the reference material into individual units (u_p), the transportation of the reference material to the end user (u_{tr}), and the long term storage of the reference material (u_{st}). The uncertainty (U) is reported as an expanded uncertainty, calculated as:

$$U = k \sqrt{u_{char}^2 + u_p^2 + u_{st}^2 + u_{tr}^2}$$

using the coverage factor $k=2$, which gives a level of confidence of approximately 95%.

Homogeneity:

This CRM was formulated and unitized according to an in-house procedure. Statistical analyses were used to compare within-unit and between-unit variations. The uncertainty component resulting from this statistical assessment (u_{st}) is the reported expanded uncertainty. There is no minimum sub-sample size required.



Certificate of Analysis

ISO Guide 34 Reference Material (CRM)

Product Number: ICP-380
Lot Number: AU-00035


Intended Use:
This CRM is intended as a calibration standard for the quantitative determination of the analytes listed, and for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.


Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the certified value to be valid within the stated uncertainties. Each unit contains slightly more than the stated labeled volume to facilitate transfer of the material for testing.
Should any variation occur after refrigeration, gentle warming (60°F) and shaking of the container is usually sufficient to redissolve the material. If this is unsuccessful, an ultrasonic bath may be used. Solutions containing soluble components (such as gases) should be chilled prior to opening to minimize headspace problems.

Hazards:
Refer to the Safety Data Sheet for information regarding this CRM.

Expiration of Certification:
The certification of this CRM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the CRM is handled and stored in accordance with the instructions given in this certificate. This certification is null and void if the CRM is damaged, contaminated, or otherwise misused.

Maintenance of Certification:
The real-time, long term stability of the CRM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.


William J. Latta
Vice President/COO/IRA



ISO 9001 Registered Quality System – TUV USA

Page 1 of 2



STREET N. KINGSTOWN, RHODE ISLAND 02852 USA WWW.ULTRASCI.COM

Intended Use

Instructions for Proper Use

Period of Validity

Certified by ULTRA Scientific

ISO 9001 Registered Quality System TUV USA

25C SMIT STREET N. KINGSTOWN, RHODE ISLAND 02852 USA WWW.ULTRASCI.COM

Page 2 of 2

ISO GUIDE 34



ULTRAGOLD® ISO GUIDE 34 CERTIFIED REFERENCE MATERIALS (CRM)

As technology improves and regulatory bodies keep pace with identifying new analytes and detection limits and setting new regulatory requirements, certified reference material producers must stay ahead of the curve with better-defined standards and calibrators with validated and stated uncertainties. In the absence of ISO Guide 34 CRM, laboratory technicians assume the arduous and time-consuming task of assessing and documenting the uncertainty of calibration standards in use.

ISO Guide 34 Accreditation requires the CRM manufacturer to identify and document the major components of uncertainty including homogeneity, short-term stability, long-term stability and the uncertainty due to analytical characterization. ULTRAGold® fulfills international need with ISO Guide 34 CRM at ideal concentrations of 1000 and 10 ppm for a complete line of inorganic standards.

All products are provided with an ISO Guide 34 Certificate Analysis, prepared according to ISO Guide 31.

SINGLE ELEMENT CRM

Element	Volume	1000 µg/mL Catalog #	10 µg/mL Catalog #
Aluminum (Al)	125 mL	ICP-313	ICP-413
Antimony (Sb)	125 mL	ICP-351	ICP-451
Arsenic (As)	125 mL	ICP-333	ICP-433
Barium (Ba)	125 mL	ICP-356	ICP-456
Beryllium (Be)	125 mL	ICP-304	ICP-404
Boron (B)	125 mL	ICP-305	ICP-405
Cadmium (Cd)	125 mL	ICP-348	ICP-448
Calcium (Ca)	125 mL	ICP-320	ICP-420
Chromium (Cr)	125 mL	ICP-324	ICP-424
Hexavalent Chromium (Cr(VI))	125 mL	ICP-324A	ICP-424A
Copper (Cu)	125 mL	ICP-329	ICP-429
Cobalt (Co)	125 mL	ICP-327	ICP-427
Gold (Au)	125 mL	ICP-379	ICP-479
Iron (Fe)	125 mL	ICP-326	ICP-426
Lead (Pb)	125 mL	ICP-382	ICP-482
Lithium (Li)	125 mL	ICP-303	ICP-403
Manganese (Mn)	125 mL	ICP-325	ICP-425
Magnesium (Mg)	125 mL	ICP-312	ICP-412
Mercury (Hg)	125 mL	ICP-380	ICP-480

SINGLE ELEMENT CRM

(continued)

Element	Volume	1000 µg/mL Catalog #	10 µg/mL Catalog #
Molybdenum (Mo)	125 mL	ICP-342	ICP-442
Nickel (Ni)	125 mL	ICP-328	ICP-428
Phosphorus (P)	125 mL	ICP-315	ICP-415
Potassium (K)	125 mL	ICP-319	ICP-419
Selenium (Se)	125 mL	ICP-334	ICP-434
Silicon (Si)	125 mL	ICP-314	ICP-414
Silver (Ag)	125 mL	ICP-347	ICP-447
Sodium (Na)	125 mL	ICP-311	ICP-411
Strontium (Sr)	125 mL	ICP-338	ICP-438
Sulfur (S)	125 mL	ICP-316	ICP-416
Thallium (Tl)	125 mL	ICP-381	ICP-481
Tin (Sn)	125 mL	ICP-350	ICP-450
Titanium (Ti)	125 mL	ICP-322	ICP-422
Vanadium (V)	125 mL	ICP-323	ICP-423
Zinc (Zn)	125 mL	ICP-330	ICP-430

ANION & CATION CRM

Element	Volume	1000 µg/mL Catalog #
Ammonium	125 mL	ICC-451
Bromide	125 mL	ICC-401
Chloride	125 mL	ICC-402
Fluoride	125 mL	ICC-403
Free Cyanide	125 mL	ICC-408
Nitrate	125 mL	ICC-404
Phosphate	125 mL	ICC-405
Sulfate	125 mL	ICC-406



ULTRAGRADE® ICP / ICP-MS STANDARDS FROM ULTRA SCIENTIFIC



- ✓ Manufactured in accordance with ISO Guide 34 under our ISO 9001 registered Quality System
- ✓ Analyte concentrations verified by our ISO 17025 Accredited Laboratory
- ✓ Starting materials have a purity of 99.999% (ICP) and 99.99% (AA), wherever possible
- ✓ High purity acids and ASTM Type I water (>18 megohm)
- ✓ Traceable to NIST SRM, wherever possible
- ✓ Analyzed for trace metal impurities
- ✓ Confirmed against an independent second-source standard
- ✓ Packaged in an ISO Class 7 Clean Room

ULTRAGrade® Documentation

Product Identity

Starting Material Specifications

Certified Value

Weights Traceable to NIST

Traceability Information:

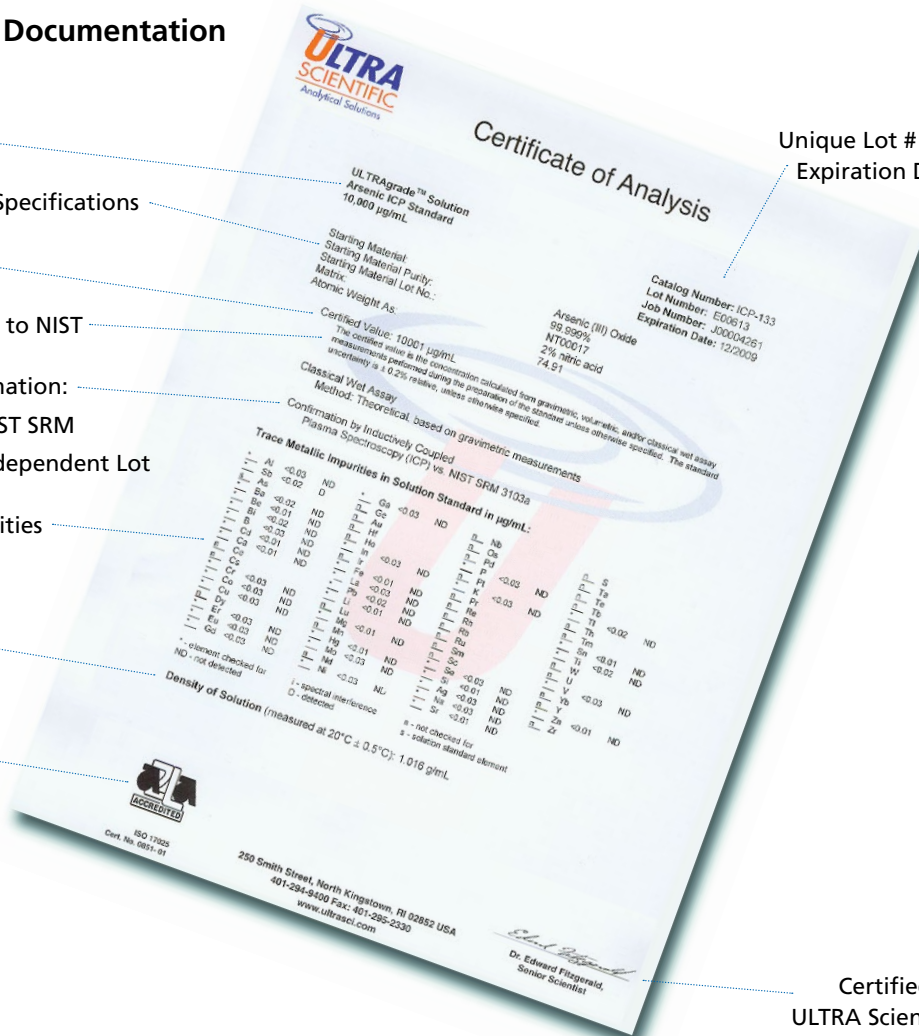
A. vs. NIST SRM

B. vs. Independent Lot

Trace Metal Impurities

Solution Density

Laboratory Accreditation



Unique Lot # and Expiration Date

Certified by
ULTRA Scientific

ENVIROCONCENTRATE™ KITS

A UNIQUE PRODUCT FOR ICP AND ICP-MS

The proven quality of ULTRA without the HAZMAT fees!

High concentration (10,000 µg/mL) ULTRAgrade® standards ideally suited for:

- ✓ Elimination of HAZMAT Fees: Require a standard to be shipped overnight but want to avoid the HAZMAT shipping fee? Because they are small volumes, EnviroConcentrates™ can be easily shipped without incurring HAZMAT fees.
- ✓ Calibration Curve Construction: At 10,000 µg/mL EnviroConcentrates™ can be easily diluted to produce any additional concentrations required.
- ✓ Custom Blends: EnviroConcentrates™ offer convenient and economical stock solutions for preparing in-house custom blends.
- ✓ Starting material is 99.999% pure, wherever possible
- ✓ NIST SRM traceable, wherever possible

Kit Includes:

- ✓ 125 mL pre-cleaned LDPE bottle for storage
- ✓ 20 mL of analyte solution @ 10,000 µg/mL
- ✓ 500 mL of ASTM Type I water

Yields 2 x 100 mL
1000 ppm standards



SINGLE ELEMENT STANDARDS FOR ICP AND ICP-MS

ULTRAGrade® Quality

- ✓ Manufactured in accordance with ISO Guide 34 and under our ISO 9001 registered Quality System
- ✓ Analyte concentrations verified by our ISO 17025 Accredited Laboratory
- ✓ Starting materials have a purity of 99.999% (ICP), wherever possible
- ✓ High purity acids and ASTM Type I water (>18 megohm)
- ✓ Traceable to NIST SRM, wherever possible
- ✓ Analyzed for trace metal impurities
- ✓ Confirmed against an independent second-source standard
- ✓ Packaged in an ISO Class 7 Clean Room



ULTRA has increased the volume from 100 to 125 mL at NO ADDITIONAL CHARGE!

ULTRAGRADE® ISO GUIDE 34 RM FOR SINGLE ELEMENT SOLUTION STANDARDS FOR ICP/ICP-MS

Element	NIST SRM	Volume	1000 µg/mL Catalog #	10,000 µg/mL Catalog #	Enviroconcentrate Kit #*
Aluminum (Al) <i>in dilute HNO₃</i>	3101	125 mL	ICP-013	ICP-113	ECK-013
		1 L	ICP-013-L	ICP-113-L	
Antimony (Sb) <i>in dilute HNO₃ / tr. tartaric</i>	3102	125 mL	ICP-051	ICP-151	ECK-051
		1 L	ICP-051-L	ICP-151-L	
Arsenic (As) <i>in dilute HNO₃</i>	3103	125 mL	ICP-033	ICP-133	ECK-033
		1 L	ICP-033-L	ICP-133-L	
Barium (Ba) <i>in dilute HNO₃</i>	3104	125 mL	ICP-056	ICP-156	ECK-056
		1 L	ICP-056-L	ICP-156-L	
Beryllium (Be) <i>in dilute HNO₃</i>	3105	125 mL	ICP-004	ICP-104	ECK-004
		1 L	ICP-004-L	ICP-104-L	
Bismuth (Bi) <i>in dilute HNO₃</i>	3106	125 mL	ICP-083	ICP-183	-
		1 L	ICP-083-L	-	
Boron (B) <i>in H₂O / trace NH₄OH</i>	3107	125 mL	ICP-005	ICP-105	ECK-005
		1 L	ICP-005-L	ICP-105-L	
Cadmium (Cd) <i>in dilute HNO₃</i>	3108	125 mL	ICP-048	ICP-148	ECK-048
		1 L	ICP-048-L	ICP-148-L	
Calcium (Ca) <i>in dilute HNO₃</i>	3109	125 mL	ICP-020	ICP-120	ECK-020
		1 L	ICP-020-L	ICP-120-L	
Cerium (Ce) <i>in dilute HNO₃</i>	3110	125 mL	ICP-058	ICP-158	-
		1 L	ICP-058-L	-	

*SAVE on HAZARDOUS SHIPPING CHARGES! Refer to Pg 12 for Enviroconcentrate configurations.

ULTRAGRADE[®] NIST TRACEABLE SINGLE ELEMENT SOLUTION STANDARDS FOR ICP/ICP-MS

Element	NIST SRM	Volume	1000 µg/mL Catalog #	10,000 µg/mL Catalog #	Enviroconcentrate Kit #*
Cesium (Cs) <i>in dilute HNO₃</i>	3111	125 mL 1 L	ICP-055 ICP-055-L	ICP-155 -	-
Chromium (Cr) <i>in dilute HNO₃</i>	3112	125 mL 1 L	ICP-024 ICP-024-L	ICP-124 ICP-124-L	ECK-024
Hexavalent Chromium (Cr(VI)) <i>in H₂O</i>	3112	125 mL 1 L	ICP-024A ICP-024A-L	- -	-
Cobalt (Co) <i>in dilute HNO₃</i>	3113	125 mL 1 L	ICP-027 ICP-027-L	ICP-127 ICP-127-L	ECK-027
Copper (Cu) <i>in dilute HNO₃</i>	3114	125 mL 1 L	ICP-029 ICP-029-L	ICP-129 ICP-129-L	ECK-029
Dysprosium (Dy) <i>in dilute HNO₃</i>	3115	125 mL 1 L	ICP-066 ICP-066-L	ICP-166 -	-
Erbium (Er) <i>in dilute HNO₃</i>	3116	125 mL 1 L	ICP-068 ICP-068-L	ICP-168 -	-
Europium (Eu) <i>in dilute HNO₃</i>	3117	125 mL 1 L	ICP-063 ICP-063-L	ICP-163 -	-
Gadolinium (Gd) <i>in dilute HNO₃</i>	3118	125 mL 1 L	ICP-064 ICP-064-L	ICP-164 -	-
Gallium (Ga) <i>in dilute HNO₃</i>	3119	125 mL 1 L	ICP-031 ICP-031-L	ICP-131 -	-
Germanium (Ge) <i>in H₂O / trace HF</i>	3120	125 mL 1 L	ICP-032 ICP-032-L	ICP-132 -	-
Gold (Au) <i>in dilute HCl</i>	3121	125 mL 1 L	ICP-079 ICP-079-L	ICP-179 ICP-179-L	-
Hafnium (Hf) <i>in dilute HCl</i>	3122	125 mL 1 L	ICP-072 ICP-072-L	ICP-172 -	-
Holmium (Ho) <i>in dilute HNO₃</i>	3123	125 mL 1 L	ICP-067 ICP-067-L	ICP-167 -	-
Indium (In) <i>in dilute HNO₃</i>	3124	125 mL 1 L	ICP-049 ICP-049-L	ICP-149 -	-
Iridium (Ir) <i>in dilute HCl</i>	N/A	125 mL 1 L	ICP-077 ICP-077-L	ICP-177 -	-
Iron (Fe) <i>in dilute HNO₃</i>	3126	125 mL 1 L	ICP-026 ICP-026-L	ICP-126 ICP-126-L	ECK-026

*SAVE on HAZARDOUS SHIPPING CHARGES! Refer to Pg 12 for Enviroconcentrate configurations.

ULTRAGRADE[®] NIST TRACEABLE SINGLE ELEMENT SOLUTION STANDARDS FOR ICP/ICP-MS

Element	NIST SRM	Volume	1000 µg/mL Catalog #	10,000 µg/mL Catalog #	Enviroconcentrate Kit #*
Lanthanum (La) <i>in dilute HNO₃</i>	3127	125 mL 1 L	ICP-057 ICP-057-L	ICP-157 -	-
Lead (Pb) <i>in dilute HNO₃</i>	3128	125 mL 1 L	ICP-082 ICP-082-L	ICP-182 ICP-182-L	ECK-082
Lithium (Li) <i>in dilute HNO₃</i>	3129	125 mL 1 L	ICP-003 ICP-003-L	ICP-103 ICP-103-L	ECK-003
Lutetium (Lu) <i>in dilute HNO₃</i>	3130	125 mL 1 L	ICP-071 ICP-071-L	ICP-171 -	-
Magnesium (Mg) <i>in dilute HNO₃</i>	3131	125 mL 1 L	ICP-012 ICP-012-L	ICP-112 ICP-112-L	ECK-012
Manganese (Mn) <i>in dilute HNO₃</i>	3132	125 mL 1 L	ICP-025 ICP-025-L	ICP-125 ICP-125-L	ECK-025
Mercury (Hg) <i>in dilute HNO₃</i>	3133	125 mL 1 L	ICP-080 ICP-080-L	ICP-180 ICP-180-L	ECK-080
Molybdenum (Mo) <i>in H₂O / trace NH₄OH</i>	3134	125 mL 1 L	ICP-042 ICP-042-L	ICP-142 ICP-142-L	ECK-042
Neodymium (Nd) <i>in dilute HNO₃</i>	3135	125 mL 1 L	ICP-060 ICP-060-L	ICP-160 -	-
Nickel (Ni) <i>in dilute HNO₃</i>	3136	125 mL 1 L	ICP-028 ICP-028-L	ICP-128 ICP-128-L	ECK-028
Niobium (Nb) <i>in H₂O / trace HF</i>	3137	125 mL 1 L	ICP-041 ICP-041-L	ICP-141 -	-
Palladium (Pd) <i>in dilute HNO₃</i>	3138	125 mL 1 L	ICP-046 ICP-046-L	ICP-146 -	-
Phosphorus (P) <i>in dilute HNO₃</i>	3139	125 mL 1 L	ICP-015 ICP-015-L	ICP-115 ICP-115-L	ECK-015
Platinum (Pt) <i>in dilute HCl</i>	3140	125 mL 1 L	ICP-078 ICP-078-L	ICP-178 ICP-178-L	-
Potassium (K) <i>in dilute HNO₃</i>	3141	125 mL 1 L	ICP-019 ICP-019-L	ICP-119 ICP-119-L	ECK-019
Praseodymium (Pr) <i>in dilute HNO₃</i>	3142	125 mL 1 L	ICP-059 ICP-059-L	ICP-159 -	-
Rhenium (Re) <i>in H₂O</i>	3143	125 mL 1 L	ICP-075 ICP-075-L	ICP-175 -	-

*SAVE on HAZARDOUS SHIPPING CHARGES! Refer to Pg 12 for Enviroconcentrate configurations.

ULTRAGRADE[®] NIST TRACEABLE SINGLE ELEMENT SOLUTION STANDARDS FOR ICP/ICP-MS

Element	NIST SRM	Volume	1000 µg/mL Catalog #	10,000 µg/mL Catalog #	Enviroconcentrate Kit #*
Rhodium (Rh) <i>in dilute HCl</i>	3144	125 mL 1 L	ICP-045 -	- -	-
Rubidium (Rb) <i>in dilute HNO₃</i>	3145	125 mL 1 L	ICP-037 ICP-037-L	ICP-137 -	-
Ruthenium (Ru) <i>in dilute HCl</i>	N/A	125 mL 1 L	ICP-044 ICP-044-L	ICP-144 -	-
Samarium (Sm) <i>in dilute HNO₃</i>	3147	125 mL 1 L	ICP-062 ICP-062-L	ICP-162 -	-
Scandium (Sc) <i>in dilute HNO₃</i>	3148	125 mL 1 L	ICP-021 ICP-021-L	ICP-121 ICP-121-L	-
Selenium (Se) <i>in dilute HNO₃</i>	3149	125 mL 1 L	ICP-034 ICP-034-L	ICP-134 ICP-134-L	ECK-034
Silicon (Si) <i>in dilute HNO₃</i>	3150	125 mL 1 L	ICP-014 ICP-014-L	ICP-114 ICP-114-L	ECK-014
Silica (SiO₂) <i>in dilute NaOH</i>	N/A	125 mL 1 L	ICP-014A ICP-014A-L	- -	-
Silver (Ag) <i>in dilute HNO₃</i>	3151	125 mL 1 L	ICP-047 ICP-047-L	ICP-147 ICP-147-L	ECK-047
Sodium (Na) <i>in dilute HNO₃</i>	3152	125 mL 1 L	ICP-011 ICP-011-L	ICP-111 ICP-111-L	ECK-011
Strontium (Sr) <i>in dilute HNO₃</i>	3153	125 mL 1 L	ICP-038 ICP-038-L	ICP-138 ICP-138-L	ECK-038
Sulfur (S) <i>in H₂O</i>	3154	125 mL 1 L	ICP-016 ICP-016-L	ICP-116 ICP-116-L	-
Tantalum (Ta) <i>in H₂O / trace HF</i>	3155	125 mL 1 L	ICP-073 ICP-073-L	ICP-173 -	-
Tellurium (Te) <i>in dilute HCl</i>	3156	125 mL 1 L	ICP-052 ICP-052-L	ICP-152 -	-
Terbium (Tb) <i>in dilute HNO₃</i>	3157	125 mL 1 L	ICP-065 ICP-065-L	ICP-165 -	-
Thallium (Tl) <i>in dilute HNO₃</i>	3158	125 mL 1 L	ICP-081 ICP-081-L	ICP-181 ICP-181-L	ECK-081
Thorium (Th) <i>in dilute HNO₃</i>	3159	125 mL 1 L	ICP-090 ICP-090-L	ICP-190 -	-

*SAVE on HAZARDOUS SHIPPING CHARGES! Refer to Pg 12 for Enviroconcentrate configurations.

ULTRAGRADE[®] NIST TRACEABLE SINGLE ELEMENT SOLUTION STANDARDS FOR ICP/ICP-MS

Element	NIST SRM	Volume	1000 µg/mL Catalog #	10,000 µg/mL Catalog #	Enviroconcentrate Kit #*
Thulium (Tm) <i>in dilute HNO₃</i>	3160	125 mL 1 L	ICP-069 ICP-069-L	ICP-169 -	-
Tin (Sn) <i>in dilute HNO₃</i>	3161	125 mL 1 L	ICP-050 ICP-050-L	ICP-150 ICP-150-L	ECK-050
Titanium (Ti) <i>in dilute NH₄OH</i>	3162	125 mL 1 L	ICP-022 ICP-022-L	ICP-122 ICP-122-L	ECK-022
Tungsten (W) <i>in H₂O / trace NH₄OH</i>	3163	125 mL 1 L	ICP-074 ICP-074-L	ICP-174 -	-
Uranium (U) <i>in dilute HNO₃</i>	3164	125 mL 1 L	ICP-092 ICP-092-L	ICP-192 -	-
Vanadium (V) <i>in dilute HNO₃ / trace HF</i>	3165	125 mL 1 L	ICP-023 ICP-023-L	ICP-123 ICP-123-L	ECK-023
Ytterbium (Yb) <i>in dilute HNO₃</i>	3166	125 mL 1 L	ICP-070 ICP-070-L	ICP-170 -	-
Yttrium (Y) <i>in dilute HNO₃</i>	3167	125 mL 1 L	ICP-039 ICP-039-L	ICP-139 -	-
Zinc (Zn) <i>in dilute HNO₃</i>	3168	125 mL 1 L	ICP-030 ICP-030-L	ICP-130 ICP-130-L	ECK-030
Zirconium (Zr) <i>in dilute HNO₃</i>	3169	125 mL 1 L	ICP-040 ICP-040-L	ICP-140 -	-

*SAVE on HAZARDOUS SHIPPING CHARGES! Refer to Pg 12 for Enviroconcentrate configurations.

Single Element Kit for the CLP

ULTRA Scientific has assembled all the necessary elemental standards required for Contract Laboratory Program (CLP) work. Each element is ULTRAGrade[®] quality, and traceable to a NIST SRM.

Kit – contains twenty-three bottles:

125 mL of each @ 1000 µg/mL:

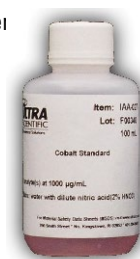
aluminum (Al)	calcium (Ca)	magnesium (Mg)	silver (Ag)
antimony (Sb)	chromium (Cr)	manganese (Mn)	sodium (Na)
arsenic (As)	cobalt (Co)	mercury (Hg)	thallium (Tl)
barium (Ba)	copper (Cu)	nickel (Ni)	vanadium (V)
beryllium (Be)	iron (Fe)	potassium (K)	zinc (Zn)
cadmium (Cd)	lead (Pb)	selenium (Se)	

ICPK-3 Kit

SINGLE ELEMENT STANDARDS FOR AA

ULTRAGrade® Quality

- ✓ Manufactured in accordance with ISO Guide 34 and under our ISO 9001 registered Quality System
- ✓ Analyte concentrations verified by our ISO 17025 Accredited Laboratory
- ✓ Starting materials have a purity of 99.999% (ICP), wherever possible
- ✓ High purity acids and ASTM Type I water (>18 megohm)
- ✓ Traceable to NIST SRM, wherever possible
- ✓ Analyzed for trace metal impurities
- ✓ Confirmed against an independent second-source standard
- ✓ Packaged in an ISO Class 7 Clean Room



ULTRAGRADE® NIST TRACEABLE SINGLE ELEMENT SOLUTION STANDARDS FOR AA

Element	Volume	1000 µg/mL Catalog #	Element	Volume	1000 µg/mL Catalog #
Aluminum (Al) <i>in dilute HNO₃</i>	125 mL	IAA-213	Erbium (Er) <i>in dilute HNO₃</i>	125 mL	IAA-268
Antimony (Sb) <i>in dilute HNO₃/tr. tartaric</i>	125 mL	IAA-251	Europium (Eu) <i>in dilute HNO₃</i>	125 mL	IAA-263
Arsenic (As) <i>in dilute HNO₃</i>	125 mL	IAA-233	Gadolinium (Gd) <i>in dilute HNO₃</i>	125 mL	IAA-264
Barium (Ba) <i>in dilute HNO₃</i>	125 mL	IAA-256	Gallium (Ga) <i>in dilute HNO₃</i>	125 mL	IAA-231
Beryllium (Be) <i>in dilute HNO₃</i>	125 mL	IAA-204	Germanium (Ge) <i>in H₂O/trace HF</i>	125 mL	IAA-232
Bismuth (Bi) <i>in dilute HNO₃</i>	125 mL	IAA-283	Gold (Au) <i>in dilute HCl</i>	125 mL	IAA-279
Boron (B) <i>in H₂O/trace NH₄OH</i>	125 mL	IAA-205	Hafnium (Hf) <i>in dilute HCl</i>	125 mL	IAA-272
Cadmium (Cd) <i>in dilute HNO₃</i>	125 mL	IAA-248	Holmium (Ho) <i>in dilute HNO₃</i>	125 mL	IAA-267
Calcium (Ca) <i>in dilute HNO₃</i>	125 mL	IAA-220	Indium (In) <i>in dilute HNO₃</i>	125 mL	IAA-249
Cerium (Ce) <i>in dilute HNO₃</i>	125 mL	IAA-258	Iridium (Ir) <i>in dilute HCl</i>	125 mL	IAA-277
Cesium (Cs) <i>in dilute HNO₃</i>	125 mL	IAA-255	Iron (Fe) <i>in dilute HNO₃</i>	125 mL	IAA-226
Chromium (Cr) <i>in dilute HNO₃</i>	125 mL	IAA-224	Lanthanum (La) <i>in dilute HNO₃</i>	125 mL	IAA-257
Cobalt (Co) <i>in dilute HNO₃</i>	125 mL	IAA-227	Lead (Pb) <i>in dilute HNO₃</i>	125 mL	IAA-282
Copper (Cu) <i>in dilute HNO₃</i>	125 mL	IAA-229	Lithium (Li) <i>in dilute HNO₃</i>	125 mL	IAA-203
Dysprosium (Dy) <i>in dilute HNO₃</i>	125 mL	IAA-266	Lutetium (Lu) <i>in dilute HNO₃</i>	125 mL	IAA-271

ULTRAGRADE® ISO GUIDE 34 RM FOR SINGLE ELEMENT SOLUTION STANDARDS FOR AA

Element	Volume	1000 µg/mL Catalog #	Element	Volume	1000 µg/mL Catalog #
Magnesium (Mg) <i>in dilute HNO₃</i>	125 mL	IAA-212	Silver (Ag) <i>in dilute HNO₃</i>	125 mL	IAA-247
Manganese (Mn) <i>in dilute HNO₃</i>	125 mL	IAA-225	Sodium (Na) <i>in dilute HNO₃</i>	125 mL	IAA-211
Mercury (Hg) <i>in dilute HNO₃</i>	125 mL	IAA-280	Strontium (Sr) <i>in dilute HNO₃</i>	125 mL	IAA-238
Molybdenum (Mo) <i>in H₂O / trace NH₄OH</i>	125 mL	IAA-242	Sulfur (S) <i>in H₂O</i>	125 mL	IAA-216
Neodymium (Nd) <i>in dilute HNO₃</i>	125 mL	IAA-260	Tantalum (Ta) <i>in H₂O / trace HF</i>	125 mL	IAA-273
Nickel (Ni) <i>in dilute HNO₃</i>	125 mL	IAA-228	Tellurium (Te) <i>in dilute HCl</i>	125 mL	IAA-252
Niobium (Nb) <i>in H₂O / trace HF</i>	125 mL	IAA-241	Terbium (Tb) <i>in dilute HNO₃</i>	125 mL	IAA-265
Palladium (Pd) <i>in dilute HNO₃</i>	125 mL	IAA-246	Thallium (Tl) <i>in dilute HNO₃</i>	125 mL	IAA-281
Phosphorus (P) <i>in dilute HNO₃</i>	125 mL	IAA-215	Thorium (Th) <i>in dilute HNO₃</i>	125 mL	IAA-290
Platinum (Pt) <i>in dilute HCl</i>	125 mL	IAA-278	Thulium (Tm) <i>in dilute HNO₃</i>	125 mL	IAA-269
Potassium (K) <i>in dilute HNO₃</i>	125 mL	IAA-219	Tin (Sn) <i>in dilute HNO₃</i>	125 mL	IAA-250
Praseodymium (Pr) <i>in dilute HNO₃</i>	125 mL	IAA-259	Titanium (Ti) <i>in dilute HNO₃</i>	125 mL	IAA-222
Rhenium (Re) <i>in H₂O</i>	125 mL	IAA-275	Tungsten (W) <i>in H₂O / trace NH₄OH</i>	125 mL	IAA-274
Rhodium (Rh) <i>in dilute HCl</i>	125 mL	IAA-245	Uranium (U) <i>in dilute HNO₃</i>	125 mL	IAA-292
Rubidium (Rb) <i>in dilute HNO₃</i>	125 mL	IAA-237	Vanadium (V) <i>in dilute HNO₃ / tr. HF</i>	125 mL	IAA-223
Ruthenium (Ru) <i>in dilute HCl</i>	125 mL	IAA-244	Ytterbium (Yb) <i>in dilute HNO₃</i>	125 mL	IAA-270
Samarium (Sm) <i>in dilute HNO₃</i>	125 mL	IAA-262	Yttrium (Y) <i>in dilute HNO₃</i>	125 mL	IAA-239
Scandium (Sc) <i>in dilute HNO₃</i>	125 mL	IAA-221	Zinc (Zn) <i>in dilute HNO₃</i>	125 mL	IAA-230
Selenium (Se) <i>in dilute HNO₃</i>	125 mL	IAA-234	Zirconium (Zr) <i>in dilute HNO₃</i>	125 mL	IAA-240
Silicon (Si) <i>in dilute HNO₃</i>	125 mL	IAA-214			

ENVIROCONCENTRATES™ – A UNIQUE PRODUCT FOR ATOMIC ABSORPTION SPECTROSCOPY

ULTRA quality AA standards, without the HAZMAT fees!

High concentration (10,000 µg/mL) ULTRAGrade® standards ideally suited for:

- ✓ Elimination of HAZMAT Fees: Require a standard to be shipped overnight but want to avoid the HAZMAT shipping fee? Because they are small quantities, EnviroConcentrates™ can be easily shipped without incurring HAZMAT fees.
- ✓ Calibration Curve Construction: At 10,000 µg/mL EnviroConcentrates™ can be easily diluted to produce any additional concentrations required.
- ✓ Custom Blends: EnviroConcentrates™ offer convenient and economical stock solutions for preparing in-house custom blends.

ENVIROCONCENTRATES™ FOR ATOMIC ABSORPTION

- ✓ No HAZMAT fees
- ✓ 10 mL of analyte solution @ 10,000 µg/mL
- ✓ Starting materials 99.99% pure, wherever possible
- ✓ NIST SRM traceable, wherever possible
- ✓ Yields 1 x 100 mL of standard @ 1000 µg/mL



Element	Volume	Catalog #	Element	Volume	Catalog #
Aluminum (Al) <i>in dilute HNO₃</i>	10 mL	IAA-013w	Cerium (Ce) <i>in dilute HNO₃</i>	10 mL	IAA-058
Antimony (Sb) <i>in dilute HNO₃ / tr. tartaric</i>	10 mL	IAA-051	Cesium (Cs) <i>in dilute HNO₃</i>	10 mL	IAA-055
Arsenic (As) <i>in dilute HNO₃</i>	10 mL	IAA-033	Chromium (Cr) <i>in dilute HNO₃</i>	10 mL	IAA-024
Barium (Ba) <i>in dilute HNO₃</i>	10 mL	IAA-056	Cobalt (Co) <i>in dilute HNO₃</i>	10 mL	IAA-027
Beryllium (Be) <i>in dilute HNO₃</i>	10 mL	IAA-004	Copper (Cu) <i>in dilute HNO₃</i>	10 mL	IAA-029
Bismuth (Bi) <i>in dilute HNO₃</i>	10 mL	IAA-083	Dysprosium (Dy) <i>in dilute HNO₃</i>	10 mL	IAA-066
Boron (B) <i>in H₂O / trace NH₄OH</i>	10 mL	IAA-005	Erbium (Er) <i>in dilute HNO₃</i>	10 mL	IAA-068
Cadmium (Cd) <i>in dilute HNO₃</i>	10 mL	IAA-048	Europium (Eu) <i>in dilute HNO₃</i>	10 mL	IAA-063
Calcium (Ca) <i>in dilute HNO₃</i>	10 mL	IAA-020	Gadolinium (Gd) <i>in dilute HNO₃</i>	10 mL	IAA-064

ENVIROCONCENTRATES™ FOR ATOMIC ABSORPTION

Element	Volume	Catalog #	Element	Volume	Catalog #
Gallium (Ga) <i>in dilute HNO₃</i>	10 mL	IAA-031	Silver (Ag) <i>in dilute HNO₃</i>	10 mL	IAA-047
Germanium (Ge) <i>in H₂O / trace HF</i>	10 mL	IAA-032	Sodium (Na) <i>in dilute HNO₃</i>	10 mL	IAA-011
Holmium (Ho) <i>in dilute HNO₃</i>	10 mL	IAA-067	Strontium (Sr) <i>in dilute HNO₃</i>	10 mL	IAA-038
Indium (In) <i>in dilute HNO₃</i>	10 mL	IAA-049	Sulfur (S) <i>in H₂O</i>	10 mL	IAA-016
Iron (Fe) <i>in dilute HNO₃</i>	10 mL	IAA-026	Tantalum (Ta) <i>in H₂O / trace HF</i>	10 mL	IAA-073
Lanthanum (La) <i>in dilute HNO₃</i>	10 mL	IAA-057	Tellurium (Te) <i>in dilute HCl</i>	10 mL	IAA-052
Lead (Pb) <i>in dilute HNO₃</i>	10 mL	IAA-082	Terbium (Tb) <i>in dilute HNO₃</i>	10 mL	IAA-065
Lithium (Li) <i>in dilute HNO₃</i>	10 mL	IAA-003	Thallium (Tl) <i>in dilute HNO₃</i>	10 mL	IAA-081
Magnesium (Mg) <i>in dilute HNO₃</i>	10 mL	IAA-012	Thorium (Th) <i>in dilute HNO₃</i>	10 mL	IAA-090
Manganese (Mn) <i>in dilute HNO₃</i>	10 mL	IAA-025	Tin (Sn) <i>in H₂O</i>	10 mL	IAA-050
Mercury (Hg) <i>in dilute HNO₃</i>	10 mL	IAA-080	Titanium (Ti) <i>in H₂O / trace HF</i>	10 mL	IAA-022
Molybdenum (Mo) <i>in H₂O / trace NH₄OH</i>	10 mL	IAA-042	Tungsten (W) <i>in H₂O / trace NH₄OH</i>	10 mL	IAA-074
Neodymium (Nd) <i>in dilute HNO₃</i>	10 mL	IAA-060	Uranium (U) <i>in dilute HNO₃</i>	10 mL	IAA-092
Nickel (Ni) <i>in dilute HNO₃</i>	10 mL	IAA-028	Vanadium (V) <i>in dilute HNO₃ / tr. HF</i>	10 mL	IAA-023
Niobium (Nb) <i>in H₂O / trace HF</i>	10 mL	IAA-041	Ytterbium (Yb) <i>in dilute HNO₃</i>	10 mL	IAA-070
Phosphorus (P) <i>in dilute HNO₃</i>	10 mL	IAA-015	Yttrium (Y) <i>in dilute HNO₃</i>	10 mL	IAA-039
Potassium (K) <i>in dilute HNO₃</i>	10 mL	IAA-019	Zinc (Zn) <i>in dilute HNO₃</i>	10 mL	IAA-030
Praseodymium (Pr) <i>in dilute HNO₃</i>	10 mL	IAA-059	Zirconium (Zr) <i>in dilute HNO₃</i>	10 mL	IAA-040
Samarium (Sm) <i>in dilute HNO₃</i>	10 mL	IAA-062			
Selenium (Se) <i>in dilute HNO₃</i>	10 mL	IAA-034			
Silicon (Si) <i>in H₂O</i>	10 mL	IAA-014			

MULTI-ELEMENT INORGANIC STANDARDS

ULTRA Scientific prepares hundreds of inorganic solutions which meet or exceed all testing requirements for use in EPA methods, the Contract Laboratory Program, and Ion Chromatography methods.

ULTRAGrade® Quality

- ✓ Manufactured in accordance with ISO Guide 34 and under our ISO 9001 registered Quality System
- ✓ Analyte concentrations verified by our ISO 17025 Accredited Laboratory
- ✓ Starting materials have a purity of 99.999% (ICP) and 99.99% (AA), wherever possible
- ✓ High purity acids and ASTM Type I water (>18 megohm)
- ✓ Traceable to NIST SRM, wherever possible
- ✓ Analyzed for trace metal impurities
- ✓ Confirmed against an independent second-source standard

CUSTOM STANDARDS

Do you require a standard not cataloged by ULTRA? We catalog over 5500 different standards, but if you can't find the specific standard you need, we will be happy to prepare it for you on a custom basis. Our custom organic and inorganic standards are a fast, economical way to address your unique applications. Simply fax us a copy of the form found on page 479, or log on to www.ultrasci.com and use our convenient quotation request web page. You will receive a quote within 24 hours.

Validation choices available:

Level I: This Reference Material (RM) is to be gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported.

Level II: This Reference Material (RM) is to be gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported.

Level III: This Certified Reference Material (CRM) is to be gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the certified value is reported with its uncertainty value calculated as the expanded uncertainty, in accordance with ISO Guide 35.

INORGANIC QUALITY CONTROL STANDARDS

ULTRAGRADE®

- ✓ NIST traceable
- ✓ ULTRAGrade® certificate of analysis
- ✓ Starting materials are 99.999% pure, wherever possible

Quality Control Standard #1**7 Analytes**

aluminum (Al)	100 µg/mL
barium (Ba)	100 µg/mL
boron (B)	100 µg/mL
potassium (K)	1000 µg/mL
silicon (Si)	50 µg/mL
silver (Ag)	100 µg/mL
sodium (Na)	100 µg/mL

in 5% HNO₃

IQC-007	125 mL
IQC-007-5	500 mL

Quality Control Standard #2**19 Analytes**

antimony (Sb)	magnesium (Mg)
arsenic (As)	manganese (Mn)
beryllium (Be)	molybdenum (Mo)
cadmium (Cd)	nickel (Ni)
calcium (Ca)	selenium (Se)
chromium (Cr)	thallium (Tl)
cobalt (Co)	titanium (Ti)
copper (Cu)	vanadium (V)
iron (Fe)	zinc (Zn)
lead (Pb)	

@ 100 µg/mL in 5% HNO₃

IQC-019	125 mL
IQC-019-5	500 mL

Combined Quality Control Standard**26 Analytes**

aluminum (Al)	100 µg/mL
antimony (Sb)	100 µg/mL
arsenic (As)	100 µg/mL
barium (Ba)	100 µg/mL
beryllium (Be)	100 µg/mL
boron (B)	100 µg/mL
cadmium (Cd)	100 µg/mL
calcium (Ca)	100 µg/mL
chromium (Cr)	100 µg/mL
cobalt (Co)	100 µg/mL
copper (Cu)	100 µg/mL
iron (Fe)	100 µg/mL
lead (Pb)	100 µg/mL
magnesium (Mg)	100 µg/mL
manganese (Mn)	100 µg/mL
molybdenum (Mo)	100 µg/mL
nickel (Ni)	100 µg/mL
potassium (K)	1000 µg/mL
selenium (Se)	100 µg/mL
silicon (Si)	50 µg/mL
silver (Ag)	100 µg/mL
sodium (Na)	100 µg/mL
thallium (Tl)	100 µg/mL
titanium (Ti)	100 µg/mL
vanadium (V)	100 µg/mL
zinc (Zn)	100 µg/mL

in 5% HNO₃

IQC -026	125 mL
IQC-026-5	500 mL

Quality Control Standards Kit**Kit - contains two bottles:***125 mL of each of the following standards*

IQC-007	IQC-019
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IQCK	Kit
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ULTRAGRADE® ICP/ICP-MS MULTI-ELEMENT REFERENCE MATERIALS

Compare to Merck CertiPUR® Inorganic Mixes

- ✓ Manufactured in accordance with ISO Guide 34 and under our ISO 9001 registered Quality System
- ✓ Analyte concentrations verified by our ISO 17025 Accredited Laboratory
- ✓ Starting materials have a purity of 99.999% (ICP) and 99.99% (AA), wherever possible
- ✓ High purity acids and ASTM Type I water (>18 megohm)
- ✓ Traceable to NIST SRM, wherever possible
- ✓ Analyzed for trace metal impurities
- ✓ Confirmed against an independent second-source standard



Competitive Pricing

Larger Standard Size

ICP CALIBRATION STANDARDS

ICP Calibration Standard (I)

19 Analytes

aluminum (Al)	100 µg/mL
barium (Ba)	5 µg/mL
beryllium (Be)	1 µg/mL
bismuth (Bi)	200 µg/mL
boron (B)	15 µg/mL
cadmium (Cd)	20 µg/mL
chromium (Cr)	25 µg/mL
cobalt (Co)	20 µg/mL
copper (Cu)	20 µg/mL
gallium (Ga)	150 µg/mL
indium (In)	200 µg/mL
iron (Fe)	15 µg/mL
lead (Pb)	200 µg/mL
manganese (Mn)	5 µg/mL
nickel (Ni)	50 µg/mL
silver (Ag)	50 µg/mL
strontium (Sr)	1 µg/mL
thallium (Tl)	400 µg/mL
zinc (Zn)	20 µg/mL

in 5% HNO₃

ICM-102 **125 mL**

ICP Calibration Standard (IV)

23 Analytes

aluminum (Al)	1000 µg/mL
barium (Ba)	1000 µg/mL
bismuth (Bi)	1000 µg/mL
boron (B)	1000 µg/mL
cadmium (Cd)	1000 µg/mL
calcium (Ca)	1000 µg/mL
chromium (Cr)	1000 µg/mL
cobalt (Co)	1000 µg/mL
copper (Cu)	1000 µg/mL
gallium (Ga)	1000 µg/mL
indium (In)	1000 µg/mL
iron (Fe)	1000 µg/mL
lead (Pb)	1000 µg/mL
lithium (Li)	1000 µg/mL
magnesium (Mg)	1000 µg/mL
manganese (Mn)	1000 µg/mL
nickel (Ni)	1000 µg/mL
potassium (K)	1000 µg/mL
silver (Ag)	1000 µg/mL
sodium (Na)	1000 µg/mL
strontium (Sr)	1000 µg/mL
thallium (Tl)	1000 µg/mL
zinc (Zn)	1000 µg/mL

in 5% HNO₃

ICM-103 **125 mL**

ICP Calibration Standard (VIII)

24 Analytes

aluminum (Al)	100 µg/mL
barium (Ba)	100 µg/mL
beryllium (Be)	100 µg/mL
bismuth (Bi)	100 µg/mL
boron (B)	100 µg/mL
cadmium (Cd)	100 µg/mL
calcium (Ca)	100 µg/mL
chromium (Cr)	100 µg/mL
cobalt (Co)	100 µg/mL
copper (Cu)	100 µg/mL
gallium (Ga)	100 µg/mL
iron (Fe)	100 µg/mL
lead (Pb)	100 µg/mL
lithium (Li)	100 µg/mL
magnesium (Mg)	100 µg/mL
manganese (Mn)	100 µg/mL
nickel (Ni)	100 µg/mL
potassium (K)	100 µg/mL
selenium (Se)	100 µg/mL
sodium (Na)	100 µg/mL
strontium (Sr)	100 µg/mL
tellurium (Te)	100 µg/mL
thallium (Tl)	100 µg/mL
zinc (Zn)	100 µg/mL

in 5% HNO₃ with trace HCl

ICM-101 **125 mL**

**ICP Calibration Standard –
Toxic Elements (IX)***9 Analytes*

arsenic (As)	100 µg/mL
beryllium (Be)	100 µg/mL
cadmium (Cd)	100 µg/mL
chromium (VI) (Cr+6)	100 µg/mL
lead (Pb)	100 µg/mL
mercury (Hg)	100 µg/mL
nickel (Ni)	100 µg/mL
selenium (Se)	100 µg/mL
thallium (Tl)	100 µg/mL

*in 5% HNO₃***ICM-105 125 mL****ICP Calibration Standard –
Trace Metals (XIII)***15 Analytes*

aluminum (Al)	500 µg/mL
arsenic (As)	100 µg/mL
beryllium (Be)	100 µg/mL
cadmium (Cd)	25 µg/mL
chromium (Cr)	100 µg/mL
cobalt (Co)	100 µg/mL
copper (Cu)	100 µg/mL
iron (Fe)	100 µg/mL
lead (Pb)	100 µg/mL
manganese (Mn)	100 µg/mL
mercury (Hg)	5 µg/mL
nickel (Ni)	100 µg/mL
selenium (Se)	25 µg/mL
vanadium (V)	250 µg/mL
zinc (Zn)	100 µg/mL

*in 5% HNO₃ with trace HF***ICM-104 125 mL****ICP Calibration Standard –
Earth Alkali Elements (III)***4 Analytes*

barium (Ba)	1000 µg/mL
calcium (Ca)	1000 µg/mL
magnesium (Mg)	1000 µg/mL
strontium (Sr)	1000 µg/mL

*in 5% HNO₃***ICM-100 125 mL****ICP Calibration Standard –
Surface Water (X)***23 Analytes*

arsenic (As)	50 ng/mL
barium (Ba)	50 ng/mL
beryllium (Be)	20 ng/mL
bismuth (Bi)	10 ng/mL
boron (B)	100 ng/mL
cadmium (Cd)	20 ng/mL
calcium (Ca)	35000 ng/mL
chromium (Cr)	20 ng/mL
cobalt (Co)	25 ng/mL
copper (Cu)	20 ng/mL
iron (Fe)	100 ng/mL
lead (Pb)	25 ng/mL
magnesium (Mg)	15000 ng/mL
manganese (Mn)	30 ng/mL
molybdenum (Mo)	100 ng/mL
nickel (Ni)	50 ng/mL
potassium (K)	3000 ng/mL
selenium (Se)	10 ng/mL
sodium (Na)	8000 ng/mL
strontium (Sr)	100 ng/mL
thallium (Tl)	10 ng/mL
vanadium (V)	50 ng/mL
zinc (Zn)	50 ng/mL

*in 5% HNO₃ with trace HF***ICM-106 125 mL****ICP Calibration Standard –
HCl Soluble Elements (XVII)***7 Analytes*

antimony (Sb)	100 µg/mL
hafnium (Hf)	100 µg/mL
iridium (Ir)	100 µg/mL
tantalum (Ta)	100 µg/mL
tin (Sn)	100 µg/mL
titanium (Ti)	100 µg/mL
zirconium (Zr)	100 µg/mL

*in 15% HCl with trace HNO₃, HF, tartaric***ICM-107 125 mL****ICP Calibration Standard –
Sewage Sludge (XI)***7 Analytes*

cadmium (Cd)	10 µg/mL
chromium (Cr)	900 µg/mL
copper (Cu)	800 µg/mL
mercury (Hg)	8 µg/mL
nickel (Ni)	200 µg/mL
lead (Pb)	900 µg/mL
zinc (Zn)	2500 µg/mL

*in 5% HNO₃***ICM-109 125 mL****ICP Calibration Standard –
Quality Control (XVI)***21 Analytes*

antimony (Sb)	100 µg/mL
arsenic (As)	100 µg/mL
beryllium (Be)	100 µg/mL
cadmium (Cd)	100 µg/mL
calcium (Ca)	100 µg/mL
chromium (Cr)	100 µg/mL
cobalt (Co)	100 µg/mL
copper (Cu)	100 µg/mL
iron (Fe)	100 µg/mL
lead (Pb)	100 µg/mL
lithium (Li)	100 µg/mL
magnesium (Mg)	100 µg/mL
manganese (Mn)	100 µg/mL
molybdenum (Mo)	100 µg/mL
nickel (Ni)	100 µg/mL
selenium (Se)	100 µg/mL
strontium (Sr)	100 µg/mL
thallium (Tl)	100 µg/mL
titanium (Ti)	100 µg/mL
vanadium (V)	100 µg/mL
zinc (Zn)	100 µg/mL

*in 5% HNO₃ with trace HF, tartaric acid***ICM-108 125 mL**



ICP, GFAA & ION CHROMATOGRAPHY STANDARDS

ICP Wavelength Calibration Standard (V)

26 Analytes

aluminum (Al)	20 µg/mL
arsenic (As)	20 µg/mL
barium (Ba)	2 µg/mL
beryllium (Be)	1 µg/mL
boron (B)	2 µg/mL
cadmium (Cd)	2 µg/mL
calcium (Ca)	10 µg/mL
chromium (Cr)	2 µg/mL
copper (Cu)	2 µg/mL
iron (Fe)	2 µg/mL
lead (Pb)	20 µg/mL
lithium (Li)	2 µg/mL
magnesium (Mg)	1 µg/mL
manganese (Mn)	1 µg/mL
mercury (Hg)	5 µg/mL
nickel (Ni)	5 µg/mL
phosphorus (P)	10 µg/mL
potassium (K)	100 µg/mL
scandium (Sc)	1 µg/mL
selenium (Se)	20 µg/mL
sodium (Na)	20 µg/mL
strontium (Sr)	1 µg/mL
tellurium (Te)	20 µg/mL
titanium (Ti)	2 µg/mL
yttrium (Y)	1 µg/mL
zinc (Zn)	2 µg/mL

in 5% HNO₃ with trace HF

ICM-110-5 500 mL

ICP Cations Mixture (VII)

9 Analytes

ammonium (NH ₄ ⁺)	100 µg/mL
barium (Ba ⁺²)	100 µg/mL
calcium (Ca ⁺²)	100 µg/mL
lithium (Li ⁺)	100 µg/mL
magnesium (Mg ⁺²)	100 µg/mL
manganese (Mn)	100 µg/mL
potassium (K ⁺)	100 µg/mL
sodium (Na ⁺)	100 µg/mL
strontium (Sr ⁺²)	100 µg/mL

in 0.2% HNO₃

ICC-330 125 mL

ICP Tuning Standard (XXIV)

15 Analytes

aluminum (Al)	50 µg/mL
arsenic (As)	50 µg/mL
barium (Ba)	50 µg/mL
cadmium (Cd)	50 µg/mL
chromium (Cr)	50 µg/mL
cobalt (Co)	50 µg/mL
copper (Cu)	50 µg/mL
lead (Pb)	50 µg/mL
manganese (Mn)	50 µg/mL
molybdenum (Mo)	50 µg/mL
nickel (Ni)	50 µg/mL
potassium (K)	500 µg/mL
selenium (Se)	50 µg/mL
strontium (Sr)	50 µg/mL
zinc (Zn)	50 µg/mL

in 1% HNO₃

ICM-120 500 mL

Graphite Furnace AA Calibration Standard (XVIII)

16 Analytes

aluminum (Al)	100 µg/mL
antimony (Sb)	100 µg/mL
arsenic (As)	100 µg/mL
barium (Ba)	50 µg/mL
beryllium (Be)	5 µg/mL
cadmium (Cd)	5 µg/mL
chromium (Cr)	20 µg/mL
cobalt (Co)	50 µg/mL
copper (Cu)	50 µg/mL
iron (Fe)	20 µg/mL
lead (Pb)	100 µg/mL
manganese (Mn)	20 µg/mL
nickel (Ni)	50 µg/mL
selenium (Se)	100 µg/mL
silver (Ag)	10 µg/mL
thallium (Tl)	100 µg/mL

in 5% HNO₃ with trace tartaric

ICM-150 125 mL

ICP Wavelength Calibration Standard (XIV)

11 Analytes

arsenic (As)	20 µg/mL
lanthanum (La)	20 µg/mL
lithium (Li)	20 µg/mL
manganese (Mn)	20 µg/mL
molybdenum (Mo)	20 µg/mL
nickel (Ni)	20 µg/mL
phosphorus (P)	100 µg/mL
potassium (K)	100 µg/mL
scandium (Sc)	20 µg/mL
sodium (Na)	20 µg/mL
sulfur (S)	100 µg/mL

in 2% HCl with trace HNO₃

ICM-111-5 500 mL



ICP-MS STANDARDS

ICP-MS Calibration Standard (XXI)

29 Analytes

aluminum (Al)	10 µg/mL
arsenic (As)	10 µg/mL
barium (Ba)	10 µg/mL
beryllium (Be)	10 µg/mL
bismuth (Bi)	10 µg/mL
cadmium (Cd)	10 µg/mL
calcium (Ca)	10 µg/mL
cesium (Cs)	10 µg/mL
chromium (Cr)	10 µg/mL
cobalt (Co)	10 µg/mL
copper (Cu)	10 µg/mL
gallium (Ga)	10 µg/mL
indium (In)	10 µg/mL
iron (Fe)	10 µg/mL
lead (Pb)	10 µg/mL
lithium (Li)	10 µg/mL
magnesium (Mg)	10 µg/mL
manganese (Mn)	10 µg/mL
nickel (Ni)	10 µg/mL
potassium (K)	10 µg/mL
rubidium (Rb)	10 µg/mL
selenium (Se)	10 µg/mL
silver (Ag)	10 µg/mL
sodium (Na)	10 µg/mL
strontium (Sr)	10 µg/mL
thallium (Tl)	10 µg/mL
uranium (U)	10 µg/mL
vanadium (V)	10 µg/mL
zinc (Zn)	10 µg/mL

in 5% HNO₃**IMS-102** **125 mL**

ICP-MS Calibration Standard (VI)

30 Analytes

aluminum (Al)	10 µg/mL
arsenic (As)	100 µg/mL
barium (Ba)	10 µg/mL
beryllium (Be)	100 µg/mL
bismuth (Bi)	10 µg/mL
boron (B)	100 µg/mL
cadmium (Cd)	10 µg/mL
calcium (Ca)	1000 µg/mL
chromium (Cr)	10 µg/mL
cobalt (Co)	10 µg/mL
copper (Cu)	10 µg/mL
gallium (Ga)	10 µg/mL
iron (Fe)	100 µg/mL
lead (Pb)	10 µg/mL
lithium (Li)	10 µg/mL
magnesium (Mg)	10 µg/mL
manganese (Mn)	10 µg/mL
molybdenum (Mo)	10 µg/mL
nickel (Ni)	10 µg/mL
potassium (K)	10 µg/mL
rubidium (Rb)	10 µg/mL
selenium (Se)	100 µg/mL
silver (Ag)	10 µg/mL
sodium (Na)	10 µg/mL
strontium (Sr)	10 µg/mL
tellurium (Te)	10 µg/mL
thallium (Tl)	10 µg/mL
uranium (U)	10 µg/mL
vanadium (V)	10 µg/mL
zinc (Zn)	100 µg/mL

in 5% HNO₃ with trace HF**IMS-120** **125 mL**

ICP-MS

Mass Calibration Standard (XXIII)

15 Analytes

barium (Ba)	1 ng/mL
boron (B)	1 ng/mL
cobalt (Co)	1 ng/mL
gallium (Ga)	1 ng/mL
indium (In)	1 ng/mL
iron (Fe)	1 ng/mL
lithium (Li)	1 ng/mL
lutetium (Lu)	1 ng/mL
potassium (K)	1 ng/mL
rhodium (Rh)	1 ng/mL
scandium (Sc)	1 ng/mL
sodium (Na)	1 ng/mL
thallium (Tl)	1 ng/mL
uranium (U)	1 ng/mL
yttrium (Y)	1 ng/mL

in 5% HNO₃ with trace HCl**IMS-130-5** **500 mL**

ICP-MS Plasma Setup Solution (XX)

11 Analytes

barium (Ba)	10 ng/mL
cerium (Ce)	10 ng/mL
cadmium (Cd)	10 ng/mL
copper (Cu)	10 ng/mL
germanium (Ge)	10 ng/mL
magnesium (Mg)	10 ng/mL
lead (Pb)	10 ng/mL
rhodium (Rh)	10 ng/mL
scandium (Sc)	10 ng/mL
terbium (Tb)	10 ng/mL
thallium (Tl)	10 ng/mL

in 1% HNO₃ with trace HF**IMS-133-L** **1 L**

Mercury ICP-MS Standard (XXI)

1 Analyte

mercury (Hg)

@ 10 µg/mL in 5% HNO₃**IMS-121** **125 mL**

ICP-MS

Optimization Standard (XXII)

5 Analytes

cadmium (Cd)	200 ng/mL
copper (Cu)	200 ng/mL
lead (Pb)	200 ng/mL
magnesium (Mg)	200 ng/mL
rhodium (Rh)	200 ng/mL

in 2% HNO₃ with trace HCl**IMS-131** **125 mL**

ICP-MS

Detection Limit Standard (XIX)

5 Analytes

beryllium (Be)	10 ng/mL
cobalt (Co)	10 ng/mL
indium (In)	10 ng/mL
thallium (Tl)	10 ng/mL
uranium (U)	10 ng/mL

in 1% HNO₃**IMS-132** **125 mL**



EPA METHOD 200.7 REVISIONS 4.4 AND 3.3

Metals and Trace Elements by ICP-AES

MIXED CALIBRATION STANDARDS

Mixed Calibration Standard (CAL I)

10 Analytes

antimony (Sb)	5 µg/mL
arsenic (As)	10 µg/mL
barium (Ba)	1 µg/mL
boron (B)	1 µg/mL
cadmium (Cd)	2 µg/mL
calcium (Ca)	10 µg/mL
copper (Cu)	2 µg/mL
manganese (Mn)	2 µg/mL
selenium (Se)	5 µg/mL
silver (Ag)	0.5 µg/mL

in 2% HNO₃**ICM-231** **125 mL****Mixed Calibration Standard (CAL II)**

5 Analytes

lithium (Li)	50 µg/mL
molybdenum (Mo)	100 µg/mL
potassium (K)	200 µg/mL
sodium (Na)	100 µg/mL
strontium (Sr)	10 µg/mL

in 2% HNO₃**ICM-232** **125 mL****Mixed Calibration Standard (CAL IV)**

5 Analytes

aluminum (Al)	100 µg/mL
chromium (Cr)	50 µg/mL
silicon (Si)	100 µg/mL
tin (Sn)	40 µg/mL
zinc (Zn)	50 µg/mL

in 2% HNO₃**ICM-234** **125 mL****Mixed Calibration Standard (CAL V)**

6 Analytes

beryllium (Be)	10 µg/mL
iron (Fe)	100 µg/mL
lead (Pb)	100 µg/mL
magnesium (Mg)	100 µg/mL
nickel (Ni)	20 µg/mL
thallium (Tl)	50 µg/mL

in 2% HNO₃**ICM-235** **125 mL****Mixed Calibration Standard (CAL III)**

3 Analytes

cobalt (Co)	20 µg/mL
phosphorus (P)	100 µg/mL
vanadium (V)	20 µg/mL

in 2% HNO₃**ICM-233** **125 mL****Mercury Standard (CAL IVa)**

1 Analyte

mercury (Hg)

@ 20 µg/mL in 2% HNO₃**ICM-642** **125 mL****EPA Method 200.7 Calibration Kit****Kit – contains six bottles:**

125 mL of each of the following standards

ICM-231	ICM-232	ICM-233
ICM-234	ICM-235	ICM-642
ICK-230A		Kit

SPECTRAL INTERFERENCE CHECK STANDARDS

Spectral Interference Check (SIC I)

1 Analyte

molybdenum (Mo)

@ 50 µg/mL in 2% HNO₃**ICM-241** **125 mL****Spectral Interference Check (SIC II)**

5 Analytes

chromium (Cr)	50 µg/mL
cobalt (Co)	50 µg/mL
copper (Cu)	50 µg/mL
manganese (Mn)	50 µg/mL
vanadium (V)	50 µg/mL

in 2% HNO₃**ICM-242** **125 mL****Spectral Interference Check (SIC III)**

3 Analytes

aluminum (Al)	200 µg/mL
iron (Fe)	300 µg/mL
nickel (Ni)	50 µg/mL

in 2% HNO₃**ICM-243** **125 mL**

STANDARDS

Laboratory Performance
Check Solution (LPC) A

27 Analytes

aluminum (Al)	200 µg/mL
arsenic (As)	200 µg/mL
barium (Ba)	200 µg/mL
beryllium (Be)	200 µg/mL
boron (B)	200 µg/mL
cadmium (Cd)	200 µg/mL
calcium (Ca)	200 µg/mL
chromium (Cr)	200 µg/mL
cobalt (Co)	200 µg/mL
copper (Cu)	200 µg/mL
iron (Fe)	200 µg/mL
lead (Pb)	200 µg/mL
lithium (Li)	200 µg/mL
magnesium (Mg)	200 µg/mL
manganese (Mn)	200 µg/mL
mercury (Hg)	200 µg/mL
nickel (Ni)	200 µg/mL
phosphorus (P)	1000 µg/mL
potassium (K)	1000 µg/mL
selenium (Se)	200 µg/mL
silver (Ag)	25 µg/mL
sodium (Na)	200 µg/mL
strontium (Sr)	200 µg/mL
cerium (Ce)	200 µg/mL
thallium (Tl)	200 µg/mL
vanadium (V)	200 µg/mL
zinc (Zn)	200 µg/mL

in 2% HNO₃**ICM-240A** 125 mL

Plasma Solution

4 Analytes

arsenic (As)
lead (Pb)
selenium (Se)
thallium (Tl)

@ 10 µg/mL in 2% HNO₃**ICM-237** 125 mLLaboratory Performance
Check Solution (LPC) B

5 Analytes

antimony (Sb)	200 µg/mL
molybdenum (Mo)	200 µg/mL
silicon (Si)	1000 µg/mL
tin (Sn)	200 µg/mL
titanium (Ti)	200 µg/mL

in 2% HNO₃**ICM-240B** 125 mL

Quality Control Standards Kit

Solution #1

26 Analytes

aluminum (Al)	25 µg/mL
antimony (Sb)	25 µg/mL
arsenic (As)	25 µg/mL
barium (Ba)	25 µg/mL
beryllium (Be)	5 µg/mL
boron (B)	25 µg/mL
cadmium (Cd)	10 µg/mL
chromium (Cr)	25 µg/mL
cobalt (Co)	10 µg/mL
copper (Cu)	25 µg/mL
iron (Fe)	25 µg/mL
lead (Pb)	25 µg/mL
lithium (Li)	25 µg/mL
manganese (Mn)	25 µg/mL
molybdenum (Mo)	10 µg/mL
nickel (Ni)	25 µg/mL
phosphorus (P)	50 µg/mL
selenium (Se)	25 µg/mL
silicon (Si)	25 µg/mL
silver (Ag)	2.5 µg/mL
strontium (Sr)	25 µg/mL
thallium (Tl)	25 µg/mL
tin (Sn)	10 µg/mL
vanadium (V)	10 µg/mL
zinc (Zn)	25 µg/mL

in 2% HNO₃

Solution #2

1 Analyte

mercury (Hg)	5 µg/mL
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in 2% HNO₃**ICM-245-KIT** Kit 2x125 mLLaboratory Performance
Check Solution (LPC) C

25 Analytes

aluminum (Al)	200 µg/mL
arsenic (As)	200 µg/mL
barium (Ba)	200 µg/mL
beryllium (Be)	200 µg/mL
boron (B)	200 µg/mL
cadmium (Cd)	200 µg/mL
calcium (Ca)	200 µg/mL
chromium (Cr)	200 µg/mL
cobalt (Co)	200 µg/mL
copper (Cu)	200 µg/mL
iron (Fe)	200 µg/mL
lead (Pb)	200 µg/mL
lithium (Li)	200 µg/mL
magnesium (Mg)	200 µg/mL
manganese (Mn)	200 µg/mL
nickel (Ni)	200 µg/mL
phosphorus (P)	1000 µg/mL
potassium (K)	1000 µg/mL
selenium (Se)	200 µg/mL
silver (Ag)	25 µg/mL
sodium (Na)	200 µg/mL
strontium (Sr)	200 µg/mL
thallium (Tl)	200 µg/mL
vanadium (V)	200 µg/mL
zinc (Zn)	200 µg/mL

in 2% HNO₃**ICM-240C** 125 mL

Tuning Solution

2 Analytes

copper (Cu)
lead (Pb)

@ 10 µg/mL in 2% HNO₃**ICM-238** 125 mL

ADDITIONAL CALIBRATION STANDARDS FOR EPA METHOD 200.7

EPA 200.7 Calibration Standard #1

5 Analytes

arsenic (As)	1000 µg/mL
cadmium (Cd)	500 µg/mL
lead (Pb)	1000 µg/mL
selenium (Se)	500 µg/mL
thallium (Tl)	1000 µg/mL

in 5% HNO_3

ICM-202 **125 mL**

EPA 200.7 Calibration Standard #2

7 Analytes

barium (Ba)	100 µg/mL
beryllium (Be)	100 µg/mL
cobalt (Co)	200 µg/mL
copper (Cu)	100 µg/mL
iron (Fe)	1000 µg/mL
manganese (Mn)	100 µg/mL
vanadium (V)	100 µg/mL

in 2% HNO_3

ICM-203 **125 mL**

EPA 200.7 Calibration Standard #3

3 Analytes

boron (B)	100 µg/mL
molybdenum (Mo)	1000 µg/mL
silicon (Si)	1000 µg/mL

in H_2O

ICM-204 **125 mL**

EPA 200.7 Calibration Standard #4

9 Analytes

aluminum (Al)	1000 µg/mL
calcium (Ca)	1000 µg/mL
chromium (Cr)	500 µg/mL
magnesium (Mg)	1000 µg/mL
nickel (Ni)	500 µg/mL
potassium (K)	1000 µg/mL
silver (Ag)	500 µg/mL
sodium (Na)	1000 µg/mL
zinc (Zn)	500 µg/mL

in 5% HNO_3

ICM-205 **125 mL**

Antimony Standard

antimony (Sb)

@ 1000 µg/mL in 2% HNO_3 / tr. tartaric acid

ICP-051 **125 mL**

EPA Method 200.7 Calibration Standards Kit

Kit - contains five bottles:

125 mL of each of the following standards

ICM-202	ICM-203	ICM-204
ICM-205	ICP-051	

ICK-200A

Kit



INTERFERENCE CHECK STANDARDS FOR EPA METHOD 200.7

Interference Check Standard #1

4 Analytes

boron (B)	500 µg/mL
molybdenum (Mo)	300 µg/mL
silicon (Si)	230 µg/mL
titanium (Ti)	1000 µg/mL

in H₂O

ICM-221 50 mL

Interference Check Standard #4

5 Analytes

aluminum (Al)	3000 µg/mL
calcium (Ca)	15,000 µg/mL
iron (Fe)	12,500 µg/mL
magnesium (Mg)	7500 µg/mL
sodium (Na)	2500 µg/mL

in 2% HNO₃

ICM-224 125 mL

Interference Check Standard #3

16 Analytes

arsenic (As)	1000 µg/mL
barium (Ba)	300 µg/mL
beryllium (Be)	100 µg/mL
cadmium (Cd)	300 µg/mL
chromium (Cr)	300 µg/mL
cobalt (Co)	300 µg/mL
copper (Cu)	300 µg/mL
lead (Pb)	1000 µg/mL
manganese (Mn)	200 µg/mL
nickel (Ni)	300 µg/mL
potassium (K)	20,000 µg/mL
selenium (Se)	500 µg/mL
silver (Ag)	300 µg/mL
thallium (Tl)	1000 µg/mL
vanadium (V)	300 µg/mL
zinc (Zn)	300 µg/mL

in 5% HNO₃

ICM-223 50 mL

Antimony Standard (ICS #2)

antimony (Sb)

@ 1000 µg/mL in 2% HNO₃/tr. tartaric acid

ICP-051 125 mL

EPA Method 200.7 Interference Check Kit

Kit - contains four bottles:

50 mL of each of the following standards

ICM-221 ICM-223
plus

125 mL of each of the following standards

ICP-051 ICM-224

ICK-220A Kit

SPIKING STANDARDS FOR EPA METHOD 200.7

Spiking Addition Standard

12 Analytes

aluminum (Al)	2000 µg/mL
barium (Ba)	2000 µg/mL
beryllium (Be)	50 µg/mL
chromium (Cr)	200 µg/mL
cobalt (Co)	500 µg/mL
copper (Cu)	250 µg/mL
iron (Fe)	1000 µg/mL
manganese (Mn)	500 µg/mL
nickel (Ni)	500 µg/mL
silver (Ag)	50 µg/mL
vanadium (V)	500 µg/mL
zinc (Zn)	500 µg/mL

in 5% HNO₃

ICM-213 50 mL

Antimony Standard

antimony (Sb)

@ 1000 µg/mL in 2% HNO₃/tr. tartaric acid

ICP-051 125 mL

Spiking Addition Standard

4 Analytes

calcium (Ca)	1000 µg/mL
magnesium (Mg)	2000 µg/mL
potassium (K)	10,000 µg/mL
sodium (Na)	3000 µg/mL

in 5% HNO₃

ICM-212 50 mL

Spiking Addition Standard

5 Analytes

arsenic (As)	800 µg/mL
cadmium (Cd)	100 µg/mL
lead (Pb)	1000 µg/mL
selenium (Se)	1000 µg/mL
thallium (Tl)	1000 µg/mL

in 5% HNO₃

ICM-215 50 mL

Spiking Addition Standard

3 Analytes

boron (B)	500 µg/mL
molybdenum (Mo)	500 µg/mL
silicon (Si)	2000 µg/mL

in 5% HNO₃ with trace HF

ICM-211 50 mL

EPA Method 200.7 Spiking Addition Kit

Kit - contains five bottles:

50 mL of each of the following standards

ICM-211 ICM-212 ICM-213
ICM-215
plus

125 mL of the following standard

ICP-051

ICK-210A Kit

EPA METHOD 200.8

ULTRAGRADE®

Trace Elements by ICP-MS

- ✓ NIST traceable
- ✓ ULTRAGrade® certificate of analysis
- ✓ Starting materials are 99.999% pure, wherever possible

Standard Solution A

18 Analytes

aluminum (Al)	10 µg/mL
antimony (Sb)	10 µg/mL
arsenic (As)	10 µg/mL
beryllium (Be)	10 µg/mL
cadmium (Cd)	10 µg/mL
chromium (Cr)	10 µg/mL
cobalt (Co)	10 µg/mL
copper (Cu)	10 µg/mL
lead (Pb)	10 µg/mL
manganese (Mn)	10 µg/mL
molybdenum (Mo)	10 µg/mL
nickel (Ni)	10 µg/mL
selenium (Se)	50 µg/mL
thallium (Tl)	10 µg/mL
thorium (Th)	10 µg/mL
uranium (U)	10 µg/mL
vanadium (V)	10 µg/mL
zinc (Zn)	10 µg/mL

in 2% HNO₃ / trace tartaric acid

ICM-801	125 mL
ICM-801-5	500 mL

Standard Solution B

2 Analytes

barium (Ba)	
silver (Ag)	
@ 10 µg/mL in 2% HNO ₃	
ICM-802	125 mL
ICM-802-5	500 mL

Tuning Standard

5 Analytes

beryllium (Be)	
magnesium (Mg)	
cobalt (Co)	
indium (In)	
lead (Pb)	
@ 100 µg/mL in 2% HNO ₃	
ICM-820	125 mL
ICM-820-5	500 mL

Mercury Standard

mercury (Hg)	
@ 10 µg/mL in 5% HNO ₃	
IMS-105	125 mL
IMS-105-5	500 mL

Gold Stock Std. for Hg Analysis

gold (Au)	
@ 1000 µg/mL in dilute HNO ₃	
ICP-079	125 mL

Internal Standard Mix

5 Analytes

scandium (Sc)	
yttrium (Y)	
indium (In)	
terbium (Tb)	
bismuth (Bi)	
@ 100 µg/mL in 2% HNO ₃	
ICM-810	125 mL
ICM-810-5	500 mL

Individual ICP-MS Internal Standard Solutions for Method 200.8

@ 100 µg/mL in 2% HNO₃

Standard	Catalog #	Volume
bismuth (Bi)	IMS-111	125 mL
	IMS-111-5	500 mL
indium (In)	IMS-112	125 mL
	IMS-112-5	500 mL
scandium (Sc)	IMS-113	125 mL
	IMS-113-5	500 mL
terbium (Tb)	IMS-114	125 mL
	IMS-114-5	500 mL
yttrium (Y)	IMS-115	125 mL
	IMS-115-5	500 mL

ADDITIONAL STANDARDS FOR ICP-MS

ULTRAGRADE®

- ✓ NIST traceable
- ✓ ULTRAGrade® certificate of analysis
- ✓ Starting materials are 99.999% pure, wherever possible

ICP-MS Calibration Standard

17 Analytes

cerium (Ce)	praseodymium (Pr)
dysprosium (Dy)	samarium (Sm)
erbium (Er)	scandium (Sc)
europium (Eu)	terbium (Tb)
gadolinium (Gd)	thorium (Th)
holmium (Ho)	thulium (Tm)
lanthanum (La)	ytterbium (Yb)
lutetium (Lu)	yttrium (Y)
neodymium (Nd)	

@ 10 µg/mL in 5% HNO₃**IMS-101** **125 mL**

ICP-MS Calibration Standard

29 Analytes

aluminum (Al)	lithium (Li)
arsenic (As)	magnesium (Mg)
barium (Ba)	manganese (Mn)
beryllium (Be)	nickel (Ni)
bismuth (Bi)	potassium (K)
cadmium (Cd)	rubidium (Rb)
calcium (Ca)	selenium (Se)
cesium (Cs)	silver (Ag)
chromium (Cr)	sodium (Na)
cobalt (Co)	strontium (Sr)
copper (Cu)	thallium (Tl)
gallium (Ga)	uranium (U)
indium (In)	vanadium (V)
iron (Fe)	zinc (Zn)
lead (Pb)	

@ 10 µg/mL in 5% HNO₃**IMS-102** **125 mL**

ICP-MS Calibration Standard

12 Analytes

boron (B)
germanium (Ge)
molybdenum (Mo)
niobium (Nb)
phosphorus (P)
rhenium (Re)
silicon (Si)
sulfur (S)
tantalum (Ta)
titanium (Ti)
tungsten (W)
zirconium (Zr)

@ 10 µg/mL in H₂O**IMS-104** **125 mL**

ICP-MS Calibration Standard

10 Analytes

antimony (Sb)	platinum (Pt)
gold (Au)	rhodium (Rh)
hafnium (Hf)	ruthenium (Ru)
iridium (Ir)	tellurium (Te)
palladium (Pd)	tin (Sn)

@ 10 µg/mL in 10% HCl

IMS-103 **125 mL**

Mercury ICP-MS Standard

mercury (Hg)

@ 10 µg/mL in 5% HNO₃**IMS-105** **125 mL**
IMS-105-5 **500 mL**

ICP-MS Calibration Kit

Kit - contains five bottles:

125 mL of each of the following standards

IMS-101	IMS-102	IMS-103
IMS-104	IMS-105	

IMK-109 **Kit**

ICP-MS Tuning Solution

5 Analytes

beryllium (Be)
cobalt (Co)
indium (In)
lead (Pb)
magnesium (Mg)

@ 10 µg/mL in 2% HNO₃**IMS-110** **125 mL**
IMS-110-5 **500 mL**

ICP-MS Verification Standard

9 Analytes

beryllium (Be)	lead (Pb)
bismuth (Bi)	magnesium (Mg)
cerium (Ce)	nickel (Ni)
cobalt (Co)	uranium (U)
indium (In)	

@ 10 µg/mL in 2% HNO₃**IMS-100** **125 mL**

EPA METHOD 6010C

ULTRAGRADE®

Inorganics by ICP - AES

- ✓ NIST traceable
- ✓ ULTRAGrade® certificate of analysis
- ✓ Starting materials are 99.999% pure, wherever possible

CALIBRATION STANDARDS FOR EPA METHOD 6010C

Mixed Standard Solution I

6 Analytes

beryllium (Be)	50 µg/mL
cadmium (Cd)	150 µg/mL
lead (Pb)	500 µg/mL
manganese (Mn)	100 µg/mL
selenium (Se)	200 µg/mL
zinc (Zn)	150 µg/mL

in 2% HNO₃

ICM-601	125 mL
ICM-601-5	500 mL

Mixed Standard Solution II

5 Analytes

barium (Ba)	100 µg/mL
cobalt (Co)	100 µg/mL
copper (Cu)	100 µg/mL
iron (Fe)	10,000 µg/mL
vanadium (V)	100 µg/mL

in 2% HNO₃

ICM-602	125 mL
ICM-602-5	500 mL

Mixed Standard Solution III

2 Analytes

arsenic (As)	500 µg/mL
molybdenum (Mo)	100 µg/mL

in 2% HNO₃

ICM-603	125 mL
ICM-603-5	500 mL

Mixed Standard Solution IV

8 Analytes

aluminum (Al)	200 µg/mL
calcium (Ca)	1000 µg/mL
chromium (Cr)	20 µg/mL
lithium (Li)	100 µg/mL
nickel (Ni)	20 µg/mL
potassium (K)	400 µg/mL
sodium (Na)	200 µg/mL
strontium (Sr)	10 µg/mL

in 2% HNO₃

ICM-604	125 mL
ICM-604-5	500 mL

Mixed Standard Solution V

4 Analytes

antimony (Sb)	200 µg/mL
magnesium (Mg)	1000 µg/mL
silver (Ag)	50 µg/mL
thallium (Tl)	200 µg/mL

in 2% HNO₃

ICM-605	125 mL
ICM-605-5	500 mL

Mixed Standard Solution VI

phosphorus (P)

@ 1000 µg/mL in 2% HNO₃

ICP-015	125 mL
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Mixed Standard Solution IIa

5 Analytes

barium (Ba)	100 µg/mL
cobalt (Co)	100 µg/mL
copper (Cu)	100 µg/mL
iron (Fe)	1000 µg/mL
vanadium (V)	100 µg/mL

in 2% HNO₃

ICM-607	125 mL
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EPA Method 6010C Mixed Standard Solution Kit

Kit - contains six bottles:

125 mL of each of the following standards

ICM-601	ICM-602	ICM-603
ICM-604	ICM-605	ICP-015

ICK-600A	Kit
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INTERFERENCE CHECK STANDARDS FOR EPA METHOD 6010C

Interference Check Standard

5 Analytes

lithium (Li)	300 µg/mL
molybdenum (Mo)	300 µg/mL
phosphorus (P)	1000 µg/mL
strontium (Sr)	200 µg/mL
titanium (Ti)	1000 µg/mL

in 2% HNO_3

ICM-611	125 mL
ICM-611-5	500 mL

Interference Check Standard

antimony (Sb)

@ 1000 µg/mL in 2% HNO_3 / tr. tartaric acid

ICP-051	125 mL
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Interference Check Standard

16 Analytes

arsenic (As)	1000 µg/mL
barium (Ba)	300 µg/mL
beryllium (Be)	100 µg/mL
cadmium (Cd)	300 µg/mL
chromium (Cr)	300 µg/mL
cobalt (Co)	300 µg/mL
copper (Cu)	300 µg/mL
lead (Pb)	1000 µg/mL
manganese (Mn)	200 µg/mL
nickel (Ni)	300 µg/mL
potassium (K)	20,000 µg/mL
selenium (Se)	500 µg/mL
silver (Ag)	300 µg/mL
thallium (Tl)	1000 µg/mL
vanadium (V)	300 µg/mL
zinc (Zn)	300 µg/mL

in 5% HNO_3

ICM-223	50 mL
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Interference Check Standard

5 Analytes

aluminum (Al)	3000 µg/mL
calcium (Ca)	15,000 µg/mL
iron (Fe)	12,500 µg/mL
magnesium (Mg)	7500 µg/mL
sodium (Na)	2500 µg/mL

in 2% HNO_3

ICM-224	125 mL
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EPA Method 6010C Interference Check Kit

Kit - contains four bottles:

50 mL of the following standard

ICM-223

plus

125 mL of each of the following standards

ICM-611 ICP-051 ICM-224

ICK-610A **Kit**

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CONTRACT LABORATORY PROGRAM (CLP)

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CALIBRATION STANDARDS FOR THE CLP

CLP ICP Calibration Standard

16 Analytes

aluminum (Al)	2000 µg/mL
barium (Ba)	2000 µg/mL
beryllium (Be)	50 µg/mL
calcium (Ca)	5000 µg/mL
chromium (Cr)	200 µg/mL
cobalt (Co)	500 µg/mL
copper (Cu)	250 µg/mL
iron (Fe)	1000 µg/mL
magnesium (Mg)	5000 µg/mL
manganese (Mn)	500 µg/mL
nickel (Ni)	500 µg/mL
potassium (K)	5000 µg/mL
silver (Ag)	250 µg/mL
sodium (Na)	5000 µg/mL
vanadium (V)	500 µg/mL
zinc (Zn)	500 µg/mL

in 5% HNO₃**ICM-411** **125 mL**

CLP ICP Calibration Standard

antimony (Sb)

@ 1000 µg/mL in 2% HNO₃ / tr. tartaric acid**ICP-051** **125 mL**

CLP ICP Calibration Standard

5 Analytes

arsenic (As)	1000 µg/mL
cadmium (Cd)	500 µg/mL
lead (Pb)	1000 µg/mL
selenium (Se)	1000 µg/mL
thallium (Tl)	1000 µg/mL

in 5% HNO₃**ICM-413** **125 mL**

CLP ICP Calibration Kit

Kit - contains three bottles:

125 mL of each of the following standards

ICM-411 ICM-413 ICP-051

ICK-410A **Kit**

SPIKING STANDARDS FOR THE CLP

CLP ICP Spike Standard

12 Analytes

aluminum (Al)	2000 µg/mL
barium (Ba)	2000 µg/mL
beryllium (Be)	50 µg/mL
chromium (Cr)	200 µg/mL
cobalt (Co)	500 µg/mL
copper (Cu)	250 µg/mL
iron (Fe)	1000 µg/mL
manganese (Mn)	500 µg/mL
nickel (Ni)	500 µg/mL
silver (Ag)	50 µg/mL
vanadium (V)	500 µg/mL
zinc (Zn)	500 µg/mL

in 5% HNO₃**ICM-451** **125 mL**

CLP ICP Spike Standard

antimony (Sb)

@ 500 µg/mL in dilute HNO₃**ICM-452** **125 mL**

CLP ICP Spike Kit

Kit - contains three bottles:

125 mL of each of the following standards

ICM-451 ICM-452 ICM-453

ICK-450 **Kit**

CLP ICP Spike Standard

5 Analytes

arsenic (As)	2000 µg/mL
cadmium (Cd)	50 µg/mL
lead (Pb)	500 µg/mL
selenium (Se)	2000 µg/mL
thallium (Tl)	2000 µg/mL

in 5% HNO₃**ICM-453** **125 mL**

CALIBRATION VERIFICATION STANDARDS FOR THE CLP

CLP ICP Verification Standard *

16 Analytes

aluminum (Al)	1000 µg/mL
barium (Ba)	1000 µg/mL
beryllium (Be)	25 µg/mL
calcium (Ca)	2500 µg/mL
chromium (Cr)	100 µg/mL
cobalt (Co)	250 µg/mL
copper (Cu)	125 µg/mL
iron (Fe)	500 µg/mL
magnesium (Mg)	2500 µg/mL
manganese (Mn)	250 µg/mL
nickel (Ni)	250 µg/mL
potassium (K)	2500 µg/mL
silver (Ag)	125 µg/mL
sodium (Na)	2500 µg/mL
vanadium (V)	250 µg/mL
zinc (Zn)	250 µg/mL

in 5% HNO_3

ICM-431 **125 mL**

CLP ICP Verification Standard *

antimony (Sb)

@ 500 µg/mL in dilute HNO_3

ICM-432 **125 mL**

CLP ICP Verification Standard *

5 Analytes

arsenic (As)	500 µg/mL
cadmium (Cd)	250 µg/mL
lead (Pb)	500 µg/mL
selenium (Se)	500 µg/mL
thallium (Tl)	500 µg/mL

in 5% HNO_3

ICM-433 **125 mL**

CLP ICP Verification Kit *

Kit - contains three bottles:

125 mL of each of the following standards

ICM-431 ICM-432 ICM-433

ICK-430 **Kit**

*** Meets CLP QA second-source requirements.**

INTERFERENCE CHECK STANDARDS FOR THE CLP

CLP ICP Interference Check Standard

12 Analytes

barium (Ba)	50 µg/mL
beryllium (Be)	50 µg/mL
cadmium (Cd)	100 µg/mL
chromium (Cr)	50 µg/mL
cobalt (Co)	50 µg/mL
copper (Cu)	50 µg/mL
lead (Pb)	100 µg/mL
manganese (Mn)	50 µg/mL
nickel (Ni)	100 µg/mL
silver (Ag)	100 µg/mL
vanadium (V)	50 µg/mL
zinc (Zn)	100 µg/mL

in 5% HNO_3

ICM-442 **50 mL**

CLP ICP Interference Check Standard

4 Analytes

aluminum (Al)	5000 µg/mL
calcium (Ca)	5000 µg/mL
iron (Fe)	2000 µg/mL
magnesium (Mg)	5000 µg/mL

in 5% HNO_3

ICM-441 **500 mL**

CLP ICP Interference Check Kit

Kit - contains two bottles:

500 mL of the following standard

ICM-441

plus

50 mL of the following standard

ICM-442

ICK-440 **Kit**

CLP ILM-4.0 Interference Check Analytes Standard

16 Analytes

antimony (Sb)	60 µg/mL
arsenic (As)	10 µg/mL
barium (Ba)	50 µg/mL
beryllium (Be)	50 µg/mL
cadmium (Cd)	100 µg/mL
chromium (Cr)	50 µg/mL
cobalt (Co)	50 µg/mL
copper (Cu)	50 µg/mL
lead (Pb)	5 µg/mL
manganese (Mn)	50 µg/mL
nickel (Ni)	100 µg/mL
selenium (Se)	5 µg/mL
silver (Ag)	20 µg/mL
thallium (Tl)	10 µg/mL
vanadium (V)	50 µg/mL
zinc (Zn)	100 µg/mL

in 2% HNO_3

ICM-443 **125 mL**

ICP/AA DETECTION LIMIT STANDARDS

CLP ICP/AA Detection Limits
Standard*9 Analytes*

beryllium (Be)	100 µg/mL
chromium (Cr)	200 µg/mL
cobalt (Co)	1000 µg/mL
copper (Cu)	500 µg/mL
manganese (Mn)	300 µg/mL
nickel (Ni)	800 µg/mL
silver (Ag)	200 µg/mL
vanadium (V)	1000 µg/mL
zinc (Zn)	400 µg/mL

*in 5% HNO₃***ICM-421** **125 mL**CLP ICP/AA Detection Limits
Standard*5 Analytes*

arsenic (As)	100 µg/mL
cadmium (Cd)	50 µg/mL
lead (Pb)	30 µg/mL
selenium (Se)	50 µg/mL
thallium (Tl)	100 µg/mL

*in 5% HNO₃***ICM-423** **125 mL**CLP ICP/AA Detection Limits
Standard

antimony (Sb)

*@ 600 µg/mL in dilute HNO₃***ICM-422** **125 mL**

CLP ICP/AA Detection Limits Kit

Kit - contains three bottles:*125 mL of each of the following standards*

ICM-421 ICM-422 ICM-423

ICK-420 **Kit**

COMPLETE STANDARDS KITS

Complete CLP Standards Kit

Kit - contains nineteen bottles:*125 mL of each of the following standards*

ICM-411	ICP-051	ICM-413
ICM-421	ICM-422	ICM-423
ICM-431	ICM-432	ICM-433
ICM-451	ICM-452	ICM-453
ICM-303		

*plus**500 mL of the following standard*

ICM-441

*plus**50 mL of each of the following standards*

ICM-442	ICM-461	ICM-462
ICM-463	ICM-464	

ICPK-4A **Kit**

CLP ICP Standards Kit

Kit - contains fourteen bottles:*125 mL of each of the following standards*

ICM-411	ICP-051	ICM-413
ICM-421	ICM-422	ICM-423
ICM-431	ICM-432	ICM-433
ICM-451	ICM-452	ICM-453

*plus**500 mL of the following standard*

ICM-441

*plus**50 mL of the following standard*

ICM-442

ICPK-5A **Kit**

GRAPHITE FURNACE AA STANDARDS

CLP GFAA Standard

6 Analytes

antimony (Sb)	100 µg/mL
arsenic (As)	50 µg/mL
cadmium (Cd)	10 µg/mL
lead (Pb)	50 µg/mL
selenium (Se)	100 µg/mL
thallium (Tl)	50 µg/mL

in 5% HNO_3

ICM-461 **50 mL**

CLP GFAA Standard (Calibration Verification)

6 Analytes

antimony (Sb)	50 µg/mL
arsenic (As)	25 µg/mL
cadmium (Cd)	5 µg/mL
lead (Pb)	25 µg/mL
selenium (Se)	50 µg/mL
thallium (Tl)	25 µg/mL

in 5% HNO_3

ICM-462 **50 mL**

CLP GFAA Standard (P Spike)

6 Analytes

antimony (Sb)	100 µg/mL
arsenic (As)	40 µg/mL
cadmium (Cd)	5 µg/mL
lead (Pb)	20 µg/mL
selenium (Se)	10 µg/mL
thallium (Tl)	50 µg/mL

in 5% HNO_3

ICM-463 **50 mL**

CLP GFAA Standard

6 Analytes

antimony (Sb)	120 µg/mL
arsenic (As)	20 µg/mL
cadmium (Cd)	10 µg/mL
lead (Pb)	20 µg/mL
selenium (Se)	10 µg/mL
thallium (Tl)	20 µg/mL

in 5% HNO_3

ICM-464 **50 mL**

CLP GFAA Standard

mercury (Hg)

@ 100 µg/mL in 2% HNO_3

ICM-303 **125 mL**

CLP GFAA Interference Check Kit

Kit - contains five bottles:

50 mL of each of the following standards

ICM-461 ICM-462
ICM-463 ICM-464

plus

125 mL of the following standard

ICM-303

ICK-460A **Kit**

MATRIX MODIFIERS FOR GRAPHITE FURNACE AA

Starting Material	Concentration and Matrix	Volume	Catalog #
Palladium from Palladium Nitrate	2000 µg/mL in HNO_3	125 mL	IMM-001
Palladium from Palladium Nitrate	5000 µg/mL in HNO_3	50 mL	IMM-002
Magnesium Nitrate	10,000 µg/mL in HNO_3	125 mL	IMM-003
Phosphate from Ammonium Phosphate	40,000 µg/mL in HNO_3	50 mL	IMM-004
Ammonium Nitrate	10,000 µg/mL in HNO_3	50 mL	IMM-005
Nickel from Nickel Nitrate	4000 µg/mL in HNO_3	50 mL	IMM-007

SDWA & TCLP

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- ✓ Starting materials are 99.999% pure, wherever possible

SAFE DRINKING WATER ACT (SDWA) STANDARDS

Primary Safe Drinking Water Act Standard #1

6 Analytes

arsenic (As)	500 µg/mL
cadmium (Cd)	100 µg/mL
chromium (Cr)	500 µg/mL
lead (Pb)	500 µg/mL
selenium (Se)	100 µg/mL
silver (Ag)	500 µg/mL

in 10% HNO₃**ICM-301** 125 mL

Primary Safe Drinking Water Act Standard #2

barium (Ba)

@ 10,000 µg/mL in 2% HNO₃**ICP-156** 125 mL

Primary Safe Drinking Water Act Standard #3

mercury (Hg)

@ 100 µg/mL in 5% HNO₃**ICM-303** 125 mL

Primary Safe Drinking Water Act Kit

Kit - contains three bottles:

125 mL of each of the following standards

ICM-301 ICP-156 ICM-303

ICK-300A **Kit**

Secondary Safe Drinking Water Act Standard

4 Analytes

copper (Cu)	100 µg/mL
iron (Fe)	30 µg/mL
manganese (Mn)	5 µg/mL
zinc (Zn)	500 µg/mL

in 2% HNO₃**ICM-304** 125 mL

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) STANDARDS

TCLP Analytes Mixture

7 Analytes

arsenic (As)	25 µg/mL
barium (Ba)	500 µg/mL
cadmium (Cd)	5 µg/mL
chromium (Cr)	25 µg/mL
lead (Pb)	25 µg/mL
selenium (Se)	5 µg/mL
silver (Ag)	25 µg/mL

in 5% HNO₃**ICM-641** 125 mL**ICM-641-5** 500 mL

TCLP Mercury Standard

mercury (Hg)

@ 20 µg/mL in 2% HNO₃**ICM-642** 125 mL**ICM-642-5** 500 mL



ANION STANDARDS FOR ION CHROMATOGRAPHY

Ion	Volume	1000 µg/mL Catalog #	Ion	Volume	1000 µg/mL Catalog #
Acetate	125 mL	ICC-014	Nitrate	125 mL	ICC-004
Benzoate	125 mL	ICC-015	Nitrate (as N)	125 mL	ICC-004A
Bromate	125 mL	ICC-010	Nitriiotriacetate	125 mL	ICC-025
Bromide	125 mL	ICC-001	Nitrite	125 mL	ICC-007
Chlorate	125 mL	ICC-011	Nitrite (as N)	125 mL	ICC-007A
Chloride	125 mL	ICC-002	Oxalate	125 mL	ICC-026
Chlorite	125 mL	ICC-012	Perchlorate	125 mL	ICC-013
Chromate	125 mL	ICC-016	Phosphate	125 mL	ICC-005
Citrate	125 mL	ICC-017	ortho-Phosphate (as P)	125 mL	ICC-005A
Fluoride	125 mL	ICC-003	Phthalate	125 mL	ICC-027
Formate	125 mL	ICC-018	Propionate	125 mL	ICC-028
Glycolate	125 mL	ICC-019	Succinate	125 mL	ICC-029
Iodide	125 mL	ICC-020	Sulfate	125 mL	ICC-006
Lactate	125 mL	ICC-021	Tartrate	125 mL	ICC-030
Malate	125 mL	ICC-022	Thiocyanate	125 mL	ICC-031
Maleate	125 mL	ICC-023	Thiosulfate	125 mL	ICC-032
Methanesulfonate	125 mL	ICC-024			

ANION MIXTURES FOR ION CHROMATOGRAPHY

IC Anions Mixture #1

5 Analytes

chloride (Cl ⁻)	30 µg/mL
fluoride (F ⁻)	20 µg/mL
nitrate (NO ₃ ⁻)	100 µg/mL
phosphate (PO ₄ ⁻³)	150 µg/mL
sulfate (SO ₄ ⁻²)	150 µg/mL

in H₂O

ICC-200 125 mL

IC Anions Mixture #2

6 Analytes

bromide (Br ⁻)	400 µg/mL
chloride (Cl ⁻)	200 µg/mL
fluoride (F ⁻)	100 µg/mL
nitrate (NO ₃ ⁻)	400 µg/mL
phosphate (PO ₄ ⁻³)	600 µg/mL
sulfate (SO ₄ ⁻²)	400 µg/mL

in H₂O

ICC-210 125 mL

IC Detector Linearity Kit

Kit – contains five ampules:

1 x 10 mL of each individual standard in H₂O

nitrate	5 µg/mL
nitrate	10 µg/mL
nitrate	25 µg/mL
nitrate	50 µg/mL
nitrate	100 µg/mL

ICC-759

Kit



CATION STANDARDS FOR ION CHROMATOGRAPHY

Ion	1000 µg/mL		Ion	1000 µg/mL	
	Volume	Catalog #		Volume	Catalog #
Ammonium (NH ₄ ⁺) <i>in H₂O</i>	125 mL	ICC-101	Magnesium (Mg ⁺²) <i>in 0.2% HNO₃</i>	125 mL	ICC-105
Barium (Ba ⁺²) <i>in 0.2% HNO₃</i>	125 mL	ICC-102	Potassium (K ⁺) <i>in 0.2% HNO₃</i>	125 mL	ICC-106
Calcium (Ca ⁺²) <i>in 0.2% HNO₃</i>	125 mL	ICC-103	Sodium (Na ⁺) <i>in 0.1% HNO₃</i>	125 mL	ICC-107
Lithium (Li ⁺) <i>in 0.2% HNO₃</i>	125 mL	ICC-104	Strontium (Sr ⁺²) <i>in 0.2% HNO₃</i>	125 mL	ICC-108

CATION MIXTURES FOR ION CHROMATOGRAPHY

IC Cations Mixture #1

6 Analytes

ammonium (NH ₄ ⁺)	400 µg/mL
calcium (Ca ⁺²)	1000 µg/mL
lithium (Li ⁺)	50 µg/mL
magnesium (Mg ⁺²)	200 µg/mL
potassium (K ⁺)	200 µg/mL
sodium (Na ⁺)	200 µg/mL

in 0.2% HNO₃

ICC-300 125 mL

IC Cations Mixture #2

4 Analytes

ammonium (NH ₄ ⁺)	100 µg/mL
lithium (Li ⁺)	10 µg/mL
potassium (K ⁺)	50 µg/mL
sodium (Na ⁺)	100 µg/mL

in 0.2% HNO₃

ICC-310 125 mL

IC Cations Mixture #3

4 Analytes

barium (Ba ⁺²)	1600 µg/mL
calcium (Ca ⁺²)	400 µg/mL
magnesium (Mg ⁺²)	200 µg/mL
strontium (Sr ⁺²)	600 µg/mL

in 0.2% HNO₃

ICC-320 125 mL

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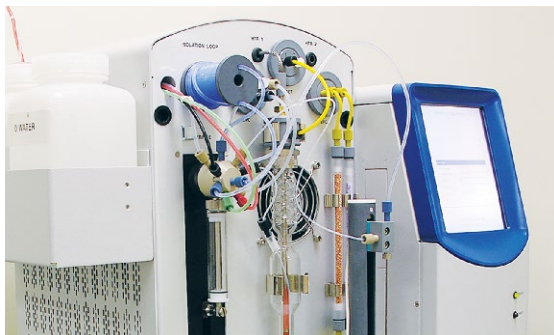


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TOTAL ORGANIC CARBON (TOC) & TOTAL INORGANIC CARBON (TIC)

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- ✓ Ultra low TOC (< 50 ppb) water



Total Organic Carbon (TOC) Standards

Concentration	Volume	Catalog #
TOC @ 0.5 mg/L <i>benzoquinone in H₂O</i>	250 mL	IQC-111
	500 mL	IQC-111-5
TOC @ 1 mg/L <i>KHP in H₂O</i>	250 mL	IQC-107
	500 mL	IQC-107-5
TOC @ 10 mg/L <i>KHP in H₂O</i>	250 mL	IQC-108
	500 mL	IQC-108-5
TOC @ 25 mg/L <i>KHP in H₂O</i>	250 mL	IQC-101
	500 mL	IQC-101-5
TOC @ 50 mg/L <i>KHP in H₂O</i>	250 mL	IQC-102
	500 mL	IQC-102-5
TOC @ 100 mg/L <i>KHP in H₂O</i>	250 mL	IQC-103
	500 mL	IQC-103-5
TOC @ 250 mg/L <i>KHP in H₂O</i>	250 mL	IQC-104
	500 mL	IQC-104-5
TOC @ 500 mg/L <i>KHP in H₂O</i>	250 mL	IQC-105
	500 mL	IQC-105-5
TOC @ 1000 mg/L <i>KHP in H₂O</i>	250 mL	IQC-106
	500 mL	IQC-106-5

Total Inorganic Carbon (TIC)

total inorganic carbon (TIC)	
@ 1000 mg/L in H ₂ O	
ICC-033	125 mL
ICC-033-5	500 mL
ICC-033-L	1 L

TOC Standard (Preserved)

total organic carbon	50 mg/L
<i>in H₂O tr. H₂SO₄</i>	
IQC-001	125 mL

ULTRA Low TOC Water

water (<i>less than 50 ppb TOC</i>)	
IQC-100-5	500 mL
IQC-100-L	1 L

STANDARDS FOR CYANIDE TESTING

Free Cyanide Standard

cyanide (from KCN)	1000 mg/L
<i>in dilute NaOH</i>	
ICC-008	125 mL

Complex Cyanide Standard

cyanide (from K ₃ Fe(CN) ₆)	1000 mg/L
<i>in dilute NaOH</i>	
ICC-009	125 mL

GHS COMPLIANCE

ULTRA Scientific is a Certified GHS Author for SDS and GHS compliant labeling. Chemical products manufactured and distributed by ULTRA Scientific are compliant with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Safety Data Sheets (SDS) and labels are prepared in accordance with the regulations and in the languages listed below. Additional languages are available upon request. As regulations are updated and expanded, ULTRA will maintain up-to-date records online at www.ultrasci.com. For further information, please contact regulatory@ultrasci.com.



European CLP Regulation

Regulation 1272/2008

- ✓ Chinese (Standard Mandarin)
- ✓ Czech
- ✓ Danish
- ✓ Dutch
- ✓ English
- ✓ Estonian
- ✓ Finnish
- ✓ French
- ✓ German
- ✓ Italian
- ✓ Japanese
- ✓ Korean
- ✓ Polish
- ✓ Portuguese
- ✓ Romanian
- ✓ Russian
- ✓ Spanish
- ✓ Swedish

USA GHS-OSHA Regulation

Hazcom 2012

- ✓ English
- ✓ Spanish
- ✓ French

Chinese GHS Regulation

GB/T 17519-2013 & GB/T 16483-2008

- ✓ Chinese (Standard Mandarin)
- ✓ English



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危險
heptachlor, ACETONE

高度易燃液体和蒸气, 长时间或反复接触可能对器官造成损伤, 造成严重眼刺激, 可能引起昏昏欲睡或晕眩, 水生生物毒性极大并具有长期持续影响。远离热源/火花/明火/热表面。禁止吸烟。洗...后彻底处理。戴防护手套/防护服/眼镜/防护面罩。如吸入: 将患者转移到空气新鲜处, 休息, 保持利于呼吸的体位。如感觉不适, 呼叫中毒控制中心或就火灾时: 使用...灭火。



Store at Room Temp (15° to 30°C), Do Not Refrigerate
Made in U.S.A.

欲了解更多信息, 請參閱安全數據表





BUFFERS & REAGENTS

The reliability of your wet chemistry analytical data is directly dependent upon the quality of your buffers and reagents. ULTRA Scientific offers a complete selection of certified conductivity solutions manufactured to provide reliable solutions for virtually any electrochemical analysis.

ULTRA Scientific offers the pH buffers most widely used in laboratories today. These popular buffers are available as color-coded formulations for easy identification by laboratory personnel and the labels contain expiration dates and lot numbers. ULTRA Scientific pH buffers are carefully manufactured to provide chemists with a means of keeping pH at a nearly constant value in a wide variety of chemical applications.

Conductivity solutions and pH buffers are NIST SRM traceable.

TABLE OF CONTENTS

● CERTIFIED PH BUFFERS	50
● CERTIFIED CONDUCTIVITY SOLUTIONS	51
● CERTIFIED WATER	51
● CERTIFIED TITRANTS AND TEST SOLUTIONS	52





CERTIFIED PH BUFFERS

Product	Description	ISO Guide 34	Unit	Catalog #
pH 1.68	pH Buffer 1.68 Reference Standard	✓	500 mL	IBF-168
pH 4.01	pH Buffer 4.01 Reference Standard (Color Coded Red)	✓	500 mL	IBF-040
			1 L	IBF-040-L
pH 4.00	Acetate Buffer		1L	IBF-040A-L
			4 L	IBF-040A-4L
			6X1L	IBF-040A-CS
			20 L	IBF-040A-20L
pH 7.00	pH Buffer 7.00 Reference Standard (Color Coded Yellow)	✓	500 mL	IBF-070
			1 L	IBF-070-L
pH 7.416	pH Buffer Reference Standard	✓	500 mL	IBF-074
			1 L	IBF-074-L
pH 8.00	pH Buffer Reference Standard (25°C)		20 L	IBF-080-20L
pH 9.21	pH Buffer Reference Standard	✓	500 mL	IBF-092
			1 L	IBF-092-L
pH 10.01	pH Buffer 10.01 Reference Standard (Color Coded Blue)	✓	500 mL	IBF-100
			1 L	IBF-100-L
pH 12.45	pH Buffer 12.45 Reference Standard	✓	500 mL	IBF-1245





CERTIFIED CONDUCTIVITY SOLUTIONS

Product	Description	Unit	Catalog #
Conductivity, TDS as NaCl	50 $\mu\text{mhos/cm}$ @ 25°C, 23.6 PPM	500 mL	IBF-500
		1 L	IBF-500-L
Conductivity, TDS as NaCl	100 $\mu\text{mhos/cm}$ @ 25°C, 47.2 PPM	500 mL	IBF-501
		1 L	IBF-501-L
Conductivity, TDS as NaCl	200 $\mu\text{mhos/cm}$ @ 25°C, 95.0 PPM	500 mL	IBF-502
		1 L	IBF-502-L
Conductivity, TDS as NaCl	500 $\mu\text{mhos/cm}$ @ 25°C, 240 PPM	500 mL	IBF-505
		1 L	IBF-505-L
Conductivity, TDS as NaCl	1,000 $\mu\text{mhos/cm}$ @ 25°C, 495 PPM	500 mL	IBF-510
		1 L	IBF-510-L
Conductivity, TDS as NaCl	2,000 $\mu\text{mhos/cm}$ @ 25°C, 1000 PPM	500 mL	IBF-520
		1 L	IBF-520-L
Conductivity, TDS as NaCl	5,000 $\mu\text{mhos/cm}$ @ 25°C, 2620 PPM	500 mL	IBF-550
		1 L	IBF-550-L
Conductivity, TDS as NaCl	10,000 $\mu\text{mhos/cm}$ @ 25°C, 5400 PPM	500 mL	IBF-600
		1 L	IBF-600-L
Conductivity Standard, KCl	147 $\mu\text{mhos/cm}$ @ 25°C, 0.001 mol/ L KCl	500 mL	IBF-560
		1 L	IBF-560-L
Conductivity Standard, KCl	1413 $\mu\text{mhos/cm}$ @ 25°C, 0.01 mol/ L KCl	500 mL	IBF-570
		1 L	IBF-570-L
Conductivity Standard, KCl	12880 $\mu\text{mhos/cm}$ @ 25°C, 0.1 mol/ L KCl	500 mL	IBF-580
		1 L	IBF-580-L



CERTIFIED PURE WATER

Product	Description	Unit	Catalog #
ULTRA Low TOC Water	< 50 ppb TOC	500 mL	IQC-100-5
		1 L	IQC-100-L



CERTIFIED TITRANTS AND TEST SOLUTIONS

Product	Description	Unit	Catalog #
Boric Acid	2% (w/v), without indicator	500 mL	INR-0129S
		1 L	INR-0129S-L
Boric Acid	2% (w/v), with methyl red-methylene, pH indicator	500 mL	INR-0129SX
		1 L	INR-0129SX-L
Calcium Chloride	2.75% (w/v), aqueous solution, APHA for BOD	500 mL	INR-2017S
		1 L	INR-2017S-L
Disodium EDTA	0.100 M, titrant, standardized	500 mL	ITR-011
		1 L	ITR-011-L
Sodium Hydroxide	6.0 N, standardized	500 mL	ITR-021
		1 L	ITR-021-L
Sodium Hydroxide	1.00 N, standardized, N/1	500 mL	ITR-022
		1 L	ITR-022-L
Sodium Hydroxide	0.100 N, standardized, N/10	500 mL	ITR-024
		1 L	ITR-024-L



ULTRACHECK® BLIND QUALITY CONTROL CHECK STANDARDS

ULTRACheck® is a series of blind quality control standards used to check whether or not your analytical system is in control. ULTRACheck® samples are designed to mimic real-world samples for specific EPA methods, and are run as blind samples. The analytical data generated using the method is then compared to the true values supplied with the ULTRACheck® standard. Agreement between the data generated for ULTRACheck® used as a blind sample and the true values of the ULTRACheck® standard indicates that your analytical system is in control. Please visit our website at www.ultrasci.com for up to date ranges.

Use ULTRACheck® on a Regular Basis to:

- ✓ Train Personnel
- ✓ Establish and maintain EPA method proficiency
- ✓ Verify analytical system accuracy and precision
- ✓ Prepare for next state or EPA environmental audit

ULTRACheck® true values are provided in a separate, sealed envelope. The envelope can be sent to another site, upon your request. Data obtained using the ULTRACheck® blind sample can be immediately compared against the true values supplied. Complete instructions are included with each sample.

Know Your System is in Control

- ✓ The analytical system is shown to be in control when the data generated for the ULTRACheck® blind sample falls within the advisory range listed on the ULTRACheck® certificate of analysis.
- ✓ If the data generated for the ULTRACheck® blind sample does not fall within the advisory range, immediate corrective action can be taken prior to proficiency failure and loss of accreditation.

ULTRACHECK® SAMPLES

	PAGE
● INORGANIC DRINKING WATER	55
● ORGANIC DRINKING WATER	59
● INORGANIC NON-POTABLE WATER	65
● ORGANIC NON-POTABLE WATER	69
● UNDERGROUND STORAGE TANKS	73
● HYDROCARBON FUELS	73
● TOTAL PETROLEUM HYDROCARBONS	73
● AROCLORS	74
● EPA CLUSTER RULE	74



ULTRACHECK® DOCUMENTATION

Instruction Sheet Provided to the Analyst:

Storage instructions

Dilution instructions
mimic those of PT
samples

List of applicable
EPA Methods

Instructions for Use

QCM-115 ULTRAcHECK™ Regulated Volatiles Sample

Please read these instructions carefully before using the proficiency test sample concentrate.

- Storing the Sample**
This sample should be stored in a refrigerator at 4°C prior to opening.
- Preparing the Sample for Use**
Work quickly to avoid volatilization of the analytes in the concentrate. Fill a 100 mL volumetric flask (class A) to the mark with carbon-filtered reagent water. Open the ampule and use a syringe to withdraw 25 µL of the concentrate. Adjust the syringe volume to 20 µL, and inject this aliquot into the water in the expanded area of the filled flask. Remove the needle as quickly as possible, and stopper the flask. Mix the sample by inverting the stoppered flask three times only. Analyze the sample immediately.
- Analyzing the Sample**
A blind check sample is used to evaluate the quality of the analytical data generated by the laboratory. Use the analytical method your laboratory routinely uses to analyze for these particular analytes.
- Applicable Methods**
US EPA Method(s) 502.2, 524.2
- Analyte Concentrations**
The certificate showing the reference values and advisory ranges is sealed in an envelope, to be opened after the analysis is completed. The advisory ranges represent QC acceptance criteria for analyte recovery following applicable US EPA methodologies. These ranges are based on interlaboratory data, and are included solely as guides for acceptable performance. Each laboratory should develop criteria for judging acceptable method performance based on the intended use of data.

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Sealed Certificate of Analysis:

Weights Traceable to NIST

Analyte list with
assigned values

Certificate of Analysis

WS Regulated VOCs Sample Catalog Number: QCM-115
Code Number: 31802

This ULTRAcHECK™ sample was gravimetrically prepared, and the analyte concentrations were confirmed using high resolution gas chromatography. All operations were carried out under ULTRA Scientific's ISO 9001 registered quality system. The assigned values represent the gravimetrically determined values when the sample has been prepared according to the accompanying instructions. All gravimetric values are traceable to NIST.

Analyte	Analyte #	Assigned Value (µg/L)	Advisory Range*
benzene	71-43-2	7.88	4.73 - 11.03
carbon tetrachloride	56-23-5	4.62	2.77 - 6.46
chlorobenzene	106-46-7	46.2	36.9 - 55.4
1,2-dichlorobenzene	95-50-1	18.9	15.1 - 22.7
1,4-dichlorobenzene	106-46-7	18.9	15.0 - 22.5
1,2-dichloroethane	107-08-2	18.2	12.9 - 19.4
1,1-dichloroethene	75-35-4	0.00	0.00 - 0.00
cis-1,2-dichloroethane	156-69-4	24.1	19.3 - 28.9
trans-1,2-dichloroethane	156-69-6	10.0	8.0 - 12.0
1,2-dichloropropane	78-67-6	8.42	6.65 - 13.18
ethylbenzene	103-41-4	8.49	3.93 - 8.95
methylene chloride	75-09-2	0.00	0.00 - 0.00
styrene	100-42-6	19.5	15.8 - 23.9
tetrachloroethane	122-18-4	15.1	12.1 - 18.1
toluene	108-88-3	11.1	8.9 - 13.4
1,2,4-trichlorobenzene	120-82-1	16.1	12.9 - 19.3
1,1,1-trichloroethane	71-55-6	9.80	5.93 - 13.63
1,1,2-trichloroethane	79-29-5	3.14	1.89 - 4.49
trichloroethene	79-01-8	8.22	4.93 - 11.50
vinyl chloride	75-01-4	48.2	28.9 - 67.5
total xylenes	1330-20-7	33.8	27.0 - 40.5

* Calculated from the NELAP Drinking Water Fields of Testing Document, effective 8/31/12.

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Every ULTRA single blind sample lot is assigned a unique code number

Advisory ranges based on EPA/NELAC specifications

Certified by ULTRA Scientific

Results sealed in envelope for security

ULTRACHECK® INORGANIC BLIND QC SAMPLES FOR WS DRINKING WATER ANALYSIS

All ULTRAcHECK® samples are formulated to match individual concentrations as stated in the current NELAC guidelines

FORMULATED TO MATCH NELAC & US EPA WS PROGRAM SAMPLES

ULTRAcHECK® samples are designed to mimic real world samples for specific EPA methods, and are run as blind samples. Agreement between the data generated for ULTRAcHECK® used as a blind sample and the true values of the ULTRAcHECK® standard indicates that the analytical system is in control.

ULTRAcHECK® true values are provided in a separate, sealed envelope. True values fall within the ranges listed for each analyte, and may vary from lot to lot. Complete instructions are included with each sample.

ULTRAcHECK® WS Metals #1

11 Analytes

antimony (Sb)
arsenic (As)
barium (Ba)
beryllium (Be)
cadmium (Cd)
chromium (Cr)
copper (Cu)
lead (Pb)
nickel (Ni)
selenium (Se)
thallium (Tl)

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-706A **1 x 20 mL**

ULTRAcHECK® WS Metals #2

4 Analytes

boron (B)
manganese (Mn)
molybdenum (Mo)
zinc (Zn)

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-706B **1 x 20 mL**

ULTRAcHECK® WS Mercury

mercury (Hg)

Dilute 1 mL of sample to 1 L for final working test sample.

QCI-706C **1 x 5 mL**

ULTRAcHECK® WS Corrosivity

5 Analytes

alkalinity as CaCO₃
hardness as CaCO₃
pH
total filterable residue
sodium

Sample consists of two solutions. Dilute 10 mL of each solution to 1 L in the same flask for final working test sample.

QCI-717 **2 x 20 mL**

ULTRAcHECK® Complete Inorganic WS Drinking Water Kit

Kit - contains 10 samples:

1 each of the following samples

WS Metals #1	QCI-706A
WS Metals #2	QCI-706B
WS Mercury	QCI-706C
WS Corrosivity	QCI-717
WS Anions	QCI-757
WS Sulfate / TOC	QCI-718
WS Residual Free Chlorine	QCI-786
WS Turbidity	QCI-795
WS Free Cyanide	QCI-756
WS Disinfection By-Products	QCI-787

QCK-812 **Kit**

ULTRAcHECK® samples are formulated to Match NELAC & US EPA WS Program Samples. Please visit our website at www.ultrasci.com for the most updated list of product ranges.

ULTRACheck® WS Anions

4 Analytes

- fluoride
- nitrate as N
- nitrite as N
- orthophosphate as P

Sample consists of two solutions. Dilute 10 mL of each solution to 1 L in the same flask for final working test sample.

QCI-757 **2 x 20 mL**

ULTRACheck® WS Sulfate / TOC

2 Analytes

- sulfate
- total organic carbon (TOC)

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-718 **1 x 20 mL**

ULTRACheck® WS Disinfection By-Products

4 Analytes

- bromate
- bromide
- chlorate
- chlorite

Sample consists of two solutions. Dilute 10 mL of each solution to 1 L in the same flask for final working test sample.

QCI-787 **2 x 20 mL**

ULTRACheck® WS Residual Free Chlorine

residual free chlorine

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-786 **1 x 20 mL**

ULTRACheck® WS Turbidity

turbidity

Dilute 10 mL of sample to 200 mL for final working test sample.

QCI-795 **1 x 20 mL**

ULTRACheck® WS Cyanide (Free)

cyanide (free)

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-756 **1 x 20 mL**



ADDITIONAL ULTRACHECK® BLIND QC SAMPLES FOR DRINKING WATER ANALYSIS

All ULTRAcHECK® samples are formulated to match individual concentrations as stated in the current NELAC guidelines

ULTRAcHECK® samples are designed to mimic real world samples for specific EPA methods, and are run as blind samples. Agreement between the data generated for ULTRAcHECK® used as a blind sample and the true values of the ULTRAcHECK® standard indicates that the analytical system is in control.

ULTRAcHECK® true values are provided in a separate, sealed envelope. True values fall within the ranges listed for each analyte, and may vary from lot to lot. Complete instructions are included with each sample.

ULTRAcHECK® Metals

18 Analytes

aluminum (Al)
antimony (Sb)
arsenic (As)
barium (Ba)
beryllium (Be)
cadmium (Cd)
calcium (Ca)
chromium (Cr)
copper (Cu)
iron (Fe)
lead (Pb)
manganese (Mn)
mercury (Hg)
nickel (Ni)
selenium (Se)
silver (Ag)
thallium (Tl)
zinc (Zn)

Sample consists of two solutions. Dilute 10 mL of QCI-701A and 1 mL of QCI-701B to 2 L in the same flask for final working test sample.

QCI-701 **Kit**

ULTRAcHECK® Minerals

9 Analytes

alkalinity as CaCO₃
pH
conductivity
potassium
sodium
chloride
sulfate
fluoride
nitrate as N

Ready-to-use, whole volume standard

QCI-710 **500 mL**

ULTRAcHECK® Hardness

3 Analytes

calcium (Ca)
magnesium (Mg)
hardness as CaCO₃

Ready-to-use, whole volume standard

QCI-720 **500 mL**

INORGANIC BLIND QC SAMPLES FOR ICR DRINKING WATER ANALYSIS

ULTRAcHECK® ICR Minerals

5 Analytes

alkalinity as CaCO₃
pH
calcium hardness
total hardness as CaCO₃
bromide

Ready-to-use, whole volume standard

QCI-712 **500 mL**

ULTRAcHECK® TOC

total organic carbon

Dilute 10 mL of sample to 2 L for final working test sample.

QCI-731 **1 x 10 mL**

ULTRAcHECK® samples are formulated to Match NELAC & US EPA WS Program Samples. Please visit our website at www.ultrasci.com for the most updated list of product ranges.

ULTRACheck® Cyanide

3 Analytes

- free cyanide
- complex cyanide
- total cyanide

Dilute 10 mL of sample to 2 L for final working test sample.

QCI-750 **1 x 10 mL**

ULTRACheck® Solids

3 Analytes

- suspended solids
- dissolved solids
- total solids

Ready-to-use, whole volume standard

QCI-711 **500 mL**
QCI-711-100 **100 mL**

ULTRACheck® Nitrite

nitrite as N

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-751 **1 x 10 mL**

ULTRACheck® Turbidity

turbidity

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-790 **1 x 10 mL**

ULTRACheck® Total Residual Chlorine

total residual chlorine

Dilute 10 mL of sample to 2 L for final working test sample.

QCI-780 **1 x 10 mL**

ULTRACheck® Complete Inorganic Drinking Water Kit

Kit - contains 8 samples:

1 each of the following samples

Metals	QCI-701
Minerals	QCI-710
Nitrite	QCI-751
Total Residual Chlorine	QCI-780
Turbidity	QCI-790
Solids	QCI-711
Hardness	QCI-720
Cyanide	QCI-750

QCK-810 **Kit**

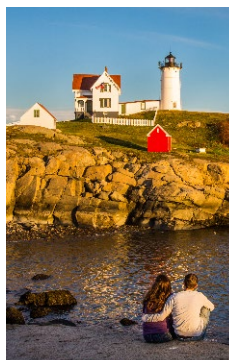
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- ✓ EPA Methods
- ✓ And more!



ULTRACHECK[®] ORGANIC BLIND QC SAMPLES FOR WS DRINKING WATER ANALYSIS

All ULTRACHECK[®] samples are formulated to match individual concentrations as stated in the current NELAC guidelines

FORMULATED TO MATCH NELAC & US EPA WS PROGRAM SAMPLES

ULTRACHECK[®] samples are designed to mimic real world samples for specific EPA methods, and are run as blind samples. Agreement between the data generated for ULTRACHECK[®] used as a blind sample and the true values of the ULTRACHECK[®] standard indicates that the analytical system is in control.

ULTRACHECK[®] true values are provided in a separate, sealed envelope. True values fall within the ranges listed for each analyte, and may vary from lot to lot. Complete instructions are included with each sample.

ULTRACHECK[®] WS Regulated VOCs

21 Analytes

benzene
carbon tetrachloride
chlorobenzene
1,2-dichlorobenzene
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
dichloromethane
1,2-dichloropropane
ethylbenzene
styrene
tetrachloroethene
toluene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
vinyl chloride
xylenes (total)

Dilute 20 µL of sample to 100 mL for final working test sample.

QCM-115 **1 x 2 mL**

ULTRACHECK[®] WS Unregulated VOCs

30 Analytes

bromobenzene
bromochloromethane
bromomethane
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
chloroethane
chloromethane
2-chlorotoluene
4-chlorotoluene
dibromomethane
1,3-dichlorobenzene
dichlorodifluoromethane
1,1-dichloroethane
1,3-dichloropropane
2,2-dichloropropane
1,1-dichloropropene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
hexachlorobutadiene
isopropylbenzene
4-isopropyltoluene
n-propylbenzene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
1,2,3-trichlorobenzene
trichlorofluoromethane
1,2,3-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene

Dilute 20 µL of sample to 100 mL for final working test sample.

QCM-116 **1 x 2 mL**

ULTRACHECK[®] WS Trihalomethanes

5 Analytes

bromodichloromethane
bromoform
chloroform
dibromochloromethane
total trihalomethanes

Dilute 20 µL of sample to 100 mL for final working test sample.

QCM-125 **1 x 2 mL**

ULTRACHECK[®] WS DBCP / EDB

2 Analytes

1,2-dibromo-3-chloropropane
1,2-dibromoethane

Dilute 20 µL of sample to 100 mL for final working test sample.

QCM-135 **1 x 2 mL**

ULTRACheck® WS Pesticides #1*11 Analytes*

aldrin
 dieldrin
 endrin
 heptachlor
 heptachlor epoxide
 hexachlorobenzene
 hexachlorocyclopentadiene
 lindane
 methoxychlor
 propachlor
 trifluralin

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-211 **1 x 2 mL**

ULTRACheck® WS Pesticides #2*3 Analytes*

alachlor
 atrazine
 simazine

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-212 **1 x 2 mL**

ULTRACheck® WS Carbamates*6 Analytes*

aldicarb
 aldicarb sulfone
 aldicarb sulfoxide
 carbofuran
 methomyl
 oxamyl

Dilute 1 mL of sample to 100 mL for final working test sample.

QCM-251 **1 x 2 mL**

ULTRACheck® WS Herbicides*8 Analytes*

acifluorfen
 2,4-D
 dalapon
 dicamba
 dinoseb
 pentachlorophenol
 picloram
 silvex (2,4,5-TP)

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-501 **1 x 2 mL**

ULTRACheck® WS Chlordane

chlordane

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-230 **1 x 2 mL**

ULTRACheck® WS Toxaphene

toxaphene

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-220 **1 x 2 mL**

ULTRACheck® WS Regulated SOCs*3 Analytes*

diquat
 endothall
 glyphosate

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-260 **1 x 2 mL**

ULTRACheck® WS PCBs

Aroclor 1260

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-249 **1 x 2 mL**

ULTRACHECK® ORGANIC BLIND QC SAMPLES FOR WS DRINKING WATER ANALYSIS

All ULTRACHECK® samples are formulated to match individual concentrations as stated in the current NELAC guidelines

ULTRACHECK® WS Phthalate and Adipate

2 Analytes

bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-312 **1 x 2 mL**

ULTRACHECK® WS Disinfection By-Products

6 Analytes

bromoacetic acid
bromochloroacetic acid
chloroacetic acid
dibromoacetic acid
dichloroacetic acid
trichloroacetic acid

Dilute 1 mL of sample to 100 mL for final working test sample.

QCM-550 **1 x 2 mL**

ULTRACHECK® WS PAHs

benzo[a]pyrene

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-311 **1 x 2 mL**

ULTRACHECK® WS Chloral Hydrate

chloral hydrate

Dilute 1 mL of sample to 100 mL for final working test sample.

QCM-551 **1 x 2 mL**

ULTRACHECK® Organic WS Drinking Water Kit

Kit - contains thirteen samples:

1 x 2 mL of each of the following samples

Regulated VOCs	QCM-115
Unregulated VOCs	QCM-116
Trihalomethanes	QCM-125
EDB/DBCP	QCM-135
Pesticides #1	QCM-211
Pesticides #2	QCM-212
Toxaphene	QCM-220
Chlordane	QCM-230
PCBs	QCM-249
Carbamates	QCM-251
PAHs	QCM-311
Phthalates and Adipates	QCM-312
Herbicides	QCM-501

QCK-915 **Kit**

ORDERING IS EASY

Online

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8:30 a.m. - 5:00 p.m. ET

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250 Smith Street
No. Kingstown, RI
02852



ULTRACHECK® samples are formulated to Match NELAC & US EPA WS Program Samples. Please visit our website at www.ultrasci.com for the most updated list of product ranges.

ADDITIONAL ULTRACHECK® BLIND QC SAMPLES FOR DRINKING WATER ANALYSIS

All ULTRACHECK® samples are formulated to match individual concentrations as stated in the current NELAC guidelines

Drinking Water VOC Kit

Kit - contains thirteen samples:

1 x 2 mL of each of the following samples

Trihalomethanes Mixture	THM-515-1
Performance Check Mixture	EPA-100A
Promulgated VOC Mixture	DWM-591-1
Promulgated VOC Mixture	DWM-593A-1

DWK-501

Kit

ULTRACHECK® Regulated VOCs

23 Analytes

benzene
carbon tetrachloride
chlorobenzene
1,2-dichlorobenzene
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
ethylbenzene
methylene chloride
styrene
tetrachloroethene
toluene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
vinyl chloride
o-xylene
m-xylene
p-xylene

Dilute 5 µL of sample to 100 mL for final working test sample.

QCM-111

1 x 2 mL

ULTRACHECK® Trihalomethanes

4 Analytes

bromodichloromethane
bromoform
chloroform
dibromochloromethane

Dilute 20 µL of sample to 100 mL for final working test sample.

QCM-120

1 x 2 mL

ULTRACHECK® Unregulated VOCs

30 Analytes

bromobenzene
bromochloromethane
bromomethane
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
chloroethane
chloroform
chloromethane
2-chlorotoluene
4-chlorotoluene
dibromomethane
1,3-dichlorobenzene
1,1-dichloroethane
1,3-dichloropropane
2,2-dichloropropane
1,1-dichloropropene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
hexachlorobutadiene
isopropylbenzene
4-isopropyltoluene
n-propylbenzene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
1,2,3-trichlorobenzene
trichlorofluoromethane
1,2,3-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene

Dilute 5 µL of sample to 100 mL for final working test sample.

QCM-112

1 x 2 mL

ULTRACHECK® EDB/DBC

2 Analytes

1,2-dibromo-3-chloropropane
1,2-dibromoethane

Dilute 5 µL of sample to 100 mL for final working test sample.

QCM-130

1 x 2 mL

ULTRACHECK® Volatiles

20 - 30 Analytes from the Following List:

benzene	1,2-dichlorobenzene	1,1,2,2-tetrachloroethane
bromodichloromethane	1,3-dichlorobenzene	tetrachloroethene
bromoform	1,4-dichlorobenzene	toluene
n-butylbenzene	1,2-dichloroethane	1,2,4-trichlorobenzene
sec-butylbenzene	1,1-dichloroethene	1,1,1-trichloroethane
tert-butylbenzene	cis-1,2-dichloroethene	1,1,2-trichloroethane
carbon tetrachloride	trans-1,2-dichloroethene	trichloroethene
chlorobenzene	1,1-dichloropropene	1,2,4-trimethylbenzene
chloroform	ethylbenzene	1,3,5-trimethylbenzene
2-chlorotoluene	isopropylbenzene	vinyl chloride
4-chlorotoluene	4-isopropyltoluene	o-xylene
dibromochloromethane	methylene chloride	m-xylene
1,2-dibromo-3-chloropropane	n-propylbenzene	p-xylene
1,2-dibromoethane	styrene	
dibromomethane	1,1,1,2-tetrachloroethane	

Dilute 5 µL of sample to 100 mL for final working test sample.

QCM-110

1 x 2 mL

ADDITIONAL ULTRACHECK® BLIND QC SAMPLES FOR DRINKING WATER ANALYSIS

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ULTRAcHECK® Carbamate Pesticides

5 - 7 Analytes from the Following List:

aldicarb
aldicarb sulfoxide
aldicarb sulfone
carbaryl
carbofuran
methomyl
propoxur

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-250 1 x 2 mL

ULTRAcHECK® Semi-Volatiles

10 - 15 Analytes from the Following List:

acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
dibenz[a,h]anthracene
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
fluorene
hexachlorobenzene
hexachlorocyclopentadiene
indeno[1,2,3-cd]pyrene
pentachlorophenol
phenanthrene
pyrene

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-310 1 x 2 mL

ULTRAcHECK® Pesticides

8 - 12 Analytes from the Following List:

alachlor	dieldrin
aldrin	endosulfan I
atrazine	endosulfan II
α-BHC	endosulfan sulfate
β-BHC	endrin
δ-BHC	endrin aldehyde
γ-BHC (<i>lindane</i>)	heptachlor
4,4'-DDD	heptachlor epoxide
4,4'-DDE	methoxychlor
4,4'-DDT	

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-210 1 x 2 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



ULTRACHECK® Pesticides #3

4 Analytes

butachlor
metolachlor
metribuzin
prometon

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-213 1 x 2 mL

ULTRACHECK® Regulated SOCs

3 Analytes

diquat
endothall
glyphosate

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-260 1 x 2 mL

ULTRACHECK® Herbicides

4 - 7 Analytes from the Following List:

2,4-D MCPA
dalapon MCPP
2,4-DB silvex (2,4,5-TP)
dinoseb 2,4,5-T

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-500 1 x 2 mL

ULTRACHECK® Chlordane

chlordane

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-230 1 x 2 mL

ULTRACHECK® Toxaphene

toxaphene

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-220 1 x 2 mL

ULTRACHECK® PCBs

Aroclor 1260

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-249 1 x 2 mL

ULTRACHECK® Organic Drinking Water Kit

Kit - contains seven ampules:

1 x 2 mL of each of the following samples

Volatiles QCM-110
Pesticides QCM-210
Toxaphene QCM-220
Chlordane QCM-230
Carbamate Pesticides QCM-250
Semi-Volatiles QCM-310
Herbicides QCM-500

QCK-910 Kit

ULTRACHECK® Organic Regulated Drinking Water Kit

Kit - contains eleven ampules:

1 x 2 mL of each of the following samples

QCM-111
Trihalomethanes QCM-120
EDB/DBCP QCM-130
Pesticides QCM-210
Toxaphene QCM-220
Chlordane QCM-230
PCB Screening QCM-249
Carbamate Pesticides QCM-250
Regulated SOCs QCM-260
Semi-Volatiles QCM-310
Herbicides QCM-500

QCK-913 Kit

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ULTRACHECK® INORGANIC BLIND QC SAMPLES FOR WP/DMR-QA NON-POTABLE WATER ANALYSIS

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FORMULATED TO MATCH NELAC & US EPA WS PROGRAM SAMPLES

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ULTRAcHECK® WP/DMR-QA Trace Metals #1

13 Analytes

- aluminum (Al)
- arsenic (As)
- cadmium (Cd)
- chromium (Cr)
- cobalt (Co)
- copper (Cu)
- iron (Fe)
- lead (Pb)
- manganese (Mn)
- nickel (Ni)
- selenium (Se)
- vanadium (V)
- zinc (Zn)

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-705A 1 x 20 mL

ULTRAcHECK® WP Trace Metals #2

7 Analytes

- antimony (Sb)
- beryllium (Be)
- molybdenum (Mo)
- silver (Ag)
- strontium (Sr)
- thallium (Tl)
- titanium (Ti)

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-705B 1 x 20 mL

ULTRAcHECK® WP/DMR-QA Mercury

- mercury (Hg)

Dilute 1 mL of sample to 1 L for final working test sample.

QCI-705C 1 x 5 mL

ULTRAcHECK® Complete Inorganic WP Waste Water Kit

Kit - contains 12 samples:

1 each of the following samples

WP Trace Metals #1	QCI-705A
WP Trace Metals #2	QCI-705B
WP Mercury	QCI-705C
WP Minerals	QCI-715
WP Nutrients	QCI-745
WP Demands	QCI-736
WP Total Residual Chlorine	QCI-785
WP Non-Filterable Residue	QCI-716
WP Total Cyanide	QCI-755
WP Oil & Grease	QCI-770
WP Total Phenolics	QCI-765
WP pH	QCI-713

QCK-803 Kit

ULTRAcHECK® Inorganic DMR-QA Waste Water Kit

Kit - contains 10 samples:

1 each of the following samples

WP Trace Metals #1	QCI-705A
WP Mercury	QCI-705C
WP Nutrients	QCI-745
WP Demands	QCI-736
WP Total Residual Chlorine	QCI-785
WP Non-Filterable Residue	QCI-716
WP Total Cyanide	QCI-755
WP Oil & Grease	QCI-770
WP Total Phenolics	QCI-765
WP pH	QCI-713

QCK-804 Kit

ULTRACheck® WP	Minerals	ULTRACheck® WP/DMR-QA Nutrients	ULTRACheck® WP/DMR-QA Demands
<p>11 Analytes</p> <ul style="list-style-type: none"> calcium chloride fluoride magnesium potassium sodium spec. conductance sulfate total dissolved solids total alkalinity as CaCO₃ total hardness as CaCO₃ <p><i>Sample consists of two solutions. Dilute 10 mL of each solution to 1 L in the same flask for final working test sample.</i></p> <p>QCI-715 2 x 20 mL</p>		<p>5 Analytes</p> <ul style="list-style-type: none"> ammonia as N nitrate as N orthophosphate as P total kjeldahl nitrogen as N total phosphorus as P <p><i>Sample consists of two solutions. Dilute 10 mL of each solution to 1 L in separate flasks for final working test samples.</i></p> <p>QCI-745 2 x 20 mL</p>	<p>4 Analytes</p> <ul style="list-style-type: none"> TOC COD 5-day BOD carbonaceous BOD <p><i>Dilute 20 mL of sample to 1 L for final working test sample.</i></p> <p>QCI-736 1 x 20 mL</p>

ULTRACheck® WP/DMR-QA Oil & Grease	ULTRACheck® WP/DMR-QA Total Phenolics	ULTRACheck® WP/DMR-QA pH
<p>total oil & grease</p> <p><i>Dilute 10 mL of sample to 1 L for final working test sample.</i></p> <p>QCI-770 1 x 10 mL</p>	<p>total phenolics</p> <p><i>Dilute 10 mL of sample to 1 L for final working test sample.</i></p> <p>QCI-765 1 x 20 mL</p>	<p>pH</p> <p><i>Ready-to-use, whole volume standard.</i></p> <p>QCI-713 1 x 250 mL</p>

ULTRACheck® WP/DMR-QA Total Residual Chlorine	ULTRACheck® WP/DMR-QA Non-Filterable Residue	ULTRACheck® WP/DMR-QA Total Cyanide (Complex)
<p>total residual chlorine</p> <p><i>Dilute 10 mL of sample to 1 L for final working test sample.</i></p> <p>QCI-785 1 x 20 mL</p>	<p>non-filterable residue</p> <p><i>Add 500 mg of sample to 1 L of water for final working test sample.</i></p> <p>QCI-716 1 x 1 gm</p>	<p>total cyanide (complex)</p> <p><i>Dilute 10 mL of sample to 1 L for final working test sample.</i></p> <p>QCI-755 1 x 20 mL</p>

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ADDITIONAL ULTRACHECK® BLIND QC SAMPLES FOR NON-POTABLE WATER ANALYSIS

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ULTRAcHECK® Trace Metals

22 Analytes

aluminum (Al)
antimony (Sb)
arsenic (As)
barium (Ba)
beryllium (Be)
boron (B)
cadmium (Cd)
chromium (Cr)
cobalt (Co)
copper (Cu)
iron (Fe)
lead (Pb)
manganese (Mn)
mercury (Hg)
molybdenum (Mo)
nickel (Ni)
selenium (Se)
silver (Ag)
strontium (Sr)
thallium (Tl)
vanadium (V)
zinc (Zn)

Sample consists of two solutions. Dilute 10 mL of QCI-700A and 1 mL of QCI-700B to 1 L in the same flask for final working test sample.

QCI-700 **Kit**

ULTRAcHECK® Minerals

9 Analytes

alkalinity as CaCO₃
pH
conductivity
potassium
sodium
chloride
sulfate
fluoride
nitrate as N

Ready-to-use, whole volume standard

QCI-710 **500 mL**

ULTRAcHECK® Hardness

3 Analytes

calcium
magnesium
hardness as CaCO₃

Ready-to-use, whole volume standard

QCI-720 **500 mL**

ULTRAcHECK® Cyanide

3 Analytes

free cyanide
complex cyanide
total cyanide

Dilute 10 mL of sample to 2 L for final working test sample.

QCI-750 **1 x 10 mL**

ULTRAcHECK® Total Residual Chlorine

total residual chlorine

Dilute 10 mL of sample to 2 L for final working test sample.

QCI-780 **1 x 10 mL**

ULTRAcHECK® Oil & Grease

total oil & grease

Dilute 10 mL of sample to 1 L for final working test sample.

QCI-770 **1 x 10 mL**

ULTRAcHECK® Phenolics

total phenolics

Dilute 10 mL of sample to 2 L for final working test sample.

QCI-760 **1 x 10 mL**

ULTRAcHECK® pH

pH

Ready-to-use, whole volume standard.

QCI-713 **1 x 250 mL**

ULTRAcHECK® Nutrients**5 Analytes**

ammonia as N
 nitrate plus nitrite as N
 phosphate as P
 total phosphorus as P
 total Kjeldahl nitrogen as N

Sample consists of two solutions. Dilute
 10 mL of each solution to 2 L in separate
 flasks for final working test samples.

QCI-740 **2 x 10 mL**

ULTRAcHECK® Demands**4 Analytes**

TOC
 COD
 5-day BOD
 carbonaceous BOD

Dilute 20 mL of sample to 1 L for final
 working test sample.

QCI-736 **2 x 10 mL**

ULTRAcHECK® Solids**3 Analytes**

suspended solids
 dissolved solids
 total solids

Ready-to-use, whole volume standard

QCI-711 **500 mL**
QCI-711-100 **100 mL**

**ULTRAcHECK® Inorganic Waste Water
Kit****Kit - contains 10 samples:**

1 each of the following samples

Trace Metals	QCI-700
Minerals	QCI-710
Solids	QCI-711
Hardness	QCI-720
Demands	QCI-736
Nutrients	QCI-740
Total Cyanide	QCI-750
Phenolics	QCI-760
Oil & Grease	QCI-770
Total Residual Chlorine	QCI-780

QCK-800A **Kit**

ULTRAcHECK® Basic Waste Water Kit**Kit - contains 5 samples:**

1 each of the following samples

Minerals	QCI-710
Solids	QCI-711
Demands	QCI-736
Nutrients	QCI-740
Oil & Grease	QCI-770

QCK-801A **Kit**

ULTRAcHECK® Cations**4 Analytes**

calcium (Ca)
 magnesium (Mg)
 potassium (K)
 sodium (Na)

Dilute 10 mL of sample to 1 L for final
 working test sample.

QCI-702 **1 x 10 mL**

ULTRAcHECK® TOX

total organic halides

Dilute 2 mL of sample to 2 L for final
 working test sample.

QCI-761 **1 x 2 mL**

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ULTRACHECK[®] ORGANIC BLIND QC SAMPLES FOR WP NON-POTABLE WATER ANALYSIS

All ULTRACheck[®] samples are formulated to match individual concentrations as stated in the current NELAC guidelines

FORMULATED TO MATCH NELAC & US EPA WS PROGRAM SAMPLES

ULTRACheck[®] samples are designed to mimic real world samples for specific EPA methods, and are run as blind samples. Agreement between the data generated for ULTRACheck[®] used as a blind sample and the true values of the ULTRACheck[®] standard indicates that the analytical system is in control.

ULTRACheck[®] true values are provided in a separate, sealed envelope. True values fall within the ranges listed for each analyte, and may vary from lot to lot. Complete instructions are included with each sample.

ULTRACheck[®] WP Volatile Halocarbons

11 Analytes

bromodichloromethane
bromoform
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,2-dichloroethane
methylene chloride
tetrachloroethene
1,1,1-trichloroethane
trichloroethene

Dilute 20 µL of sample to 100 mL for final working test sample.

QCM-105 **1 x 2 mL**

ULTRACheck[®] WP Volatile Aromatics

6 Analytes

benzene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
ethylbenzene
toluene

Dilute 20 µL of sample to 100 mL for final working test sample.

QCM-106 **1 x 2 mL**

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ULTRACheck® WP Pesticides*7 Analytes*

aldrin
 dieldrin
 4,4'-DDD
 4,4'-DDE
 4,4'-DDT
 heptachlor
 heptachlor epoxide

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-205 **1 x 2 mL**

ULTRACheck® WP Chlordane

chlordane

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-230 **1 x 2 mL**

ULTRACheck® Organic WP Waste Water Series Kit**Kit - contains four ampules:**

1 x 2 mL of each of the following samples

WP Volatile Halocarbons	QCM-105
WP Volatile Aromatics	QCM-106
WP Pesticides	QCM-205
WP Chlordane	QCM-230

QCK-902 **Kit**

ULTRACheck® WP PCBs in Water

Aroclor 1016/1242
 Aroclor 1232
 Aroclor 1248
 Aroclor 1254
 Aroclor 1260

One Aroclor will be randomly selected from the above list.

Dilute 1 mL of solution to 1 L in for final working test sample.

QCM-276 **1 x 2 mL**

ULTRACheck® WP PCBs in Transformer Oil

Aroclor 1016/1242
 Aroclor 1254
 Aroclor 1260

One Aroclor will be randomly selected from the above list.

Dilute 1 gm of solution to 100 mL in for final working test sample.

QCM-277 **1 x 2 gm**

ORDERING IS EASY

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ADDITIONAL ULTRACHECK® BLIND QC SAMPLES FOR NON-POTABLE WATER ANALYSIS

All ULTRAcHECK® samples are formulated to match individual concentrations as stated in the current NELAC guidelines

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ULTRAcHECK® Volatiles

18 - 20 Analytes from the Following List:

benzene
bromodichloromethane
bromoform
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
ethylbenzene
methylene chloride
4-methyl-2-pentanone (MIBK)
1,1,1,2-tetrachloroethane
tetrachloroethene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene

Dilute 5 µL of sample to 100 mL for final working test sample.

QCM-100

1 x 2 mL

ULTRAcHECK® Base/Neutrals

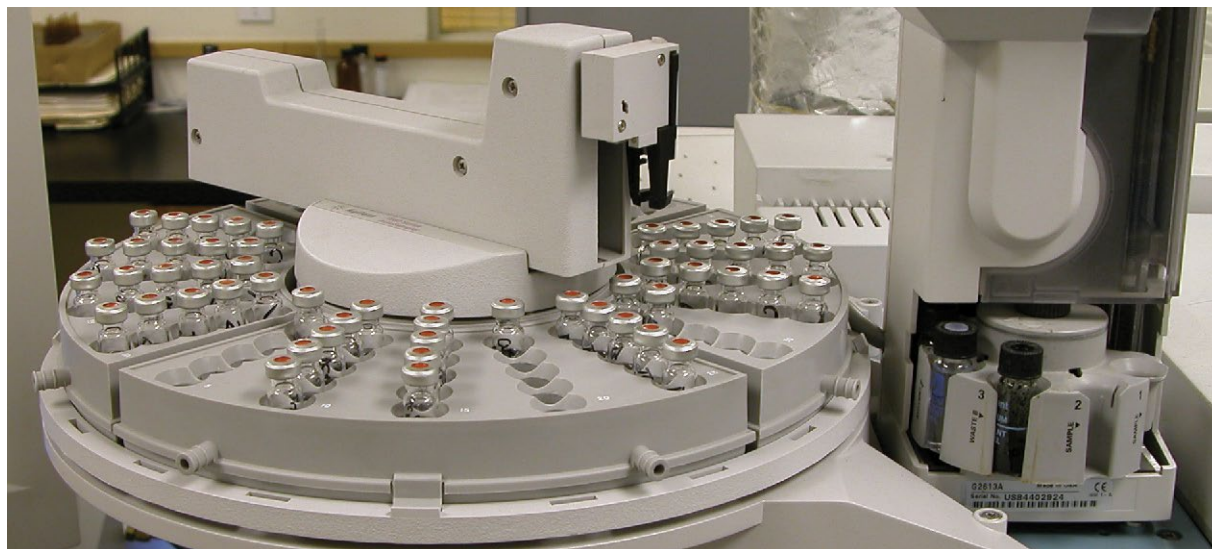
14 - 19 Analytes from the Following List:

acenaphthene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
bis(2-ethylhexyl) phthalate
4-bromophenyl phenyl ether
butyl benzyl phthalate
chrysene
dibenz[a,h]anthracene
dibenzofuran
1,2-dichlorobenzene
1,4-dichlorobenzene
diethyl phthalate
dimethyl phthalate
2,4-dinitrotoluene
di-n-octyl phthalate
fluoranthene
hexachlorobenzene
isophorone
naphthalene
nitrobenzene
phenanthrene
pyrene
1,2,4-trichlorobenzene

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-300

1 x 2 mL



ULTRAcHECK® Acids

5 - 8 Analytes from the Following List:

- 4-chloro-3-methylphenol
- 2-chlorophenol
- o-cresol
- 2,4-dichlorophenol
- 2,4-dimethylphenol
- 2-nitrophenol
- 4-nitrophenol
- pentachlorophenol
- phenol
- 2,4,6-trichlorophenol

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-400 **1 x 2 mL**

ULTRAcHECK® Pesticides

9 - 14 Analytes from the Following List:

- | | |
|----------|--------------------|
| aldrin | endosulfan I |
| α-BHC | endosulfan II |
| β-BHC | endosulfan sulfate |
| δ-BHC | endrin |
| γ-BHC | endrin aldehyde |
| 4,4'-DDD | heptachlor |
| 4,4'-DDE | heptachlor epoxide |
| 4,4'-DDT | methoxychlor |
| dieldrin | |

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-200 **1 x 2 mL**

ULTRAcHECK® Chlordane

chlordane

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-230 **1 x 2 mL**

ULTRAcHECK® Toxaphene

toxaphene

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-220 **1 x 2 mL**

ULTRAcHECK® Organic Waste Water Series Kit

Kit - contains seven ampules:

1 x 2 mL of each of the following samples

- | | |
|---------------|---------|
| Volatiles | QCM-100 |
| Pesticides | QCM-200 |
| Toxaphene | QCM-220 |
| Chlordane | QCM-230 |
| PCBs | QCM-240 |
| Base/Neutrals | QCM-300 |
| Acids | QCM-400 |

QCK-900 **Kit**

ULTRAcHECK® Organic Water Pollution (WP) Kit

Kit - contains five ampules:

1 x 2 mL of each of the following samples

- | | |
|---------------|---------|
| Volatiles | QCM-100 |
| Pesticides | QCM-200 |
| PCBs | QCM-240 |
| Base/Neutrals | QCM-300 |
| Acids | QCM-400 |

QCK-901 **Kit**

ULTRAcHECK® PCBs

1 - 2 Aroclors from the Following List:

- | | |
|--------------|--------------|
| Aroclor 1016 | Aroclor 1248 |
| Aroclor 1221 | Aroclor 1254 |
| Aroclor 1232 | Aroclor 1260 |
| Aroclor 1242 | |

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-240 **1 x 2 mL**

ULTRAcHECK® samples are formulated to Match NELAC & US EPA WS Program Samples. Please visit our website at www.ultrasci.com for the most updated list of product ranges.

ULTRACHECK® BLIND QC SAMPLES FOR UNDERGROUND STORAGE TANKS (UST), HYDROCARBON FUELS, & TOTAL PETROLEUM HYDROCARBONS (TPH)

All ULTRACHECK® samples are formulated to match individual concentrations as stated in the current NELAC guidelines

ULTRACHECK® Gasoline

unleaded regular gasoline

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-600 **1 x 2 mL**

ULTRACHECK® Diesel Fuel

diesel fuel

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-610 **1 x 2 mL**

ULTRACHECK® TPH In Water

TPH (without fatty acids)

One 250 mL whole volume sample to be analyzed for total petroleum hydrocarbons.

QCM-630 **250 mL**

TPH (with fatty acids)

One 250 mL whole volume sample to be analyzed for total petroleum hydrocarbons in the presence of interfering fatty acids.

QCM-631 **250 mL**

ULTRACHECK® BTEX

6 Analytes

- benzene
- ethylbenzene
- toluene
- o-xylene
- m-xylene
- p-xylene

Dilute 5 µL of sample to 100 mL for final working test sample.

QCM-140 **1 x 2 mL**

ULTRACHECK® Gasoline Additives

4 Analytes

- methyl tert-butyl ether (MTBE)
- ethylene dibromide
- dibromomethane
- 1,2-dichloroethane

Dilute 1 mL of sample to 1 L for final working test sample.

QCM-620 **1 x 2 mL**

ULTRACHECK® Underground Storage Tank (UST) Kit

Kit - contains five samples:

1 x 2 mL of each of the following samples

Gasoline	QCM-600
Diesel Fuel	QCM-610
Gasoline Additives	QCM-620
BTEX	QCM-140

plus

1 x 250 mL of the following sample

TPH (no fatty acids)	QCM-630
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QCK-921 **Kit**

ULTRACHECK® Hydrocarbon Fuels Kit

Kit - contains four ampules:

2 x 2 mL of each of the following samples

Gasoline	QCM-600
Diesel Fuel	QCM-610

QCK-920 **Kit**

ULTRACHECK® TPH in Water Kit

Kit - contains two bottles:

1 x 250 mL of each of the following samples

TPH (no fatty acids)	QCM-630
TPH (with fatty acids)	QCM-631

QCK-922 **Kit**

ULTRACHECK® BLIND QC SAMPLES FOR AROCLORS

ULTRACHECK® Aroclors in Transformer Oil

Aroclor 1242		Aroclor 1254	
<i>Low range in Transformer Oil</i>		<i>Low range in Transformer Oil</i>	
QCM-241	1 x 5 mL	QCM-245	1 x 5 mL
<i>High range in Transformer Oil</i>		<i>High range in Transformer Oil</i>	
QCM-242	1 x 5 mL	QCM-246	1 x 5 mL
<hr/>			
Aroclor 1248		Aroclor 1260	
<i>Low range in Transformer Oil</i>		<i>Low range in Transformer Oil</i>	
QCM-243	1 x 5 mL	QCM-247	1 x 5 mL
<i>High range in Transformer Oil</i>		<i>High range in Transformer Oil</i>	
QCM-244	1 x 5 mL	QCM-248	1 x 5 mL

ULTRACHECK® PCBs in Transformer Oil

Aroclor 1016/1242	
Aroclor 1254	
Aroclor 1260	
<i>One Aroclor will be randomly selected from the above list</i>	
<i>Dilute 1 gm of solution to 100 mL for final working test samples.</i>	
QCM-277	1 x 2 gm

ULTRACHECK® PCBs

Aroclor 1260	0.5 - 10 µg/L
<i>Dilute 1 mL of sample to 1 L for final working test sample.</i>	
QCM-249	1 x 2 mL

ULTRACHECK® PCBs

<i>1 - 2 Aroclors from the Following List:</i>	
Aroclor 1016	Aroclor 1248
Aroclor 1221	Aroclor 1254
Aroclor 1232	Aroclor 1260
Aroclor 1242	
<i>Dilute 1 mL of sample to 1 L for final working test sample.</i>	
QCM-240	1 x 2 mL

ULTRACHECK® PCBs in Water

Aroclor 1016/1242	
Aroclor 1232	
Aroclor 1248	
Aroclor 1254	
Aroclor 1260	
<i>One Aroclor will be randomly selected from the above list</i>	
<i>Dilute 1 mL of solution to 1 L for final working test samples.</i>	
QCM-276	1 x 2 mL

ULTRACHECK® BLIND QC SAMPLES FOR THE EPA CLUSTER RULE

ULTRACHECK® Methanol Sample

methanol	
<i>Ready-to-use, whole volume sample.</i>	
QCM-150	1 x 5 mL

ULTRACHECK® HAP Sample

<i>4 Analytes</i>	
methanol	
acetaldehyde	
propionaldehyde (propanal)	
2-butanone (MEK)	
<i>Ready-to-use, whole volume sample.</i>	
QCM-151	1 x 5 mL

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Reference Materials - Both Neat and in Solution

Applicable to all Organic Environmental Monitoring

ULTRA Scientific manufactures and stocks solution and neat reference materials for more than 500 individual organic compounds referenced in the EPA methods, including calibration, surrogate, and internal standards. All of these materials are manufactured under ULTRA's ISO 9001 and ISO 17025 quality systems. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure. All solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 0.5\%$. A certificate showing the actual weight of each analyte is supplied with each standard.

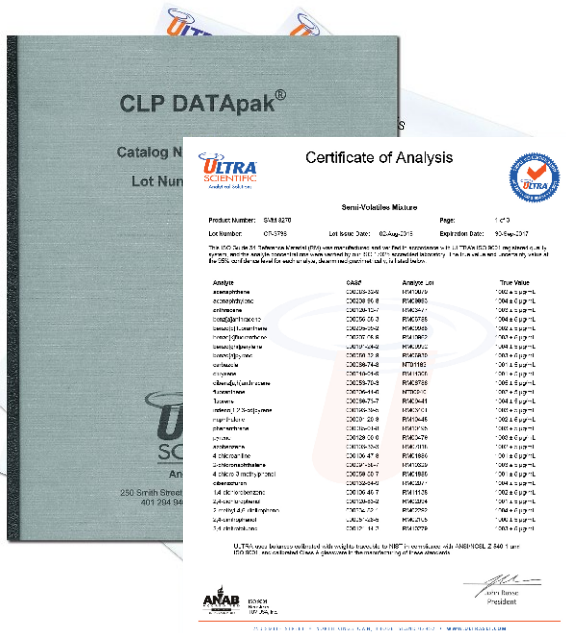


DATAPAKS[®] - LOT QUALITY CONTROL DATA

We have expanded our line of DATApaks[®] to include all of our organic standards. As an added bonus, if you purchase a 4 x 1 mL ULTRApak[®] of one of these standards, we will include a DATApak[®] at no charge, if it is ordered with the standard.

DATApaks[®] Include:

- ✓ Identity - GC/MS spectrum for each analyte
- ✓ Purity - ULTRA determines purity for these compounds using GC LC, LCMS and DSC.
- ✓ Quality control - All solutions are prepared in accordance with ISO Guide 34 and under our ISO 9001 registered Quality System and verified in our ISO 17025 laboratory.



ISO GUIDE 34

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Acenaphthene	83-32-9	100 µg/mL	methanol	P-610-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1064-1	1 x 1 mL
		neat	-	RAH-001	100 mg
Acenaphthylene-d ₁₀	15067-26-2	500 µg/mL	methanol	ATS-111-1	1 x 1 mL
		2000 µg/mL	methylene chloride	ATS-110-1	1 x 1 mL
		1000 µg/mL	methanol	ATS-112-1	1 x 1 mL
Acenaphthylene	208-96-8	100 µg/mL	methanol	P-620-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1065-1	1 x 1 mL
		neat	-	RAH-064	100 mg
Acetochlor ESA	947601-84-5	100 µg/mL	methanol	PST-1881M100A01	1 x 1 mL
Acetochlor OA	194992-44-4	100 µg/mL	methanol	PST-1882M100A01	1 x 1 mL
Acetone	67-64-1	100 µg/mL	methanol	NV-100-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1001-1	1 x 1 mL
		neat	-	RCC-200	1 gm
Acetonitrile	75-05-8	100 µg/mL	methanol	NV-110-1	1 x 1 mL
		neat	-	RCC-201	100 mg
Acetophenone	98-86-2	5000 µg/mL	methanol	EPA-1066-1	1 x 1 mL
		neat	-	RCC-202	100 mg
2-Acetylaminofluorene	53-96-3	100 µg/mL	methanol	NH-300-1	1 x 1 mL
		neat	-	RCC-002	100 mg
1-Acetyl-2-thiourea	591-08-2	1000 µg/mL	methanol	PPS-645-1	1 x 1 mL
Acifluorfen	50594-66-6	100 µg/mL	methanol	PST-1755M100A01	1 x 1 mL
		100 µg/mL	MTBE	PST-1755B100A01	1 x 1 mL
		neat	-	PST-1755	100 mg
Acrolein	107-02-8	100 µg/mL	methanol	AM-170-1	1 x 1 mL
		5000 µg/mL	methanol	AM-171-1	1 x 1 mL
		5000 µg/mL	water	AM-173-1	1 x 1 mL
		neat	-	RCC-150	100 mg
Acrylamide	79-06-1	1000 µg/mL	methanol	AMN-823-1	1 x 1 mL
		neat	-	RCC-203	100 mg
Acrylonitrile	107-13-1	100 µg/mL	methanol	AM-180-1	1 x 1 mL
		1000 µg/mL	methanol	AMN-813-1	1 x 1 mL
		1000 µg/mL	water	AM-181-1	1 x 1 mL
		2000 µg/mL	methanol	AM-182-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1002-1	1 x 1 mL
		neat	-	RCC-204	100 mg
Alachlor	15972-60-8	100 µg/mL	methanol	PST-625M100A01	1 x 1 mL
		100 µg/mL	acetone	PST-625K100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-625K1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1068-1	1 x 1 mL
		neat	-	PST-625	100 mg
Alachlor ESA	140939-15-7	100 µg/mL	methanol	PST-626M100A01	1 x 1 mL
Alachlor OA	171262-17-2	100 µg/mL	methanol	PST-627M100A01	1 x 1 mL
Aldicarb	116-06-3	100 µg/mL	acetonitrile	PST-940A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-940A1000	1 x 1 mL
		1000 µg/mL	methanol	PST-940M1000	1 x 1 mL
		neat	-	PST-940	100 mg
Aldicarb Sulfone	1646-88-4	100 µg/mL	acetonitrile	PST-1215A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-1215M100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-1215M1000	1 x 1 mL
		neat	-	PST-1215	10 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Aldicarb Sulfoxide	1646-87-3	100 µg/mL	methanol	PST-1760M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1760A100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-1760M1000	1 x 1 mL
		neat	-	PST-1760-10MG	10 mg
Aldrin	309-00-2	100 µg/mL	methanol	PP-100-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1067-1	1 x 1 mL
		neat	-	PST-010	10 mg
Allyl Alcohol	107-18-6	1000 µg/mL	methanol	EPA-1191-1	1 x 1 mL
		neat	-	RCC-136	100 mg
Allyl Chloride	107-05-1	100 µg/mL	methanol	HC-450-1	1 x 1 mL
		neat	-	RHH-044	1 gm
Ametryn	834-12-8	100 µg/mL	methanol	PST-024M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-024A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-024A1000	1 x 1 mL
		1200 µg/mL	ethyl acetate	PST-024Y1200	1 x 1 mL
		neat	-	PST-024	100 mg
2-Aminoanthraquinone	117-79-3	1000 µg/mL	methylene chloride	NAI-155-1	1 x 1 mL
4-Aminobiphenyl	92-67-1	100 µg/mL	methanol	NH-130-1	1 x 1 mL
		neat	-	RCC-004	100 mg
Aminocarb	2032-59-9	1000 µg/mL	acetonitrile	PST-660A1000	1 x 1 mL
		neat	-	PST-660	100 mg
2-Amino-4,6-dinitrotoluene	35572-78-2	1000 µg/mL	acetonitrile	EPA-1192-1	1 x 1 mL
4-Amino-2,6-dinitrotoluene	19406-51-0	1000 µg/mL	acetonitrile	EPA-1193-1	1 x 1 mL
3-Amino-9-ethyl carbazole	132-32-1	1000 µg/mL	methanol	NH-315-1	1 x 1 mL
Aminomethyl Phosphonic Acid (AMPA)					
	1066-51-9	100 µg/mL	water	PPS-260-1	1 x 1 mL
		neat	-	RBA-012-100MG	100 mg
5- α -Androstane	438-22-2	2000 µg/mL	methylene chloride	IST-500-1	1 x 1 mL
		5000 µg/mL	methylene chloride	SKS-130	1 x 1 mL
Aniline	62-53-3	5000 µg/mL	methanol	EPA-1069-1	1 x 1 mL
		neat	-	RCC-137	1 gm
Aniline-d5	4165-61-1	200 µg/mL	methylene chloride	IST-101-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-100-1	1 x 1 mL
Anthracene	120-12-7	100 µg/mL	methylene chloride	P-630-1	1 x 1 mL
		100 µg/mL	acetonitrile	PPS-590X	1 x 5 mL
		1000 µg/mL	acetone	EPA-1070-1	1 x 1 mL
		neat	-	RAH-002	100 mg

Volume discounts for individual solutions

Order 4–19 ampoules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampoules of the same item and receive a **30% DISCOUNT**



Please visit our website at www.ultrasci.com or refer to ULTRA Scientific's Pesticide Catalog for additional unit sizes for neat pesticides.

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Anthracene-d10	1719-06-8	100 µg/mL	acetonitrile	PPS-580X	1 x 5 mL
		200 µg/mL	methylene chloride	IST-111-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-110-1	1 x 1 mL
Aramite	140-57-8	100 µg/mL	methanol	PP-400-1	1 x 1 mL
		2000 µg/mL	hexane	PST-4000H2000	1 x 1 mL
		neat	-	PST-4000-10MG	10 mg
Aroclor 1016 (PCB 1016)	12674-11-2	100 µg/mL	methanol	PP-280-1	1 x 1 mL
		100 µg/mL	hexane	PP-281-1	1 x 1 mL
		100 µg/mL	isooctane	PP-282-1	1 x 1 mL
		200 µg/mL	hexane	PP-285-1	1 x 1 mL
		1000 µg/mL	hexane	PP-284-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1282-1	1 x 1 mL
		1000 µg/mL	methanol	PP-283-1	1 x 1 mL
		neat	-	RPC-1016	50 mg
Aroclor 1221 (PCB 1221)	11104-28-2	100 µg/mL	methanol	PP-290-1	1 x 1 mL
		100 µg/mL	hexane	PP-291-1	1 x 1 mL
		100 µg/mL	isooctane	PP-292-1	1 x 1 mL
		200 µg/mL	hexane	PP-295-1	1 x 1 mL
		1000 µg/mL	hexane	PP-294-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1292-1	1 x 1 mL
		1000 µg/mL	methanol	PP-293-1	1 x 1 mL
		neat	-	RPC-1221	50 mg
Aroclor 1232 (PCB 1232)	11141-16-5	100 µg/mL	methanol	PP-300-1	1 x 1 mL
		100 µg/mL	hexane	PP-301-1	1 x 1 mL
		100 µg/mL	isooctane	PP-302-1	1 x 1 mL
		200 µg/mL	hexane	PP-305-1	1 x 1 mL
		1000 µg/mL	hexane	PP-304-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1302-1	1 x 1 mL
		1000 µg/mL	methanol	PP-303-1	1 x 1 mL
		neat	-	RPC-1232	10 mg
Aroclor 1242 (PCB 1242)	53469-21-9	100 µg/mL	methanol	PP-310-1	1 x 1 mL
		100 µg/mL	hexane	PP-311-1	1 x 1 mL
		100 µg/mL	isooctane	PP-312-1	1 x 1 mL
		200 µg/mL	hexane	PP-315-1	1 x 1 mL
		1000 µg/mL	hexane	PP-314-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1312-1	1 x 1 mL
		1000 µg/mL	methanol	PP-313-1	1 x 1 mL
		neat	-	RPC-1242	50 mg
Aroclor 1248 (PCB 1248)	12672-29-6	100 µg/mL	methanol	PP-340-1	1 x 1 mL
		100 µg/mL	hexane	PP-341-1	1 x 1 mL
		100 µg/mL	isooctane	PP-342-1	1 x 1 mL
		200 µg/mL	hexane	PP-345-1	1 x 1 mL
		1000 µg/mL	hexane	PP-344-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1342-1	1 x 1 mL
		1000 µg/mL	methanol	PP-343-1	1 x 1 mL
		neat	-	RPC-1248	50 mg
Aroclor 1254 (PCB 1254)	11097-69-1	100 µg/mL	methanol	PP-350-1	1 x 1 mL
		100 µg/mL	hexane	PP-351-1	1 x 1 mL
		100 µg/mL	isooctane	PP-352-1	1 x 1 mL
		200 µg/mL	hexane	PP-355-1	1 x 1 mL
		1000 µg/mL	hexane	PP-354-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1352-1	1 x 1 mL
		1000 µg/mL	methanol	PP-353-1	1 x 1 mL
		neat	-	RPC-1254	50 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Aroclor 1260 (PCB 1260)	11096-82-5	100 µg/mL	methanol	PP-360-1	1 x 1 mL
		100 µg/mL	hexane	PP-361-1	1 x 1 mL
		100 µg/mL	isooctane	PP-362-1	1 x 1 mL
		200 µg/mL	hexane	PP-364-1	1 x 1 mL
		1000 µg/mL	hexane	PP-363-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1362-1	1 x 1 mL
		1000 µg/mL	methanol	PPS-141-1	1 x 1 mL
		5000 µg/mL	methanol	PPS-140-1	1 x 1 mL
Aroclor 1262 (PCB 1262)	37324-23-5	neat	-	RPC-1260	50 mg
		100 µg/mL	methanol	PP-370-1	1 x 1 mL
		100 µg/mL	hexane	PP-371-1	1 x 1 mL
		100 µg/mL	isooctane	PP-372-1	1 x 1 mL
		200 µg/mL	hexane	PP-374-1	1 x 1 mL
		1000 µg/mL	hexane	PP-373-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1372-1	1 x 1 mL
Aroclor 1268 (PCB 1268)	11100-14-4	neat	-	RPC-1262	50 mg
		100 µg/mL	methanol	PP-380-1	1 x 1 mL
		100 µg/mL	hexane	PP-381-1	1 x 1 mL
		100 µg/mL	isooctane	PP-382-1	1 x 1 mL
		200 µg/mL	hexane	PP-384-1	1 x 1 mL
		1000 µg/mL	hexane	PP-383-1	1 x 1 mL
		1000 µg/mL	isooctane	EPA-1382-1	1 x 1 mL
Atraton	1610-17-9	neat	-	RPC-1268	50 mg
		100 µg/mL	methanol	PST-1220M100A01	1 x 1 mL
Atrazine	1912-24-9	neat	-	PST-1220	25 mg
		500 µg/mL	methanol	PST-005M500	1 x 1 mL
		1000 µg/mL	acetone	EPA-1176A-1	1 x 1 mL
		2000 µg/mL	ethyl acetate	PST-005Y2000	1 x 1 mL
Atrazine-desethyl	6190-65-4	neat	-	PST-005	100 mg
		500 µg/mL	methanol	PST-4010M500	1 x 1 mL
		1000 µg/mL	ethyl acetate	PST-4010Y1000	1 x 1 mL
Atrazine-desethyl Desisopropyl	3397-62-4	neat	-	PST-4010-100MG	100 mg
		100 µg/mL	ethyl acetate	PST-6935Y100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-6935A100A01	1 x 1 mL
Atrazine-desisopropyl	1007-28-9	500 µg/mL	methanol	PST-6935M500	1 x 1 mL
		500 µg/mL	ethyl acetate	PST-4005Y500	1 x 1 mL
		500 µg/mL	methanol	PST-4005M500	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-4005A1000	1 x 1 mL
neat	-	PST-4005-100MG	100 mg		

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Azinphos Ethyl	2642-71-9	100 µg/mL	methanol	PST-1225M100A01	1 x 1 mL
		neat	-	PST-1225	25 mg
Azinphos Methyl (Guthion)	86-50-0	100 µg/mL	methanol	PST-560M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-560K1000	1 x 1 mL
		1000 µg/mL	methanol	PST-560M1000	1 x 1 mL
		neat	-	PST-560	100 mg
Azobenzene	103-33-3	100 µg/mL	methanol	SV-120-1	1 x 1 mL
		neat	-	RCC-043	100 mg
Barban	101-27-9	100 µg/mL	methanol	PST-1230M100A01	1 x 1 mL
		neat	-	PST-1230	100 mg
Bendiocarb	22781-23-3	100 µg/mL	acetonitrile	PST-1235A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1235A1000	1 x 1 mL
		1000 µg/mL	methanol	EPA-1171-1	1 x 1 mL
		neat	-	PST-1235	100 mg
Benefin	1861-40-1	1000 µg/mL	acetonitrile	PST-1240A1000	1 x 1 mL
		neat	-	PST-1240	100 mg
Bensulide	741-58-2	neat	-	PST-1250	25 mg
Bentazon	25057-89-0	100 µg/mL	methanol	PST-1255M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1255A100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1174-1	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1255A1000	1 x 1 mL
		neat	-	PST-1255	100 mg
Benzal Chloride	98-87-3	1000 µg/mL	hexane	EPA-1194-1	1 x 1 mL
		neat	-	RCB-042	100 mg
Benz[a]anthracene	56-55-3	100 µg/mL	methylene chloride	P-640-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1072-1	1 x 1 mL
		neat	-	RAH-004	20 mg
Benz[a]anthracene-d12	1718-53-2	200 µg/mL	methylene chloride	IST-121-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-120-1	1 x 1 mL
		neat	-	HAH-906-100MG	100 mg
Benzene	71-43-2	100 µg/mL	methanol	AM-100-1	1 x 1 mL
		1000 µg/mL	methanol	RAB-041M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1003-1	1 x 1 mL
		neat	-	RAB-041	100 mg
Benzene-d6	1076-43-3	200 µg/mL	methanol	STS-101-1	1 x 1 mL
		2000 µg/mL	methanol	STS-100-1	1 x 1 mL
Benzidine	92-87-5	50 µg/mL	methylene chloride	GCS-113-1	1 x 1 mL
		100 µg/mL	methanol	RCC-005M-100-A01	1 x 1 mL
		500 µg/mL	methylene chloride	GCS-112-1	1 x 1 mL
		1000 µg/mL	methanol	GCS-111-1	1 x 1 mL
		2000 µg/mL	methylene chloride	GCS-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1071-1	1 x 1 mL
Benzidine-d8	92890-63-6	500 µg/mL	acetonitrile/MeOH (1:1)	PPS-310-1	1 x 1 mL
		neat	-	RCC-235-10MG	1 x 1 mL
Benzo[b]fluoranthene	205-99-2	100 µg/mL	methylene chloride	P-660-1	1 x 1 mL
		1000 µg/mL	acetone	EPA-1073-1	1 x 1 mL
		neat	-	RAH-072	10 mg
Benzo[k]fluoranthene	207-08-9	100 µg/mL	methylene chloride	P-680-1	1 x 1 mL
		1000 µg/mL	acetone	EPA-1074-1	1 x 1 mL
		neat	-	RAH-073	10 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Benzoic Acid	65-85-0	100 µg/mL	methanol	SV-130-1	1 x 1 mL
		1000 µg/mL	methanol	SV-131-1	1 x 1 mL
		2000 µg/mL	methylene chloride	SV-132-1	1 x 1 mL
		neat	-	RCC-143	100 mg
Benzo[ghi]perylene	191-24-2	100 µg/mL	methylene chloride	P-670-1	1 x 1 mL
		neat	-	RAH-009	10 mg
Benzo[a]pyrene	50-32-8	100 µg/mL	methylene chloride	P-650-1	1 x 1 mL
		1000 µg/mL	acetone	EPA-1075-1	1 x 1 mL
		1000 µg/mL	methanol	RAH-010M1000	1 x 1 mL
		neat	-	RAH-010	10 mg
Benzotrichloride	98-07-7	1000 µg/mL	hexane	EPA-1195-1	1 x 1 mL
		neat	-	RCB-017	100 mg
Benzyl Alcohol	100-51-6	100 µg/mL	methanol	SV-140-1	1 x 1 mL
		neat	-	RCC-144	100 mg
Benzyl Benzoate	120-51-4	5000 µg/mL	hexane	IST-400-1	1 x 1 mL
		neat	-	PST-4555-100MG	100 mg
Benzyl Chloride	100-44-7	1000 µg/mL	hexane	EPA-1196-1	1 x 1 mL
		neat	-	RCB-004	100 mg
α -BHC (α -HCH)	319-84-6	100 µg/mL	methanol	PP-110-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-071A100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1076-1	1 x 1 mL
		1000 µg/mL	acetone	PST-071K1000	1 x 1 mL
		neat	-	PST-071	10 mg
β -BHC (β -HCH)	319-85-7	100 µg/mL	methanol	PP-120-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-072A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-072K1000	1 x 1 mL
		neat	-	PST-072	10 mg
δ -BHC (δ -HCH)	319-86-8	100 µg/mL	methanol	PP-130-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1078-1	1 x 1 mL
		1000 µg/mL	acetone	PST-073K1000	1 x 1 mL
		neat	-	PST-073	10 mg
γ -BHC (Lindane) (γ -HCH)	58-89-9	100 µg/mL	methanol	PP-140-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-630A100A01	1 x 1 mL
		100 µg/mL	acetone	PST-630K100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1079-1	1 x 1 mL
		1000 µg/mL	acetone	PST-630K1000	1 x 1 mL
		neat	-	PST-630	100 mg

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Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Bis(2-Chloroethoxy)methane	111-91-1	100 µg/mL	methanol	BEC-120-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1080-1	1 x 1 mL
		neat	-	RCC-145	100 mg
Bis(2-Chloroethyl) Ether	111-44-4	100 µg/mL	methanol	BEC-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1081-1	1 x 1 mL
		neat	-	RCC-088	1 gm
Bis(2-Chloro-1-methylethyl) Ether (Bis(2-Chloroisopropyl) Ether)	108-60-1	100 µg/mL	methanol	BEC-130-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1082-1	1 x 1 mL
Bis(2-Ethylhexyl) Adipate	103-23-1	1000 µg/mL	methanol	EPA-1198-1	1 x 1 mL
		1000 µg/mL	acetone	DMP-028K1000	1 x 1 mL
		neat	-	DMP-028	100 mg
Bisphenol-A-d16	96210-87-6	1000 µg/mL	methanol	RCC-240-10MG	1 x 1 mL
Bis(2-Ethylhexyl) Phthalate	117-81-7	100 µg/mL	methanol	PS-100-1	1 x 1 mL
		1000 µg/mL	acetone	DMP-019K1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1083-1	1 x 1 mL
		neat	-	DMP-019	100 mg
Bromacil	314-40-9	100 µg/mL	methanol	PST-1265M100A01	1 x 1 mL
		neat	-	PST-1265	100 mg
Bromoacetic Acid	79-08-3	1000 µg/mL	MTBE	EPA-1199-1	1 x 1 mL
Bromobenzene	108-86-1	100 µg/mL	methanol	HC-300-1	1 x 1 mL
		1000 µg/mL	methanol	RBF-001M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1004-1	1 x 1 mL
		neat	-	RBF-001	100 mg
2-Bromobutanoic Acid	80-58-0	1000 µg/mL	MTBE	PPS-430-1	1 x 1 mL
		2000 µg/mL	MTBE	PPS-430B2000	1 x 1 mL
		2000 µg/mL	methanol	PPS-430M2000	1 x 1 mL
		10000 µg/mL	MTBE	PPS-430B10000	1 x 1 mL
Bromochloroacetic Acid	5589-96-8	1000 µg/mL	MTBE	EPA-1201-1	1 x 1 mL
Bromochloroacetonitrile	83463-62-1	1000 µg/mL	methanol	EPA-1202-1	1 x 1 mL
4-Bromochlorobenzene	106-39-8	2000 µg/mL	methanol	STS-480-1	1 x 1 mL
Bromochloromethane	74-97-5	100 µg/mL	methanol	HC-310-1	1 x 1 mL
		200 µg/mL	methanol	STS-181-1	1 x 1 mL
		1000 µg/mL	methanol	RAH-007M1000	1 x 1 mL
		2000 µg/mL	methanol	STS-180-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1005-1	1 x 1 mL
		neat	-	RHH-007	1 gm
2-Bromo-1-chloropropane	3017-95-6	1000 µg/mL	methanol	STS-191-1	1 x 1 mL
		2000 µg/mL	methanol	STS-190-1	1 x 1 mL
Bromodichloromethane	75-27-4	100 µg/mL	methanol	HC-010-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1006-1	1 x 1 mL
		neat	-	RHH-008	1 gm
4-Bromo-3,5-dimethylphenyl N-Methylcarbamate (BDMC)	672-99-1	100 µg/mL	methanol	PPS-180-1	1 x 1 mL
		1000 µg/mL	methanol	PST-4015M1000	1 x 1 mL
		2000 µg/mL	methanol	PST-4015M2000	1 x 1 mL
		neat	-	PST-4015-100MG	100 mg
4-Bromofluorobenzene (BFB)	460-00-4	25 µg/mL	methanol	STS-111-1	1 x 1 mL
		1000 µg/mL	acetone	STS-113-1	1 x 1 mL
		1000 µg/mL	methanol	STS-114-1	1 x 1 mL
		2000 µg/mL	methanol	STS-110N-1	1 x 1 mL
		2500 µg/mL	methanol	STS-112-1	1 x 1 mL
		10000 µg/mL	acetone	STS-115-1	1 x 1 mL

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Bromoform	75-25-2	100 µg/mL	methanol	HC-020-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1007-1	1 x 1 mL
		neat	-	RHH-005	1 gm
Bromomethane	74-83-9	100 µg/mL	methanol	HC-030-1	1 x 1 mL
2-Bromonaphthalene	580-13-2	2000 µg/mL	methylene chloride	IST-551-1	1 x 1 mL
		20000 µg/mL	methanol	IST-550-1	1 x 1 mL
		neat	-	RBF-012	100 mg
1-Bromo-2-nitrobenzene	577-19-5	1000 µg/mL	acetone	PPS-350-1	1 x 1 mL
		5000 µg/mL	acetone	PPS-351-1	1 x 1 mL
2-Bromophenol	95-56-7	20000 µg/mL	methanol	IST-540-1	1 x 1 mL
4-Bromophenyl Phenyl Ether	101-55-3	100 µg/mL	methanol	BEC-140-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1084-1	1 x 1 mL
		neat	-	RCC-148	100 mg
2-Bromopropionic Acid	598-72-1	1000 µg/mL	MTBE	PPS-300-1	1 x 1 mL
		2000 µg/mL	MTBE	PPS-300B2000	1 x 1 mL
Butachlor	23184-66-9	100 µg/mL	methanol	PST-1275M100A01	1 x 1 mL
		100 µg/mL	acetone	PST-1275K100A01	1 x 1 mL
		neat	-	PST-1275	100 mg
Butachlor ESA	1173022-75-7	100 µg/mL	methanol	PPS-451-1	1 x 1 mL
2-Butanone (MEK)	78-93-3	100 µg/mL	methanol	NV-120-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1008-1	1 x 1 mL
		neat	-	RCC-205	1 gm
Butyl Benzyl Phthalate	85-68-7	100 µg/mL	methanol	PS-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1085-1	1 x 1 mL
		neat	-	DMP-037	100 mg
tert-Butyl Methyl Ether (MTBE)	1634-04-4	100 µg/mL	methanol	NV-250-1	1 x 1 mL
		2000 µg/mL	methanol	STS-440-1	1 x 1 mL
		neat	-	RCC-149	1 gm
Butylate	2008-41-5	100 µg/mL	acetone	PST-1280K100A01	1 x 1 mL
		neat	-	PST-1280	100 mg
n-Butylbenzene	104-51-8	100 µg/mL	methanol	AM-200-1	1 x 1 mL
		neat	-	RAB-016	100 mg
sec-Butylbenzene	135-98-8	100 µg/mL	methanol	AM-210-1	1 x 1 mL
		neat	-	RAB-017	100 mg
tert-Butylbenzene	98-06-6	100 µg/mL	methanol	AM-220-1	1 x 1 mL
		neat	-	RAB-018	100 mg
Caffeine- ¹⁵ N ₂	161770-54-3	500 µg/mL	acetonitrile/MeOH (1:1)	PPS-320-1	1 x 1 mL
		1000 µg/mL	acetonitrile	DRG-1180-10MG	1 x 1 mL
Captan	133-06-2	100 µg/mL	acetone	PST-090K100A01	1 x 1 mL
		neat	-	PST-090	100 mg
Carbaryl	63-25-2	100 µg/mL	acetonitrile	PST-100A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-100M100A01	1 x 1 mL
		neat	-	PST-100	100 mg

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Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Carbazole	86-74-8	100 µg/mL	methanol	NH-310-1	1 x 1 mL
		neat	-	HAH-022	100 mg
Carbendazim	10605-21-7	100 µg/mL	methanol	PST-1285M100A01	1 x 1 mL
		250 µg/mL	methanol	PST-1285M250	1 x 1 mL
		neat	-	PST-1285	25 mg
Carbofuran	1563-66-2	100 µg/mL	acetonitrile	PST-1295A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-1295M100A01	1 x 1 mL
		neat	-	PST-1295	100 mg
Carbon Disulfide	75-15-0	100 µg/mL	methanol	NV-130-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1012-1	1 x 1 mL
		neat	-	RCC-175	1 gm
Carbon Tetrachloride	56-23-5	100 µg/mL	methanol	HC-040-1	1 x 1 mL
		1000 µg/mL	methanol	PST-4235M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1013-1	1 x 1 mL
		neat	-	RHH-003	1 gm
Carbophenothion	786-19-6	100 µg/mL	methanol	PST-990M100A01	1 x 1 mL
		100 µg/mL	acetone	PST-990K100A01	1 x 1 mL
		neat	-	PST-990	100 mg
Carboxin	5234-68-4	100 µg/mL	methanol	PST-990M100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1305A1000	1 x 1 mL
		neat	-	PST-1305	100 mg
Chloral Hydrate	302-17-0	1000 µg/mL	methanol	EPA-1244-1	1 x 1 mL
		1000 µg/mL	MTBE	EPA-1244-A	1 x 1 mL
Chloramben	133-90-4	100 µg/mL	methanol	PST-025M100A01	1 x 1 mL
		neat	-	PST-025	100 mg
Chlordane (technical)	57-74-9	100 µg/mL	methanol	PP-150-1	1 x 1 mL
		100 µg/mL	hexane	PP-151-1	1 x 1 mL
		1000 µg/mL	hexane	PST-110H1000	1 x 1 mL
		2000 µg/mL	methanol	PST-110M2000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1086-1	1 x 1 mL
		neat	-	PST-110	100 mg
α-Chlordane (cis-Chlordane)	5103-71-9	100 µg/mL	methanol	PP-470-1	1 x 1 mL
		100 µg/mL	isooctane	PST-111I100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-111K1000	1 x 1 mL
		neat	-	PST-111	10 mg
γ-Chlordane (trans-Chlordane)	5103-74-2	100 µg/mL	methanol	PP-480-1	1 x 1 mL
		100 µg/mL	isooctane	PST-112I100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-112K1000	1 x 1 mL
		neat	-	PST-112	10 mg
Chlorfenvinphos	470-90-6	100 µg/mL	methanol	PST-1325M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1325K1000	1 x 1 mL
		neat	-	PST-1325	25 mg
Chloroacetaldehyde	107-20-0	1000 µg/mL	methanol	EPA-1203-1	1 x 1 mL
Chloroacetic Acid	79-11-8	1000 µg/mL	MTBE	EPA-1204-1	1 x 1 mL
		neat	-	PST-4315-100MG	100 mg
Chloroacetonitrile	107-14-2	1000 µg/mL	methanol	EPA-1205-1	1 x 1 mL
4-Chloroaniline	106-47-8	5000 µg/mL	methanol	EPA-1087-1	1 x 1 mL
		neat	-	RCA-003	100 mg
Chlorobenzene	108-90-7	100 µg/mL	methanol	HC-050-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1014-1	1 x 1 mL
		neat	-	RCP-020	100 mg
Chlorobenzene-d5	3114-55-4	2000 µg/mL	methanol	STS-300-1	1 x 1 mL

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Chlorobenzilate	510-15-6	100 µg/mL	hexane	PP-410A-1	1 x 1 mL
		100 µg/mL	acetone	PST-120K100A01	1 x 1 mL
		neat	-	PST-120	100 mg
1-Chlorobutane	109-69-3	1000 µg/mL	methanol	EPA-1206-1	1 x 1 mL
		neat	-	RHH-063	100 mg
1-Chloro-1,1-difluoroethane	75-68-3	100 µg/mL	methanol	CFC-210-1	1 x 1 mL
Chlorodifluoromethane	75-45-6	100 µg/mL	methanol	CFC-110-1	1 x 1 mL
Chloroethane	75-00-3	100 µg/mL	methanol	HC-060-1	1 x 1 mL
2-Chloroethanol	107-07-3	1000 µg/mL	methanol	EPA-1207-1	1 x 1 mL
		neat	-	RCC-176	100 mg
2-Chloroethyl Vinyl Ether	110-75-8	100 µg/mL	methanol	HC-070-1	1 x 1 mL
		2000 µg/mL	methanol	HC-072-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1016-1	1 x 1 mL
		neat	-	RCC-177	100 mg
1-Chloro-2-fluorobenzene	348-51-6	1000 µg/mL	methanol	STS-451-1	1 x 1 mL
		2000 µg/mL	methanol	STS-450-1	1 x 1 mL
1-Chloro-4-fluorobenzene	352-33-0	2000 µg/mL	methanol	STS-570-1	1 x 1 mL
Chloroform	67-66-3	100 µg/mL	methanol	HC-080-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1017-1	1 x 1 mL
		neat	-	RHH-002	1 gm
1-Chlorohexane	544-10-5	1000 µg/mL	methanol	EPA-1208-1	1 x 1 mL
		neat	-	RHH-055	100 mg
Chloromethane	74-87-3	100 µg/mL	methanol	HC-090-1	1 x 1 mL
Chloromethyl Methyl Ether	107-30-2	1000 µg/mL	methanol	EPA-1209-1	1 x 1 mL
4-Chloro-3-methylphenol	59-50-7	100 µg/mL	methanol	PH-100-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1088-1	1 x 1 mL
		neat	-	RCC-154	100 mg
2-Chloronaphthalene	91-58-7	100 µg/mL	methylene chloride	CH-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1089-1	1 x 1 mL
		neat	-	RCN-003	100 mg
Chloroneb	2675-77-6	100 µg/mL	methanol	PST-1330M100A01	1 x 1 mL
		neat	-	PST-1330	100 mg
4-Chloro-3-nitrobenzotrifluoride	121-17-5	1000 µg/mL	acetone	PPS-360-1	1 x 1 mL
1-Chlorooctadecane	3386-33-2	1000 µg/mL	hexane	SKS-110	1 x 1 mL
		2000 µg/mL	methylene chloride	IST-470-1	1 x 1 mL
		10000 µg/mL	methylene chloride	IST-471-1	1 x 1 mL

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Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
1-Chlorooctane	111-85-3	2000 µg/mL	methanol	STS-490-1	1 x 1 mL
2-Chlorophenol	95-57-8	100 µg/mL	methanol	PH-110-1	1 x 1 mL
		1000 µg/mL	methanol	RCP-001M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1090-1	1 x 1 mL
		neat	-	RCP-001	20 mg
4-Chloro-1,2-phenylenediamine	95-83-0	1000 µg/mL	methanol	CH-240-1	1 x 1 mL
4-Chloro-1,3-phenylenediamine	5131-60-2	1000 µg/mL	methanol	CH-245-1	1 x 1 mL
4-Chlorophenyl Phenyl Ether	7005-72-3	100 µg/mL	methanol	BEC-150-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1091-1	1 x 1 mL
		neat	-	RPE-001	10 mg
Chloropicrin	76-06-2	100 µg/mL	isooctane	PST-13351100A01	1 x 1 mL
		neat	-	PST-1335	100 mg
Chloroprene (without xylenes)	126-99-8	100 µg/mL	methanol	HC-491-1	1 x 1 mL
3-Chloropropionitrile	542-76-7	1000 µg/mL	methanol	EPA-1210-1	1 x 1 mL
Chlorothalonil	1897-45-6	100 µg/mL	methanol	PST-1340M100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1340A1000	1 x 1 mL
		neat	-	PST-1340	100 mg
2-Chlorotoluene	95-49-8	100 µg/mL	methanol	HC-320-1	1 x 1 mL
		1000 µg/mL	methanol	RCB-001M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1018-1	1 x 1 mL
		neat	-	RCB-001	100 mg
4-Chlorotoluene	106-43-4	100 µg/mL	methanol	HC-330-1	1 x 1 mL
		1000 µg/mL	methanol	RCB-003M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1019-1	1 x 1 mL
		neat	-	RCB-003	100 mg
Chlorotrifluoromethane	75-72-9	100 µg/mL	methanol	CFC-120-1	1 x 1 mL
Chlorpropham	101-21-3	100 µg/mL	methanol	PST-1345M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1345K1000	1 x 1 mL
		neat	-	PST-1345	100 mg
Chlorpyrifos	2921-88-2	100 µg/mL	methanol	PST-480M100A01	1 x 1 mL
		1000 µg/mL	hexane	PST-480H1000	1 x 1 mL
		1000 µg/mL	acetone	PST-480K1000	1 x 1 mL
		neat	-	PST-480	100 mg
Chlorpyrifos Methyl	5598-13-0	100 µg/mL	methanol	PST-1350M100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-1350M1000	1 x 1 mL
		1000 µg/mL	acetone	PST-1350K1000	1 x 1 mL
		neat	-	PST-1350	100 mg
Chrysene	218-01-9	100 µg/mL	methylene chloride	P-690-1	1 x 1 mL
		1000 µg/mL	acetone	EPA-1092-1	1 x 1 mL
		neat	-	RAH-007	100 mg
Chrysene-d12	1719-03-5	250 µg/mL	toluene	ATS-122-1	1 x 1 mL
		2000 µg/mL	methylene chloride	ATS-120-1	1 x 1 mL
Coumaphos	56-72-4	100 µg/mL	methanol	PST-130M100A01	1 x 1 mL
		neat	-	PST-130	100 mg
o-Cresol (2-Methylphenol)	95-48-7	100 µg/mL	methanol	PH-210-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1093-1	1 x 1 mL
		neat	-	RCC-155	100 mg
m-Cresol (3-Methylphenol)	108-39-4	100 µg/mL	methanol	PH-220-1	1 x 1 mL
		1000 µg/mL	methanol	PH-221-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1094-1	1 x 1 mL
		neat	-	RCC-156	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
p-Cresol (4-Methylphenol)	106-44-5	100 µg/mL	methanol	PH-230-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1095-1	1 x 1 mL
		neat	-	RCC-157	100 mg
Crotoxyphos	7700-17-6	100 µg/mL	methanol	PST-1355M100A01	1 x 1 mL
		neat	-	PST-1355	5 mg
Cyanazine	21725-46-2	100 µg/mL	methanol	PST-1360M100A01	1 x 1 mL
		500 µg/mL	methanol	PST-1360M500	1 x 1 mL
		1000 µg/mL	methanol	EPA-1165-1	1 x 1 mL
		1000 µg/mL	acetone	PST-1360K1000	1 x 1 mL
		2000 µg/mL	ethyl acetate	PST-1360Y2000	1 x 1 mL
		neat	-	PST-1360	100 mg
2-Cyclohexyl-4,6-dinitrophenol	131-89-5	1000 µg/mL	methanol	PST-2725M1000	1 x 1 mL
		neat	-	PST-2725-100MG	100 mg
2,4-D	94-75-7	100 µg/mL	methanol	HB-100-1	1 x 1 mL
		200 µg/mL	methanol	PST-140M200	1 x 1 mL
		200 µg/mL	MTBE	PST-140B200	1 x 1 mL
		5000 µg/mL	acetonitrile	PST-140A5000	1 x 1 mL
		neat	-	PST-140	100 mg
2,4-D Methyl Ester	1928-38-7	100 µg/mL	methanol	HB-101-1	1 x 1 mL
		200 µg/mL	hexane	PST-150H200	1 x 1 mL
		neat	-	PST-150	100 mg
Dalapon	75-99-0	100 µg/mL	methanol	HB-140-1	1 x 1 mL
		200 µg/mL	MTBE	PST-4040B200	1 x 1 mL
		200 µg/mL	methanol	PST-4040M200	1 x 1 mL
		5000 µg/mL	acetonitrile	PST-140A5000	1 x 1 mL
		neat	-	PST-170	100 mg
Dalapon Methyl Ester	17640-02-7	100 µg/mL	methanol	HB-141-1	1 x 1 mL
		neat	-	PST-171	10 mg
2,4-DB	94-82-6	100 µg/mL	methanol	HB-150-1	1 x 1 mL
		200 µg/mL	methanol	PST-1170M200	1 x 1 mL
		200 µg/mL	MTBE	PST-1170B200	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1170A1000	1 x 1 mL
		neat	-	PST-1170	100 mg
2,4-DB Methyl Ester	18625-12-2	100 µg/mL	methanol	HB-151-1	1 x 1 mL
		200 µg/mL	hexane	PST-1171H200	1 x 1 mL
		neat	-	PST-1171	10 mg

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
DCPA (Dacthal)	1861-32-1	100 µg/mL	methanol	PST-160M100A01	1 x 1 mL
		neat	-	PST-160	100 mg
4,4'-DDD	72-54-8	100 µg/mL	methanol	PP-160-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-220A100A01	1 x 1 mL
		100 µg/mL	isooctane	PST-220I100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-220M1000	1 x 1 mL
		1000 µg/mL	acetone	PST-220K1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1097-1	1 x 1 mL
		neat	-	PST-220	100 mg
4,4'-DDE	72-55-9	100 µg/mL	methanol	PP-170-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-250A100A01	1 x 1 mL
		100 µg/mL	isooctane	PST-250I100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-250K1000	1 x 1 mL
		1000 µg/mL	methanol	EPA-1098-1	1 x 1 mL
		neat	-	PST-250	100 mg
4,4'-DDT	50-29-3	100 µg/mL	methanol	PP-180-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-250A100A01	1 x 1 mL
		100 µg/mL	isooctane	PST-250I100A01	1 x 1 mL
		5000 µg/mL	methanol	EPA-1099-1	1 x 1 mL
		neat	-	PST-280	100 mg
Decachlorobiphenyl	2051-24-3	100 µg/mL	hexane	RPC-060S	1 x 2 mL
		100 µg/mL	isooctane	RPC-060AS	1 x 2 mL
		1000 µg/mL	toluene	PPS-150-1	1 x 1 mL
Decafluorobiphenyl	434-90-2	200 µg/mL	MTBE	IST-154-1	1 x 1 mL
		1000 µg/mL	methanol	IST-153-1	1 x 1 mL
		1000 µg/mL	acetonitrile	IST-151-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-150-1	1 x 1 mL
		1000 µg/mL	acetone	IST-152-1	1 x 1 mL
Decafluorotriphenylphosphine	5074-71-5	100 µg/mL	methylene chloride	IST-341-1	1 x 1 mL
		250 µg/mL	methylene chloride	IST-340-1	1 x 1 mL
		1000 µg/mL	acetone	47995N-1	1 x 1 mL
Decafluorotriphenylphosphine Oxide	5594-90-1	neat		RAH-115-10MG	10 mg
		100 µg/mL	acetonitrile	PPS-341-1	1 x 1 mL
		250 µg/mL	methylene chloride	IST-340-1	1 x 1 mL
		500 µg/mL	acetonitrile/MeOH (1:1)	RAH-115-10MG	10 mg
		2500 µg/mL	methanol	IST-344-1	1 x 1 mL
		2500 µg/mL	methylene chloride	IST-343-1	1 x 1 mL
DEET	134-62-3	100 µg/mL	methanol	PST-298M100A01	1 x 1 mL
		neat	-	PST-298	100 mg
DEF	78-48-8	100 µg/mL	isooctane	PST-300I100A01	1 x 1 mL
		500 µg/mL	acetone	NPM-108B-1	1 x 1 mL
		1000 µg/mL	MTBE	NPM-108-1	1 x 1 mL
		neat	-	PST-300	100 mg
Demeton	8065-48-3	1000 µg/mL	methanol	PST-920M1000	1 x 1 mL
Diallate	2303-16-4	100 µg/mL	methanol	PP-420-1	1 x 1 mL
		neat	-	PST-035	100 mg
Diazinon	333-41-5	100 µg/mL	hexane	PST-320AS	1 x 1 mL
		100 µg/mL	acetonitrile	PST-320A100A01	1 x 1 mL
		100 µg/mL	isooctane	PST-320I100A01	1 x 1 mL
		neat	-	PST-320	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Dibenz[a,j]acridine	224-42-0	1000 µg/mL	methylene chloride	P-810-1	1 x 1 mL
Dibenz[a,h]anthracene	53-70-3	100 µg/mL	methylene chloride	P-700-1	1 x 1 mL
		neat	-	RAH-019	10 mg
Dibenzofuran	132-64-9	100 µg/mL	methanol	SV-150-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1100-1	1 x 1 mL
		neat	-	RPE-022	50 mg
Dibenzo[a,e]pyrene	192-65-4	1000 µg/mL	methylene chloride	P-802-1	1 x 1 mL
Dibromoacetic Acid	631-64-1	1000 µg/mL	MTBE	EPA-1211-1	1 x 1 mL
Dibromoacetonitrile	3252-43-5	1000 µg/mL	methanol	EPA-1212-1	1 x 1 mL
		1000 µg/mL	acetone	EPA-1212A-1	1 x 1 mL
4,4'-Dibromobiphenyl	92-86-4	100 µg/mL	ethyl acetate	IST-132-1	1 x 1 mL
		100 µg/mL	hexane	RBF-080S	1 x 1 mL
		200 µg/mL	methylene chloride	IST-133-1	1 x 1 mL
		1000 µg/mL	acetone	IST-134-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-130-1	1 x 1 mL
		1000 µg/mL	ethyl acetate	PPS-420-1	1 x 1 mL
Dibromochloromethane	124-48-1	100 µg/mL	methanol	HC-100-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1020-1	1 x 1 mL
		neat	-	RHH-010	1 gm
1,2-Dibromo-3-chloropropane	96-12-8	100 µg/mL	methanol	HC-340-1	1 x 1 mL
		1000 µg/mL	methanol	HC-341-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1021-1	1 x 1 mL
		neat	-	RHH-034	1 gm
1,2-Dibromoethane	106-93-4	100 µg/mL	methanol	HC-350-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1022-1	1 x 1 mL
		neat	-	RHH-026	1 gm
Dibromofluoromethane	1868-53-7	2000 µg/mL	methanol	STS-350-1	1 x 1 mL
Dibromomethane	74-95-3	100 µg/mL	methanol	HC-360-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1023-1	1 x 1 mL
		neat	-	RHH-004	1 gm
4,4'-Dibromooctafluorobiphenyl	10386-84-2	1 µg/mL	methanol	PPS-173-1	1 x 1 mL
		100 µg/mL	MTBE	PPS-170-1	1 x 1 mL
		200 µg/mL	methylene chloride	IST-141-1	1 x 1 mL
		250 µg/mL	acetone	PPS-171-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-140-1	1 x 1 mL
		1000 µg/mL	MTBE	PPS-175-1	1 x 1 mL
		2000 µg/mL	MTBE	PPS-174-1	1 x 1 mL
		5000 µg/mL	methanol	PPS-172-1	1 x 1 mL
2,4-Dibromophenol	615-58-7	1000 µg/mL	isopropanol	IST-620-1	1 x 1 mL

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
1,2-Dibromopropane	78-75-1	2000 µg/mL	methanol	RHH-050M2000	1 x 1 mL
		10000 µg/mL	hexane	PPS-400-1	1 x 1 mL
2,3-Dibromopropionic Acid	600-05-5	1000 µg/mL	MTBE	PPS-390-1	1 x 1 mL
		2000 µg/mL	MTBE	PPS-390B2000	1 x 1 mL
		20000 µg/mL	MTBE	PPS-390B20000	1 x 1 mL
2,5-Dibromotoluene	615-59-8	5000 µg/mL	methanol	STS-550-1	1 x 1 mL
Dibutyl Chloroendate	1770-80-5	100 µg/mL	methanol	PST-1160M100A01	1 x 1 mL
		2000 µg/mL	methanol	STS-280N-1	1 x 1 mL
		neat	-	PST-1160	50 mg
Di-n-butyl Phthalate	84-74-2	100 µg/mL	methanol	PS-120-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1101-1	1 x 1 mL
		neat	-	DMP-015	100 mg
Dicamba	1918-00-9	100 µg/mL	methanol	HB-160-1	1 x 1 mL
		200 µg/mL	MTBE	PST-050B200	1 x 1 mL
		200 µg/mL	methanol	PST-050M200	1 x 1 mL
		neat	-	PST-050	100 mg
Dicamba Methyl Ester	6597-78-0	100 µg/mL	methanol	HB-161-1	1 x 1 mL
		200 µg/mL	hexane	PST-4100H200	1 x 1 mL
		neat	-	PST-051	10 mg
Dichlofenthion	97-17-6	100 µg/mL	methanol	PST-1390M100A01	1 x 1 mL
		neat	-	PST-1390	25 mg
Dichloran	99-30-9	100 µg/mL	methanol	PST-190M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-190K1000	1 x 1 mL
		neat	-	PST-190	100 mg
Dichloroacetic Acid	79-43-6	1000 µg/mL	MTBE	EPA-1214-1	1 x 1 mL
Dichloroacetonitrile	3018-12-0	1000 µg/mL	methanol	EPA-1215-1	1 x 1 mL
		1000 µg/mL	acetone	EPA-1215A-1	1 x 1 mL
1,2-Dichlorobenzene	95-50-1	100 µg/mL	methanol	HC-110-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1102-1	1 x 1 mL
		neat	-	RCP-021	100 mg
1,2-Dichlorobenzene-d4	2199-69-1	2000 µg/mL	methanol	STS-210-1	1 x 1 mL
1,3-Dichlorobenzene	541-73-1	100 µg/mL	methanol	HC-120-1	1 x 1 mL
		1000 µg/mL	methanol	RCP-022M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1103-1	1 x 1 mL
		neat	-	RCP-022	100 mg
1,4-Dichlorobenzene	106-46-7	100 µg/mL	methanol	HC-130-1	1 x 1 mL
		1000 µg/mL	methanol	PST-4490M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1104-1	1 x 1 mL
		neat	-	RCP-023	100 mg
1,4-Dichlorobenzene-d4	3855-82-1	2000 µg/mL	methylene chloride	ATS-130-1	1 x 1 mL
3,3'-Dichlorobenzidine	91-94-1	100 µg/mL	methanol	B-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1105-1	1 x 1 mL
		neat	-	RCC-007	100 mg
3,3'-Dichlorobenzidine-d6	93951-91-8	500 µg/mL	acetonitrile/MeOH (1:1)	PPS-330-1	1 x 1 mL
		5000 µg/mL	acetonitrile	RCC-307-10MG	10 mg
3,5-Dichlorobenzoic Acid	51-36-5	1000 µg/mL	MTBE	PPS-261-1	1 x 1 mL
		1000 µg/mL	methanol	PPS-261M1000	1 x 1 mL
		2000 µg/mL	MTBE	PPS-261B2000	1 x 1 mL
		neat	-	RBA-005	100 mg
4,4'-Dichlorobiphenyl	2050-68-2	500 µg/mL	MTBE	PPS-120-1	1 x 1 mL
		neat	-	RPC-011	10 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
1,4-Dichlorobutane	110-56-5	200 µg/mL	methanol	STS-202-1	1 x 1 mL
		1000 µg/mL	methanol	STS-201-1	1 x 1 mL
		2000 µg/mL	methanol	STS-200-1	1 x 1 mL
cis-1,4-Dichloro-2-butene	1476-11-5	100 µg/mL	methanol	HC-500-1	1 x 1 mL
		neat	-	RHH-064	100 mg
trans-1,4-Dichloro-2-butene	110-57-6	100 µg/mL	methanol	HC-460-1	1 x 1 mL
		neat	-	RHH-056	100 mg
Dichlorodifluoromethane	75-71-8	100 µg/mL	methanol	HC-140-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1024-1	1 x 1 mL
2,4-Dichlorodiphenyl Ether	51892-26-3	neat	-	RPE-005	10 mg
1,1-Dichloroethane	75-34-3	100 µg/mL	methanol	HC-150-1	1 x 1 mL
		1000 µg/mL	methanol	RHH-012M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1025-1	1 x 1 mL
		neat	-	RHH-012	1 gm
1,2-Dichloroethane	107-06-2	100 µg/mL	methanol	HC-160-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1026-1	1 x 1 mL
		neat	-	RHH-013	1 gm
1,2-Dichloroethane-d4	17060-07-0	200 µg/mL	methanol	STS-122-1	1 x 1 mL
		1000 µg/mL	methanol	STS-121-1	1 x 1 mL
		2000 µg/mL	methanol	STS-120-1	1 x 1 mL
1,1-Dichloroethene	75-35-4	100 µg/mL	methanol	HC-170-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1027-1	1 x 1 mL
		neat	-	RHH-020	1 gm
cis-1,2-Dichloroethene	156-59-2	100 µg/mL	methanol	HC-370-1	1 x 1 mL
		1000 µg/mL	methanol	RHH-057M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1028-1	1 x 1 mL
		neat	-	RHH-057	100 mg
trans-1,2-Dichloroethene	156-60-5	100 µg/mL	methanol	HC-180-1	1 x 1 mL
		1000 µg/mL	methanol	RHH-021M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1029-1	1 x 1 mL
		neat	-	RHH-021	1 gm
1,1-Dichloro-1-fluoroethane	1717-00-6	100 µg/mL	methanol	CFC-250-1	1 x 1 mL
		20000 µg/mL	methanol	HAH-032M20000	1 x 1 mL
Dichlorofluoromethane	75-43-4	100 µg/mL	methanol	CFC-130-1	1 x 1 mL
Dichlorophen	97-23-4	1000 µg/mL	methanol	EPA-1217-1	1 x 1 mL
		neat	-	RCC-179	100 mg

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
2,4-Dichlorophenol	120-83-2	100 µg/mL	methanol	PH-120-1	1 x 1 mL
		1000 µg/mL	methanol	RCP-005M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1106-1	1 x 1 mL
		neat	-	RCP-005	20 mg
2,6-Dichlorophenol	87-65-0	100 µg/mL	methanol	PH-240-1	1 x 1 mL
		neat	-	RCP-007	20 mg
2,4-Dichlorophenylacetic Acid (DCAA)	19719-28-9	100 µg/mL	MTBE	PPS-160-1	1 x 1 mL
		100 µg/mL	acetone	PPS-165-1	1 x 1 mL
		1000 µg/mL	acetone	PPS-167-1	1 x 1 mL
		5000 µg/mL	methanol	PPS-162-1	1 x 1 mL
		neat	-	PST-4030-100MG	100 mg
2,4-Dichlorophenylacetic Acid Methyl Ester (DCAA Methyl Ester)	55954-23-9	100 µg/mL	MTBE	PPS-161-1	1 x 1 mL
		100 µg/mL	acetone	PPS-166-1	1 x 1 mL
		200 µg/mL	hexane	PST-4065H200A01	1 x 1 mL
		1000 µg/mL	acetone	PPS-168-1	1 x 1 mL
		5000 µg/mL	MTBE	PPS-169-1	1 x 1 mL
		5000 µg/mL	methanol	PPS-163-1	1 x 1 mL
		neat	-	PST-4065-100MG	100 mg
1,2-Dichloropropane	78-87-5	100 µg/mL	methanol	HC-190-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1030-1	1 x 1 mL
		neat	-	RHH-037	1 gm
1,3-Dichloropropane	142-28-9	100 µg/mL	methanol	HC-380-1	1 x 1 mL
		neat	-	RHH-038	1 gm
2,2-Dichloropropane	594-20-7	100 µg/mL	methanol	HC-390-1	1 x 1 mL
		neat	-	RHH-058	100 mg
2,3-Dichloropropanoic Acid	565-64-0	1000 µg/mL	MTBE	PPS-290-1	1 x 1 mL
1,3-Dichloro-2-propanol	96-23-1	1000 µg/mL	methanol	EPA-1213-1	1 x 1 mL
		neat	-	RCC-178	100 mg
1,1-Dichloro-2-propanone	513-88-2	1000 µg/mL	methanol	EPA-1218-1	1 x 1 mL
1,1-Dichloropropene	563-58-6	100 µg/mL	methanol	HC-400-1	1 x 1 mL
		1000 µg/mL	acetone	RHH-059K1000	1 x 1 mL
		neat	-	RHH-059	100 mg
1,3-Dichloro-1-propene (mix)	542-75-6	5000 µg/mL	methanol	EPA-1034-1	1 x 1 mL
		neat	-	RHH-054	1 gm
cis-1,3-Dichloropropene	10061-01-5	100 µg/mL	methanol	HC-200-1	1 x 1 mL
		1000 µg/mL	methanol	HC-200M1000	1 x 1 mL
trans-1,3-Dichloropropene	10061-02-6	100 µg/mL	methanol	HC-210-1	1 x 1 mL
		1000 µg/mL	methanol	HC-210M1000	1 x 1 mL
1,2-Dichlorotetrafluoroethane	76-14-2	100 µg/mL	methanol	CFC-260-1	1 x 1 mL
Dichlorprop	120-36-5	100 µg/mL	methanol	HB-170-1	1 x 1 mL
		200 µg/mL	methanol	PST-370M200	1 x 1 mL
		200 µg/mL	MTBE	PST-370B200	1 x 1 mL
		1000 µg/mL	acetone	PST-370K1000	1 x 1 mL
		neat	-	PST-370	100 mg
Dichlorprop Methyl Ester	57153-17-0	100 µg/mL	methanol	HB-171-1	1 x 1 mL
		200 µg/mL	hexane	PST-371H200	1 x 1 mL
		neat	-	PST-371	100 mg
Dichlorvos	62-73-7	neat	-	PST-380	100 mg
Dicofol	115-32-2	100 µg/mL	methanol	PST-391M100A01	1 x 1 mL
		1000 µg/mL	actonitrile	PST-391A1000	1 x 1 mL
		neat	-	PST-391	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Dieldrin	60-57-1	100 µg/mL	methanol	PP-190-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-400A100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1107-1	1 x 1 mL
		1000 µg/mL	acetone	PST-400K1000	1 x 1 mL
		neat	-	PST-400	10 mg
1,2,3,4-Diepoxybutane	298-18-0	1000 µg/mL	methanol	EPA-1219-1	1 x 1 mL
		neat	-	RCC-153	100 mg
Diethyl Ether	60-29-7	100 µg/mL	methanol	NV-140-1	1 x 1 mL
Diethyl Phthalate	84-66-2	100 µg/mL	methanol	PS-130-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1108-1	1 x 1 mL
		neat	-	DMP-012	100 mg
Diethyl Sulfate	64-67-5	1000 µg/mL	methanol	NV-255-1	1 x 1 mL
1,4-Difluorobenzene	540-36-3	200 µg/mL	methanol	STS-131-1	1 x 1 mL
		2000 µg/mL	methanol	STS-130-1	1 x 1 mL
2,2'-Difluorobiphenyl	388-82-9	200 µg/mL	methylene chloride	IST-162-1	1 x 1 mL
		1000 µg/mL	methanol	IST-161-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-160-1	1 x 1 mL
4,4'-Difluorobiphenyl	398-23-2	100 µg/mL	acetonitrile	PPS-270-1	1 x 1 mL
		2000 µg/mL	acetone	PPS-271-1	1 x 1 mL
Dimethachlor ESA	N/A	100 µg/mL	methanol	PPS-441-1	1 x 1 mL
Dimethoate	60-51-5	100 µg/mL	methanol	SP-100-1	1 x 1 mL
		1000 µg/mL	acetone	PST-421K1000	1 x 1 mL
		neat	-	PST-421	10 mg
Dimethyl Endothall	88941-22-4	100 µg/mL	methanol	PPS-281-1	1 x 1 mL
		1000 µg/mL	methanol	PPS-282-1	1 x 1 mL
1,3-Dimethyl-2-nitrobenzene	81-20-9	250 µg/mL	MTBE	PPS-100-1	1 x 1 mL
Dimethyl Phthalate	131-11-3	100 µg/mL	methanol	PS-140-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1112-1	1 x 1 mL
		neat	-	PST-430	100 mg
p-(Dimethylamino)azobenzene	60-11-7	5000 µg/mL	methanol	EPA-1109-1	1 x 1 mL
		neat	-	RCC-008	100 mg
7,12-Dimethylbenz[a]anthracene	57-97-6	1000 µg/mL	methanol	EPA-1110-1	1 x 1 mL
		neat	-	RAH-025	10 mg
3,3'-Dimethylbenzidine	119-93-7	100 µg/mL	methanol	B-120-1	1 x 1 mL
		1000 µg/mL	methanol	B-121-1	1 x 1 mL
		neat	-	RCC-041	100 mg
α,α-Dimethylphenethylamine	122-09-8	100 µg/mL	methanol	NH-150-1	1 x 1 mL
		1000 µg/mL	dichloromethane	EPA-1247-1	1 x 1 mL
2,4-Dimethylphenol	105-67-9	100 µg/mL	methanol	PH-130-1	1 x 1 mL
		1000 µg/mL	methanol	RCC-158M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1111-1	1 x 1 mL
		neat	-	RCC-158	100 mg

Volume discounts for individual solutions

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 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
1,2-Dinitrobenzene	528-29-0	1000 µg/mL	methanol	IST-600-1	1 x 1 mL
1,3-Dinitrobenzene (m-Dinitrobenzene)	99-65-0	100 µg/mL	methanol	NAI-140-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1113-1	1 x 1 mL
4,6-Dinitro-2-methylphenol	534-52-1	neat	-	RNH-001	100 mg
		1000 µg/mL	methanol	PH-150-1	1 x 1 mL
2,4-Dinitrophenol	51-28-5	neat	-	RCC-169	100 mg
		1000 µg/mL	methanol	PH-140-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1114-1	1 x 1 mL
2,4-Dinitrotoluene	121-14-2	neat	-	RCC-159	100 mg
		100 µg/mL	methanol	NAI-100-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1115-1	1 x 1 mL
2,6-Dinitrotoluene	606-20-2	neat	-	RNH-002	100 mg
		100 µg/mL	methanol	NAI-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1116-1	1 x 1 mL
3,4-Dinitrotoluene	610-39-9	neat	-	RNH-003	100 mg
		250 µg/mL	acetonitrile	IST-701-1	1 x 1 mL
		1000 µg/mL	acetonitrile	IST-701A-1	1 x 1 mL
Dinoseb	88-85-7	1000 µg/mL	methanol	IST-590-1	1 x 1 mL
		100 µg/mL	methanol	HB-130-1	1 x 1 mL
		200 µg/mL	methanol	PST-450M200	1 x 1 mL
Dinoseb Methyl Ether	6099-79-2	200 µg/mL	MTBE	PST-450B200	1 x 1 mL
		neat	-	PST-450	100 mg
		100 µg/mL	methanol	HB-131-1	1 x 1 mL
Di-n-octyl Phthalate	117-84-0	200 µg/mL	hexane	PST-451H200	1 x 1 mL
		neat	-	PST-451	10 mg
		100 µg/mL	methanol	PS-150-1	1 x 1 mL
Dioxacarb	6988-21-2	5000 µg/mL	methanol	EPA-1117-1	1 x 1 mL
		neat	-	DMP-020	100 mg
		1000 µg/mL	acetonitrile	PST-1765A1000	1 x 1 mL
1,4-Dioxane	123-91-1	neat	-	PST-1765	10 mg
		100 µg/mL	methanol	NV-150-1	1 x 1 mL
		1900 µg/mL	dimethyl sulfoxide	NV-153-1	1 x 1 mL
		2000 µg/mL	methanol	NV-152-1	1 x 1 mL
		2000 µg/mL	methylene chloride	NV-155-1	1 x 1 mL
Dioxathion	78-34-2	neat	-	RCC-180	1 gm
		1000 µg/mL	methanol	PST-455M1000	1 x 1 mL
Diphenamid	957-51-7	neat	-	PST-455-100MG	100 mg
		100 µg/mL	methanol	PST-1405M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1405K1000	1 x 1 mL
Diphenylamine	122-39-4	neat	-	PST-1405	100 mg
		100 µg/mL	methanol	PST-460M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-460K1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1118-1	1 x 1 mL
Diquat (from dibromide)	85-00-7	neat	-	PST-460	100 mg
		100 µg/mL	water	PST-1410AS	1 x 1 mL
Disulfoton	298-04-4	neat	-	PST-1410	100 mg
		100 µg/mL	methanol	SP-110-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-470A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-470K1000	1 x 1 mL
		1000 µg/mL	methanol	PST-470M1000	1 x 1 mL
Dithiothreitol	3483-12-3	neat	-	PST-470	100 mg
		1000 µg/mL	ethyl acetate	EPA-1390-1	1 x 1 mL

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Diuron	330-54-1	100 µg/mL	acetonitrile	PST-1415A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1415A1000	1 x 1 mL
		neat	-	PST-1415	100 mg
Endosulfan I	959-98-8	10 µg/mL	MTBE	PPS-220-1	1 x 1 mL
		100 µg/mL	methanol	PP-200-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-501A100A01	1 x 1 mL
		1000 µg/mL	toluene	PST-501T1000	1 x 1 mL
		1000 µg/mL	acetone	PST-501K1000	1 x 1 mL
		neat	-	PST-501	10 mg
Endosulfan II	33213-65-9	100 µg/mL	methanol	PP-210-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-502A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-502K1000	1 x 1 mL
		neat	-	PST-502	10 mg
Endosulfan Sulfate	1031-07-8	100 µg/mL	methanol	PP-220-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-503A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-503K1000	1 x 1 mL
		neat	-	PST-503	10 mg
Endothall Acid	145-73-3	50 µg/mL	methanol	PPS-211-1	1 x 1 mL
		50 µg/mL	water	PPS-210-1	1 x 1 mL
		100 µg/mL	methanol	PST-1845M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1845K1000	1 x 1 mL
		neat	-	PST-1845	100 mg
Endothall-PFPH		1000 µg/mL	MTBE	PPS-232-1	1 x 1 mL
		neat	-	PST-4050-100MG	100 mg
Endrin	72-20-8	100 µg/mL	methanol	PP-230-1	1 x 1 mL
		100 µg/mL	acetone	PST-510K100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1119-1	1 x 1 mL
		1000 µg/mL	acetone	PST-510K1000	1 x 1 mL
		neat	-	PST-510	100 mg
Endrin Aldehyde	7421-93-4	100 µg/mL	methanol	PP-240-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1120-1	1 x 1 mL
		neat	-	PST-512	10 mg
Endrin Ketone	53494-70-5	100 µg/mL	acetonitrile	PP-521-1	1 x 1 mL
		1000 µg/mL	methanol	PST-513M1000	1 x 1 mL
		neat	-	PST-513	10 mg
Epichlorohydrin	106-89-8	1000 µg/mL	methanol	EPA-1220-1	1 x 1 mL
		neat	-	RCC-161	100 mg

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
EPN	2104-64-5	100 µg/mL	hexane	PST-520AS	1 x 1 mL
		1000 µg/mL	methanol	PST-520M1000	1 x 1 mL
		1000 µg/mL	acetone	PST-520K1000	1 x 1 mL
		neat	-	PST-520	100 mg
EPTC	759-94-4	100 µg/mL	methanol	PST-1420M100A01	1 x 1 mL
		neat	-	PST-1420	100 mg
Ethion	563-12-2	100 µg/mL	methanol	PST-530M100A01	1 x 1 mL
		100 µg/mL	acetone	PST-530K100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-530M1000	1 x 1 mL
		1000 µg/mL	acetone	PST-530K1000	1 x 1 mL
		neat	-	PST-530	100 mg
Ethoprop	13194-48-4	100 µg/mL	methanol	PST-1425M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1425K1000	1 x 1 mL
		neat	-	PST-1425	100 mg
Ethyl Alcohol	64-17-5	100 µg/mL	methanol	NV-160-1	1 x 1 mL
		neat	-	RCC-181	1 gm
Ethylbenzene	100-41-4	100 µg/mL	methanol	AM-150-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1035-1	1 x 1 mL
		neat	-	RAB-013	100 mg
Ethylbenzene-d10	25837-05-2	200 µg/mL	methanol	STS-162-1	1 x 1 mL
		1000 µg/mL	methanol	STS-163-1	1 x 1 mL
		2000 µg/mL	methanol	STS-150-1	1 x 1 mL
Ethylene Thiourea	96-45-7	100 µg/mL	1000 mg/L DTT in ethyl acetate	PPS-640-1	1 x 1 mL
		1000 µg/mL	1000 mg/L DTT in ethyl acetate	PPS-641-1	1 x 1 mL
		neat	-	RCC-106	1 gm
Ethyl Methacrylate	97-63-2	100 µg/mL	methanol	NV-170-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1036-1	1 x 1 mL
		neat	-	RCC-206	100 mg
Ethyl Methanesulfonate	62-50-0	100 µg/mL	methylene chloride	SV-160-1	1 x 1 mL
		neat	-	RCC-182	100 mg
Etridiazole	2593-15-9	100 µg/mL	methanol	PST-1770M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1770K1000	1 x 1 mL
		neat	-	PST-1770	100 mg
Famphur	52-85-7	100 µg/mL	methanol	SP-120-1	1 x 1 mL
		neat	-	PST-1430	100 mg
Fenarimol	60168-88-9	100 µg/mL	methanol	PST-1775M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1775K1000	1 x 1 mL
		neat	-	PST-1775	10 mg
Fensulfothion	115-90-2	100 µg/mL	methanol	PST-1440M100A01	1 x 1 mL
		neat	-	PST-1440	25 mg
Fenthion	55-38-9	100 µg/mL	methanol	PST-540M100A01	1 x 1 mL
		neat	-	PST-540	100 mg
Fenuron	101-42-8	1000 µg/mL	acetonitrile	PST-1780A1000	1 x 1 mL
		neat	-	PST-1780	100 mg
Fluometuron	2164-17-2	1000 µg/mL	acetonitrile	PST-1450A1000	1 x 1 mL
		neat	-	PST-1450	100 mg
Fluoranthene	206-44-0	100 µg/mL	methylene chloride	P-710-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1121-1	1 x 1 mL
		neat	-	RAH-031	100 mg
Fluorene	86-73-7	100 µg/mL	methanol	P-720-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1122-1	1 x 1 mL
		neat	-	RAH-032	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
4-Fluoroaniline	371-40-4	200 µg/mL	methylene chloride	IST-172-1	1 x 1 mL
		1000 µg/mL	methanol	IST-171-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-170-1	1 x 1 mL
Fluorobenzene	462-06-6	200 µg/mL	methanol	STS-164-1	1 x 1 mL
		1000 µg/mL	methanol	STS-161-1	1 x 1 mL
		2000 µg/mL	methanol	STS-160-1	1 x 1 mL
2-Fluorobiphenyl	321-60-8	2000 µg/mL	methylene chloride	ATS-140-1	1 x 1 mL
1-Fluoronaphthalene	321-38-0	200 µg/mL	methanol	IST-182-1	1 x 1 mL
		1000 µg/mL	methanol	IST-181-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-180-1	1 x 1 mL
2-Fluoronaphthalene	323-09-1	200 µg/mL	methylene chloride	IST-192-1	1 x 1 mL
		1000 µg/mL	methanol	IST-191-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-190-1	1 x 1 mL
2-Fluorophenol	367-12-4	200 µg/mL	methylene chloride	IST-252-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-250-1	1 x 1 mL
		2000 µg/mL	methanol	IST-251-1	1 x 1 mL
Fluridone	59756-60-4	neat	-	PST-1785	10 mg
Glyphosate	1071-83-6	100 µg/mL	water	PPS-190-1	1 x 1 mL
		1000 µg/mL	water	PST-1850W1000	1 x 1 mL
		neat	-	PST-1850	100 mg
Heptachlor	76-44-8	100 µg/mL	methanol	PP-250-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1123-1	1 x 1 mL
		100 µg/mL	isooctane	PST-571I100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-571K1000	1 x 1 mL
		neat	-	PST-571	100 mg
Heptachlor Epoxide (Isomer A)	28044-83-9	100 µg/mL	methanol	PP-260-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1124-1	1 x 1 mL
		neat	-	PST-581	10 mg
Heptachlor Epoxide (Isomer B)	1024-57-3	100 µg/mL	methanol	PP-261-1	1 x 1 mL
		100 µg/mL	cyclohexane	PST-582C100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1164-1	1 x 1 mL
		1000 µg/mL	acetone	PST-582K1000	1 x 1 mL
		neat	-	PST-582	10 mg
Hexachlorobenzene	118-74-1	100 µg/mL	methanol	CH-151-1	1 x 1 mL
		100 µg/mL	methylene chloride	CH-150-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-590A100A01	1 x 1 mL
		1000 µg/mL	acetone	EPA-1125-1	1 x 1 mL
		neat	-	RCP-031	100 mg

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Hexachlorobutadiene	87-68-3	100 µg/mL	methanol	CH-160-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1126-1	1 x 1 mL
		neat	-	RHH-060	100 mg
Hexachlorocyclopentadiene	77-47-4	100 µg/mL	methanol	CH-170-1	1 x 1 mL
		1000 µg/mL	methanol	PST-4385M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1127-1	1 x 1 mL
Hexachloroethane	67-72-1	100 µg/mL	methanol	CH-180-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1128-1	1 x 1 mL
		neat	-	RHH-019	1 gm
Hexachlorophene	70-30-4	100 µg/mL	methanol	PH-270-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1129-1	1 x 1 mL
		neat	-	RCC-166	100 mg
Hexachloropropene	1888-71-7	neat	-	RHH-047	1 gm
Hexamethylphosphoramide	680-31-9	1000 µg/mL	methanol	PST-4745M1000	1 x 1 mL
		neat	-	PST-4745-100MG	100 mg
2-Hexanone	591-78-6	100 µg/mL	methanol	NV-180-1	1 x 1 mL
		neat	-	RCC-207	100 mg
Hexazinone	51235-04-2	100 µg/mL	methanol	PST-1460M100A01	1 x 1 mL
		1000 µg/mL	hexane	EPA-1180-1	1 x 1 mL
		neat	-	PST-1460	100 mg
HMX	2691-41-0	1000 µg/mL	acetonitrile	EPA-1221-1	1 x 1 mL
3-Hydroxycarbofuran	16655-82-6	100 µg/mL	methanol	PP-510-1	1 x 1 mL
		1000 µg/mL	methanol	PST-1290M1000	1 x 1 mL
		neat	-	PST-1290-10MG	10 mg
2-Hydroxypropionitrile	78-97-7	neat	-	RCC-208	100 mg
Indeno[1,2,3-cd]pyrene	193-39-5	100 µg/mL	methylene chloride	P-730-1	1 x 1 mL
		neat	-	RAH-077	5 mg
Isobutyl Alcohol	78-83-1	100 µg/mL	methanol	NV-190-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1037-1	1 x 1 mL
		neat	-	RCC-183	1 gm
Isodrin	465-73-6	100 µg/mL	methanol	PP-430-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1131-1	1 x 1 mL
		neat	-	PST-1855	100 mg
Isophorone	78-59-1	100 µg/mL	methanol	NAI-120-1	1 x 1 mL
		1000 µg/mL	methanol	RAB-015M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1132-1	1 x 1 mL
		neat	-	RCC-209	100 mg
Isopropalin	33820-53-0	100 µg/mL	methanol	PST-1475M100A01	1 x 1 mL
		neat	-	PST-1475	100 mg
Isopropylbenzene	98-82-8	100 µg/mL	methanol	AM-230-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1038-1	1 x 1 mL
		neat	-	RAB-015	100 mg
4-Isopropyltoluene	99-87-6	100 µg/mL	methanol	AM-240-1	1 x 1 mL
		1000 µg/mL	methanol	RAB-042M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1039-1	1 x 1 mL
		neat	-	RAB-042	100 mg
Isosafrole	120-58-1	100 µg/mL	methanol	SV-170-1	1 x 1 mL
		neat	-	RCC-184	100 mg
Kepone	143-50-0	100 µg/mL	toluene	PP-440A-1	1 x 1 mL
		neat	-	PST-620	10 mg
Leptophos	21609-90-5	100 µg/mL	methanol	PST-1480M100A01	1 x 1 mL
		neat	-	PST-1480	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Linuron	330-55-2	100 µg/mL	acetonitrile	PST-1490A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-1490M100A01	1 x 1 mL
		1000 µg/mL	hexane	EPA-1182-1	1 x 1 mL
		neat	-	PST-1490	100 mg
Malathion	121-75-5	100 µg/mL	methanol	PST-641M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-641A100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-641M1000	1 x 1 mL
		neat	-	PST-641	100 mg
Maleic Anhydride	108-31-6	1000 µg/mL	methanol	SV-210-1	1 x 1 mL
Malononitrile	109-77-3	1000 µg/mL	methanol	EPA-1223-1	1 x 1 mL
		neat	-	RCC-210	100 mg
MCPA	94-74-6	100 µg/mL	methanol	HB-180-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1180A100A01	1 x 1 mL
		2000 µg/mL	methanol	PST-1180M2000	1 x 1 mL
		2000 µg/mL	MTBE	PST-1180B2000	1 x 1 mL
		neat	-	PST-1180	100 mg
MCPA Methyl Ester	2436-73-9	100 µg/mL	methanol	HB-181-1	1 x 1 mL
		2000 µg/mL	hexane	PST-1181H2000	1 x 1 mL
		neat	-	PST-1181	100 mg
MCPP	7085-19-0	100 µg/mL	methanol	HB-190-1	1 x 1 mL
		1000 µg/mL	acetone	PST-1190K1000	1 x 1 mL
		2000 µg/mL	methanol	PST-1190M2000	1 x 1 mL
		2000 µg/mL	MTBE	PST-1190B2000	1 x 1 mL
		neat	-	PST-1190	100 mg
MCPP Methyl Ester	2786-19-7	100 µg/mL	methanol	HB-191-1	1 x 1 mL
		2000 µg/mL	hexane	PST-1191H2000	1 x 1 mL
		neat	-	PST-1191	100 mg
Mercaptobenzothiazole	149-30-4	100 µg/mL	methanol	PST-1860M100A01	1 x 1 mL
		neat	-	PST-1860	100 mg
Merphos	150-50-5	100 µg/mL	hexane	PST-1500H100A01	1 x 1 mL
		neat	-	PST-1500	100 mg
Methacrylonitrile	126-98-7	100 µg/mL	methanol	NV-200-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1040-1	1 x 1 mL
Methamidophos	10265-92-6	100 µg/mL	methanol	PST-1510M100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-1510M1000	1 x 1 mL
		neat	-	PST-1510	25 mg
Methapyrilene	91-80-5	100 µg/mL	methanol	NH-260-1	1 x 1 mL
		1000 µg/mL	methanol	NH-265-1	1 x 1 mL
		2000 µg/mL	methylene chloride	NH-262-1	1 x 1 mL

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Methiocarb	2032-65-7	100 µg/mL	acetonitrile	PST-1525A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-1525M100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1525A1000	1 x 1 mL
		neat	-	PST-1525	100 mg
Methomyl	16752-77-5	100 µg/mL	acetonitrile	PST-680A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-680A1000	1 x 1 mL
		1000 µg/mL	methanol	PST-680M1000	1 x 1 mL
		neat	-	PST-680	100 mg
Methoxychlor	72-43-5	100 µg/mL	methanol	PP-390-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-691K100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-691K1000	1 x 1 mL
		neat	-	PST-691	100 mg
Methyl Acrylate	96-33-3	1000 µg/mL	methanol	EPA-1224-1	1 x 1 mL
		neat	-	RCC-212	100 mg
Methyl Alcohol (Methanol)	67-56-1	10000 µg/mL	water	HAP-100-1	1 x 1 mL
Methyl-2-bromopropionate	5445-17-0	1000 µg/mL	MTBE	PPS-301-1	1 x 1 mL
		neat	-	PST-4125-100MG	100 mg
Methyl tert-Butyl Ether (MTBE)	1634-04-4	100 µg/mL	methanol	NV-250-1	1 x 1 mL
		2000 µg/mL	methanol	STS-440-1	1 x 1 mL
		neat	-	RCC-149	1 gm
3-Methylcholanthrene	56-49-5	100 µg/mL	methylene chloride	P-780-1	1 x 1 mL
		1000 µg/mL	methylene chloride	P-781-1	1 x 1 mL
		2000 µg/mL	methylene chloride	P-782-1	1 x 1 mL
		neat	-	RAH-041	10 mg
Methyl-2,3-dibromopropionate	1729-67-5	2000 µg/mL	MTBE	PST-4130B2000	1 x 1 mL
		20000 µg/mL	MTBE	PST-4130B20000	1 x 1 mL
		neat	-	PST-4130-100MG	100 mg
Methyl 3,5-Dichlorobenzoate	2905-67-1	1000 µg/mL	MTBE	PPS-262-1	1 x 1 mL
		1000 µg/mL	methanol	PPS-262M1000	1 x 1 mL
		2000 µg/mL	methanol	PPS-262M2000	1 x 1 mL
4,4'-Methylene bis(2-chloroaniline)	101-14-4	1000 µg/mL	methylene chloride	CH-250-1	1 x 1 mL
		neat	-	RCC-011	100 mg
4,4'-Methylene bis(n,n-dimethylaniline)	101-61-1	1000 µg/mL	methanol	NH-325-1	1 x 1 mL
Methylene Chloride	75-09-2	100 µg/mL	methanol	HC-220-1	1 x 1 mL
		1000 µg/mL	methanol	PST-4280M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1041-1	1 x 1 mL
		neat	-	RHH-001	1 gm
Methylene Chloride-d2	1665-00-5	2000 µg/mL	methanol	IST-510-1	1 x 1 mL
Methyl Iodide (Iodomethane)	74-88-4	100 µg/mL	methanol	HC-470-1	1 x 1 mL
		neat	-	RHH-062	100 mg
Methyl Methacrylate	80-62-6	100 µg/mL	methanol	NV-210-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1042-1	1 x 1 mL
		neat	-	RCC-213	100 mg
Methyl Methanesulfonate	66-27-3	100 µg/mL	methylene chloride	SV-180A-1	1 x 1 mL
		neat	-	RCC-185	100 mg
2-Methyl-4-nitroaniline	99-52-5	250 µg/mL	acetonitrile	IST-702-1	1 x 1 mL
1-Methylnaphthalene	90-12-0	1000 µg/mL	methanol	EPA-1225-1	1 x 1 mL
		neat	-	RAH-044	500 mg
2-Methylnaphthalene	91-57-6	100 µg/mL	methanol	SV-200-1	1 x 1 mL
		neat	-	RAH-045	500 mg
Methyl Parathion	298-00-0	100 µg/mL	methanol	SP-130-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-700A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-700K1000	1 x 1 mL
		neat	-	PST-700	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
4-Methyl-2-pentanone (MIBK)	108-10-1	100 µg/mL	methanol	NV-220-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1043-1	1 x 1 mL
		neat	-	RCC-214	1 gm
Metolachlor	51218-45-2	1000 µg/mL	hexane	EPA-1186-1	1 x 1 mL
		1000 µg/mL	methanol	PST-1530K1000	1 x 1 mL
		neat	-	PST-1530	100 mg
Metolachlor ESA	171118-09-5	100 µg/mL	methanol	PST-1531M100A01	1 x 1 mL
Metolachlor OA	152019-73-3	100 µg/mL	methanol	PST-1532M100A01	1 x 1 mL
Metribuzin	21087-64-9	100 µg/mL	methanol	PST-1535M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1535A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1535A1000	1 x 1 mL
		neat	-	PST-1535	100 mg
Mevinphos	7786-34-7	100 µg/mL	methanol	PST-710M100A01	1 x 1 mL
		neat	-	PST-710	100 mg
Mexacarbate	315-18-4	100 µg/mL	methanol	PST-1010M100A01	1 x 1 mL
		neat	-	PST-1010	10 mg
MGK-264, mixed isomers	113-48-4	100 µg/mL	methanol	PST-1790M100A01	1 x 1 mL
		neat	-	PST-1790	100 mg
Mirex	2385-85-5	100 µg/mL	methanol	PST-720M100A01	1 x 1 mL
		neat	-	PST-720	100 mg
Molinate	2212-67-1	100 µg/mL	methanol	PST-1540M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1540K1000	1 x 1 mL
		neat	-	PST-1540	100 mg
Monocrotophos	6923-22-4	100 µg/mL	methanol	PST-040M100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-040A1000	1 x 1 mL
		neat	-	PST-040	100 mg
Monuron	150-68-5	1000 µg/mL	acetonitrile	PST-730A1000	1 x 1 mL
		neat	-	PST-1545	100 mg
Naled	300-76-5	10 µg/mL	hexane	SPM-622D-1	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-730A1000	1 x 1 mL
		neat	-	PST-730	100 mg
Naphthalene	91-20-3	100 µg/mL	methanol	P-740-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1134-1	1 x 1 mL
		neat	-	RAH-080	100 mg
Naphthalene-d8	1146-65-2	200 µg/mL	methylene chloride	IST-202-1	1 x 1 mL
		1000 µg/mL	methanol	IST-201-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-200-1	1 x 1 mL
		neat	-	HAH-908-100MG	100 mg
1,4-Naphthoquinone	130-15-4	100 µg/mL	acetone	NAI-150A-1	1 x 1 mL
		neat	-	RCC-215	100 mg

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Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
1-Naphthylamine	134-32-7	100 µg/mL	methanol	NH-200-1	1 x 1 mL
		neat	-	RCC-012	100 mg
2-Naphthylamine	91-59-8	1000 µg/mL	methanol	EPA-1135-1	1 x 1 mL
		neat	-	RCC-013	10 mg
Napropamide	15299-99-7	100 µg/mL	methanol	PST-1555M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1555A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1555K1000	1 x 1 mL
		neat	-	PST-1555	100 mg
Neburon	555-37-3	100 µg/mL	methanol	PST-1560M100A01	1 x 1 mL
		neat	-	PST-1560	100 mg
Nicotine	54-11-5	1000 µg/mL	methanol	PST-4230M1000	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-4230A1000	1 x 1 mL
2-Nitroaniline	88-74-4	5000 µg/mL	methanol	EPA-1136-1	1 x 1 mL
		neat	-	RCC-186	100 mg
3-Nitroaniline	99-09-2	5000 µg/mL	methanol	EPA-1137-1	1 x 1 mL
		neat	-	RCC-187	100 mg
4-Nitroaniline	100-01-6	5000 µg/mL	methanol	EPA-1138-1	1 x 1 mL
		neat	-	RCC-188	100 mg
Nitrobenzene	98-95-3	100 µg/mL	methanol	NAI-130-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1139-1	1 x 1 mL
		neat	-	RNH-004	100 mg
Nitrobenzene-d5	4165-60-0	200 µg/mL	methylene chloride	IST-212-1	1 x 1 mL
		1000 µg/mL	methanol	IST-211-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-210-1	1 x 1 mL
		2000 µg/mL	methylene chloride	IST-210A-1	1 x 1 mL
2-Nitrophenol	88-75-5	100 µg/mL	methanol	PH-160-1	1 x 1 mL
		1000 µg/mL	methanol	RCC-170M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1140-1	1 x 1 mL
		neat	-	RCC-170	100 mg
4-Nitrophenol	100-02-7	100 µg/mL	methanol	PH-170-1	1 x 1 mL
		1000 µg/mL	methanol	RCC-171M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1141-1	1 x 1 mL
		neat	-	RCC-171	100 mg
2-Nitropropane	79-46-9	1000 µg/mL	methanol	EPA-1226-1	1 x 1 mL
		neat	-	RCC-189	100 mg
4-Nitroquinoline-1-oxide	56-57-5	neat	-	RCC-190	100 mg
N-Nitrosodi-n-butylamine	924-16-3	100 µg/mL	methanol	NS-130-1	1 x 1 mL
		neat	-	RCC-070	20 mg
N-Nitrosodiethylamine	55-18-5	100 µg/mL	methanol	NS-140-1	1 x 1 mL
		neat	-	RCC-016	100 mg
N-Nitrosodimethylamine	62-75-9	100 µg/mL	methanol	NS-100-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1143-1	1 x 1 mL
		neat	-	RCC-015	100 mg
N-Nitrosodiphenylamine	86-30-6	100 µg/mL	methanol	NS-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1144-1	1 x 1 mL
		neat	-	RCC-017	100 mg
N-Nitrosodi-n-propylamine	621-64-7	100 µg/mL	methanol	NS-120-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1145-1	1 x 1 mL
		neat	-	RCC-072	20 mg
N-Nitrosodi-n-propylamine-d14	93951-96-3	100 µg/mL	methylene chloride	IST-771-1	1 x 1 mL
N-Nitrosomethylethylamine	10595-95-6	100 µg/mL	methanol	NS-150-1	1 x 1 mL

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
N-Nitrosomorpholine	59-89-2	100 µg/mL	methanol	NS-160-1	1 x 1 mL
		neat	-	RCC-077	20 mg
N-Nitrosopiperidine	100-75-4	100 µg/mL	methanol	NS-170-1	1 x 1 mL
		neat	-	RCC-078	20 mg
N-Nitrosopyrrolidine	930-55-2	100 µg/mL	methanol	NS-180-1	1 x 1 mL
		neat	-	RCC-080	100 mg
2-Nitrotoluene	88-72-2	1000 µg/mL	acetonitrile	EPA-1227-1	1 x 1 mL
		neat	-	RNH-005	100 mg
3-Nitrotoluene	99-08-1	1000 µg/mL	acetonitrile	EPA-1228-1	1 x 1 mL
		neat	-	RNH-006	100 mg
4-Nitrotoluene	99-99-0	1000 µg/mL	acetonitrile	EPA-1229-1	1 x 1 mL
		neat	-	RNH-007	100 mg
5-Nitro-o-anisidine	99-59-2	1000 µg/mL	methanol		1 x 1 mL
5-Nitro-o-toluidine	99-55-8	5000 µg/mL	methanol	EPA-1149-1	1 x 1 mL
		neat	-	RCC-192	100 mg
cis-Nonachlor	5103-73-1	100 µg/mL	methanol	PP-490-1	1 x 1 mL
		neat	-	PST-1200	10 mg
trans-Nonachlor	39765-80-5	100 µg/mL	methanol	PP-500-1	1 x 1 mL
		100 µg/mL	cyclohexane	PST-1201C100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1201K1000	1 x 1 mL
		neat	-	PST-1201	10 mg
n-Nonatriacontane	7194-86-7	2000 µg/mL	carbon disulfide	IST-680-1	1 x 1 mL
Norflurazon	27314-13-2	100 µg/mL	methanol	PST-1795M100A01	1 x 1 mL
		neat	-	PST-1795	10 mg
Octachloronaphthalene	2234-13-1	100 µg/mL	hexane	RPCW-111-1	1 x 1 mL
		neat	-	RCN-012	20 mg
Oryzalin	19044-88-3	1000 µg/mL	acetonitrile	EPA-1170-1	1 x 1 mL
		neat	-	PST-1570	100 mg
Oxadiazon	19666-30-9	100 µg/mL	methanol	PST-1575M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1575K1000	1 x 1 mL
		neat	-	PST-1575	100 mg
Oxamyl	23135-22-0	100 µg/mL	acetonitrile	PST-1580A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-1580M100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1580A1000	1 x 1 mL
		neat	-	PST-1580	100 mg
Oxyfluorfen	42874-03-3	100 µg/mL	methanol	PST-1590M100A01	1 x 1 mL
		100 µg/mL	acetone	PST-1590K1000	1 x 1 mL
		neat	-	PST-1590	100 mg

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Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Paraquat (from dichloride)	1910-42-5	100 µg/mL	water	PST-740AS	1 x 1 mL
		neat	-	PST-740	100 mg
Parathion	56-38-2	100 µg/mL	methanol	SP-140-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-761A100A01	1 x 1 mL
		100 µg/mL	acetone	PST-761K100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-761M1000	1 x 1 mL
		1000 µg/mL	acetone	PST-761K1000	1 x 1 mL
		neat	-	PST-761	100 mg
Pebulate	1114-71-2	1000 µg/mL	acetonitrile	PST-1595A1000	1 x 1 mL
		neat	-	PST-1595	100 mg
Pendimethalin	40487-42-1	100 µg/mL	methanol	PST-1600M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1600A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1600K1000	1 x 1 mL
		neat	-	PST-1600	100 mg
Pentachlorobenzene	608-93-5	100 µg/mL	methylene chloride	CH-210-1	1 x 1 mL
		neat	-	RCP-030	100 mg
Pentachloroethane	76-01-7	100 µg/mL	methanol	CH-230-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1150-1	1 x 1 mL
		neat	-	RHH-018	1 gm
Pentachloronitrobenzene	82-68-8	100 µg/mL	ethyl acetate	PST-770Y100A01	1 x 1 mL
		100 µg/mL	methylene chloride	NAI-160-1	1 x 1 mL
		100 µg/mL	acetone	PST-770K100A01	1 x 1 mL
		100 µg/mL	MTBE	PPS-130-1	1 x 1 mL
		1000 µg/mL	ethyl acetate	PPS-132-1	1 x 1 mL
		1000 µg/mL	MTBE	PST-770B1000	1 x 1 mL
		1000 µg/mL	acetone	PST-770K1000	1 x 1 mL
		5000 µg/mL	acetone	PPS-133-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1151-1	1 x 1 mL
		neat	-	PST-770	100 mg
Pentachlorophenol	87-86-5	25 µg/mL	methylene chloride	GCS-124-1	1 x 1 mL
		250 µg/mL	methylene chloride	GCS-122-1	1 x 1 mL
		1000 µg/mL	methanol	PH-180-1	1 x 1 mL
		1000 µg/mL	methylene chloride	GCS-120-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1152-1	1 x 1 mL
		neat	-	RCP-019	20 mg
Pentafluorobenzene	363-72-4	200 µg/mL	methanol	STS-171-1	1 x 1 mL
		2000 µg/mL	methanol	STS-170-1	1 x 1 mL
2,3,4,5,6-Pentafluorobiphenyl	784-14-5	1000 µg/mL	methylene chloride	IST-220-1	1 x 1 mL
Pentafluorophenol	771-61-9	200 µg/mL	methylene chloride	IST-262-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-260-1	1 x 1 mL
		1000 µg/mL	methanol	IST-263-1	1 x 1 mL
		2000 µg/mL	methanol	IST-261-1	1 x 1 mL
Permethrin	52645-53-1	100 µg/mL	methanol	PST-1605M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1605A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1605K1000	1 x 1 mL
		neat	-	PST-1605	25 mg
Perylene-d12	1520-96-3	2000 µg/mL	methylene chloride	ATS-150-1	1 x 1 mL
Phenacetin	62-44-2	5000 µg/mL	methanol	EPA-1153-1	1 x 1 mL
		neat	-	RCC-216	100 mg
Phenanthrene	85-01-8	100 µg/mL	methylene chloride	P-750-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1154-1	1 x 1 mL
		neat	-	RAH-051	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Phenanthrene-d10	1517-22-2	200 µg/mL	methylene chloride	IST-231-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-230-1	1 x 1 mL
Phenol	108-95-2	100 µg/mL	methanol	PH-190-1	1 x 1 mL
		1000 µg/mL	methanol	RCC-172M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1155-1	1 x 1 mL
		neat	-	RCC-172	100 mg
Phenol-d5	4165-62-2	200 µg/mL	methylene chloride	IST-272-1	1 x 1 mL
		1000 µg/mL	methylene chloride	IST-270-1	1 x 1 mL
		2000 µg/mL	methanol	IST-271-1	1 x 1 mL
p-Phenylenediamine	106-50-3	neat	-	RCC-194	100 mg
Phorate	298-02-2	100 µg/mL	methanol	SP-150-1	1 x 1 mL
		100 µg/mL	acetone	PST-800K100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-800K1000	1 x 1 mL
		neat	-	PST-800-100MG	100 mg
Phosmet	732-11-6	100 µg/mL	acetone	PST-600K100A01	1 x 1 mL
		neat	-	PST-600	100 mg
Phosphamidon	13171-21-6	100 µg/mL	acetonitrile	PST-810A100A01	1 x 1 mL
		100 µg/mL	acetone	PST-810K100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-810K1000	1 x 1 mL
		neat	-	PST-810	100 mg
Picloram	1918-02-1	100 µg/mL	methanol	PST-1620M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1620A100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1175-1	1 x 1 mL
		neat	-	PST-1620	25 mg
3-Picolyl Chloride HCl	6959-48-4	1000 µg/mL	methanol	CH-255-1	1 x 1 mL
2-Picoline	109-06-8	5000 µg/mL	methanol	EPA-1156-1	1 x 1 mL
		neat	-	RCC-195	100 mg
Profluralin	26399-36-0	100 µg/mL	acetonitrile	PST-1640A1000	1 x 1 mL
		neat	-	PST-1640	100 mg
Promecarb	2631-37-0	100 µg/mL	methanol	PST-1645M100A01	1 x 1 mL
		neat	-	PST-1645	100 mg
Prometon	1610-18-0	100 µg/mL	methanol	PST-830M100A01	1 x 1 mL
		1200 µg/mL	ethyl acetate	PST-830Y1200	1 x 1 mL
		1200 µg/mL	acetone	PST-830K1000	1 x 1 mL
		neat	-	PST-830	100 mg
Prometryn	7287-19-6	100 µg/mL	acetone	PST-840K100A01	1 x 1 mL
		100 µg/mL	methanol	PST-840M100A01	1 x 1 mL
		900 µg/mL	ethyl acetate	PST-840Y900	1 x 1 mL
		1000 µg/mL	acetone	PST-840K1000	1 x 1 mL
		neat	-	PST-840	100 mg

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Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Pronamide	23950-58-5	100 µg/mL	methanol	PP-460-1	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1650A1000	1 x 1 mL
		neat	-	PST-1650	100 mg
Propachlor	1918-16-7	100 µg/mL	methanol	PST-865M100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-865M1000	1 x 1 mL
		neat	-	PST-865	100 mg
Propargyl Alcohol	107-19-7	1000 µg/mL	methanol	EPA-1230-1	1 x 1 mL
		neat	-	RCC-196	100 mg
Propazine	139-40-2	100 µg/mL	methanol	PST-850M100A01	1 x 1 mL
		500 µg/mL	methanol	PST-850M500	1 x 1 mL
		2000 µg/mL	ethyl acetate	PST-850Y2000	1 x 1 mL
		neat	-	PST-850	100 mg
Propham	122-42-9	100 µg/mL	methanol	PST-1665M100A01	1 x 1 mL
		neat	-	PST-1665	100 mg
β-Propiolactone	57-57-8	neat	-	RCC-018	100 mg
Propionitrile	107-12-0	100 µg/mL	methanol	NV-230-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1044-1	1 x 1 mL
		neat	-	RCC-217	100 mg
Propoxur	114-26-1	100 µg/mL	acetonitrile	PST-060A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-060M100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-060M1000	1 x 1 mL
		1000 µg/mL	acetone	PST-060K1000	1 x 1 mL
		neat	-	PST-060	100 mg
n-Propylamine	107-10-8	1000 µg/mL	methanol	EPA-1232-1	1 x 1 mL
		neat	-	RCC-197	100 mg
n-Propylbenzene	103-65-1	100 µg/mL	methanol	AM-260-1	1 x 1 mL
		1000 µg/mL	methanol	RAB-014M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1045-1	1 x 1 mL
		neat	-	RAB-014	100 mg
Propylene Thiourea	2122-19-2	100 µg/mL	1000 mg/L DTT in ethyl acetate	PPS-642-1	1 x 1 mL
		neat	-	PST-6560-100MG	100 mg
6-Propyl-2-thiouracil	51-52-5	1000 µg/mL	methanol	DRG-1140M1000	1 x 1 mL
Pyrene	129-00-0	100 µg/mL	methylene chloride	P-760-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1157-1	1 x 1 mL
		neat	-	RAH-008	100 mg
Pyrene-d10	1718-52-1	500 µg/mL	acetone	IST-370-1	1 x 1 mL
Pyridine	110-86-1	100 µg/mL	methanol	NH-290-1	1 x 1 mL
		neat	-	RCC-198	1 gm
Pyridine-d5	7291-22-7	1000 µg/mL	methanol	IST-241-1	1 x 1 mL
RDX	121-82-4	1000 µg/mL	acetonitrile	EPA-1233-1	1 x 1 mL
Ronnel	299-84-3	100 µg/mL	methanol	PST-880M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-880A1000	1 x 1 mL
		neat	-	PST-880	100 mg
Rotenone	83-79-4	1000 µg/mL	methanol	EPA-1168-1	1 x 1 mL
		neat	-	PST-890	100 mg
Safrole	94-59-7	100 µg/mL	methanol	SV-190-1	1 x 1 mL
		neat	-	RCC-063	100 mg
Secbumeton	26259-45-0	100 µg/mL	methanol	PST-1800M100A01	1 x 1 mL
		neat	-	PST-1800	10 mg
Siduron	1982-49-6	1000 µg/mL	acetonitrile	PST-1680A1000	1 x 1 mL
		neat	-	PST-1680	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Silvex (2,4,5-TP)	93-72-1	100 µg/mL	methanol	HB-110-1	1 x 1 mL
		200 µg/mL	methanol	PST-911M200	1 x 1 mL
		200 µg/mL	MTBE	PST-911B200	1 x 1 mL
		1000 µg/mL	acetone	PST-911K1000	1 x 1 mL
		5000 µg/mL	acetonitrile	EPA-1159-1	1 x 1 mL
		neat	-	PST-911	100 mg
Silvex Methyl Ester	4841-20-7	100 µg/mL	methanol	HB-111-1	1 x 1 mL
		200 µg/mL	hexane	PST-4140H200	1 x 1 mL
		neat	-	PST-4140-100MG	100 mg
Simazine	122-34-9	100 µg/mL	acetone	PP-530A-1	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1130A100A01	1 x 1 mL
		100 µg/mL	methanol	PST-1130M100A01	1 x 1 mL
		500 µg/mL	ethyl acetate	PST-1130Y500	1 x 1 mL
		1000 µg/mL	acetone	PST-1130K1000	1 x 1 mL
		neat	-	PST-1130	100 mg
Simetryn	1014-70-6	100 µg/mL	acetone	PST-1805K100A01	1 x 1 mL
		840 µg/mL	ethyl acetate	PST-1805Y840	1 x 1 mL
		1000 µg/mL	acetone	PST-1805K1000	1 x 1 mL
		neat	-	PST-1805	10 mg
Squalane	111-01-3	2000 µg/mL	methylene chloride	IST-670-1	1 x 1 mL
Strychnine	57-24-9	1000 µg/mL	acetonitrile	PST-4250A1000	1 x 1 mL
		neat	-	PST-4250-100MG	100 mg
Styrene	100-42-5	100 µg/mL	methanol	AM-270-1	1 x 1 mL
		1000 µg/mL	methanol	RAB-043M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1046-1	1 x 1 mL
		neat	-	RAB-043	100 mg
Sulprophos (Bolstar)	35400-43-2	100 µg/mL	methanol	PST-1685M100A01	1 x 1 mL
		neat	-	PST-1685	100 mg
Swep	1918-18-9	100 µg/mL	methanol	PST-1815M100A01	1 x 1 mL
		neat	-	PST-1815	10 mg
2,4,5-T	93-76-5	100 µg/mL	methanol	HB-120-1	1 x 1 mL
		200 µg/mL	methanol	PST-930M200	1 x 1 mL
		200 µg/mL	MTBE	PST-930B200	1 x 1 mL
		neat	-	PST-930	100 mg
2,4,5-T Methyl Ester	1928-37-6	100 µg/mL	methanol	HB-121-1	1 x 1 mL
		200 µg/mL	hexane	PST-931H200	1 x 1 mL
		neat	-	PST-931	100 mg
Tebuthiuron	34014-18-1	1000 µg/mL	methanol	PST-1820A1000	1 x 1 mL
		neat	-	PST-1820	100 mg

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Terbacil	5902-51-2	100 µg/mL	methanol	PST-1695M100A01	1 x 1 mL
		neat	-	PST-1695	100 mg
Terbufos	13071-79-9	100 µg/mL	acetone	PST-1700K100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1700K1000	1 x 1 mL
		1000 µg/mL	methanol	PST-1700M1000	1 x 1 mL
		neat	-	PST-1700	100 mg
Terbuthylazine	5915-41-3	100 µg/mL	methanol	PST-1705M100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1190-1	1 x 1 mL
		1000 µg/mL	acetone	PST-1705K1000	1 x 1 mL
		2000 µg/mL	ethyl acetate	PST-1705Y2000	1 x 1 mL
		neat	-	PST-1705	25 mg
Terbuthylazine-desethyl	30125-63-4	850 µg/mL	ethyl acetate	PST-6850Y850	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-6850A1000	1 x 1 mL
Terbutryn	886-50-0	100 µg/mL	methanol	PST-1710M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1710K1000	1 x 1 mL
		neat	-	PST-1710	100 mg
o-Terphenyl	84-15-1	2000 µg/mL	methylene chloride	IST-480-1	1 x 1 mL
		neat	-	RAH-056	100 mg
p-Terphenyl	92-94-4	2000 µg/mL	methylene chloride	IST-490-1	1 x 1 mL
		neat	-	RAH-058	100 mg
p-Terphenyl-d14	1718-51-0	500 µg/mL	methylene chloride	ATS-161-1	1 x 1 mL
		1000 µg/mL	methylene chloride	ATS-162-1	1 x 1 mL
		2000 µg/mL	methylene chloride	ATS-160-1	1 x 1 mL
1,2,3,4-Tetrachlorobenzene	634-66-2	1000 µg/mL	hexane	EPA-1234-1	1 x 1 mL
		neat	-	RCP-027	100 mg
1,2,3,5-Tetrachlorobenzene	634-90-2	1000 µg/mL	hexane	EPA-1235-1	1 x 1 mL
		neat	-	RCP-028	100 mg
1,2,4,5-Tetrachlorobenzene	95-94-3	100 µg/mL	methylene chloride	CH-220-1	1 x 1 mL
		1000 µg/mL	acetonitrile	EPA-1160-1	1 x 1 mL
		1000 µg/mL	methylene chloride	EPA-1160A-1	1 x 1 mL
		neat	-	RCP-029	100 mg
1,1,1,2-Tetrachloroethane	630-20-6	100 µg/mL	methanol	HC-410-1	1 x 1 mL
		1000 µg/mL	methanol	RHH-016M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1047-1	1 x 1 mL
		neat	-	RHH-016	1 gm
1,1,2,2-Tetrachloroethane	79-34-5	100 µg/mL	methanol	HC-230-1	1 x 1 mL
		1000 µg/mL	methanol	PST-4320M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1048-1	1 x 1 mL
		neat	-	RHH-017	1 gm
Tetrachloroethene	127-18-4	100 µg/mL	methanol	HC-240-1	1 x 1 mL
		1000 µg/mL	methanol	RHH-023M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1049-1	1 x 1 mL
		neat	-	RHH-023	1 gm
2,3,4,6-Tetrachlorophenol	58-90-2	100 µg/mL	methanol	PH-250-1	1 x 1 mL
		1000 µg/mL	methylene chloride	EPA-1246-1	1 x 1 mL
		neat	-	RCP-017	20 mg
2,4,5,6-Tetrachloro-m-xylene	877-09-8	2000 µg/mL	acetone	IST-440-1	1 x 1 mL
		neat	-	RCB-031	100 mg
Tetrachlorvinphos (Stirofos)	22248-79-9	1000 µg/mL	methanol	PST-1715M1000	1 x 1 mL
		neat	-	PST-1715	100 mg
Tetraethyl Dithiopyrophosphate (Sulfotepp)	3689-24-5	100 µg/mL	methanol	SP-160-1	1 x 1 mL
		1000 µg/mL	acetone	PST-1810K1000	1 x 1 mL
		neat	-	PST-1810	10 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
1,1,1,2-Tetrafluoroethane	811-97-2	100 µg/mL	methanol	CFC-300-1	1 x 1 mL
1,1,2,2-Tetrafluoroethane	359-35-3	100 µg/mL	methanol	CFC-310-1	1 x 1 mL
Tetrahydrofuran	109-99-9	1000 µg/mL	methanol	EPA-1236-1	1 x 1 mL
		neat	-	RCC-199	1 gm
3,4,5,6-Tetrahydro-2-Pyrimidinethiol					
	2055-46-1	1000 µg/mL	1000 mg/L DTT in ethyl acetate	IST-800-1	1 x 1 mL
Tetryl	479-45-8	1000 µg/mL	acetonitrile	EPA-1237-1	1 x 1 mL
Thiabendazole	148-79-8	100 µg/mL	acetonitrile	PST-1720A100A01	1 x 1 mL
		1000 µg/mL	methanol	PST-1720M1000	1 x 1 mL
		neat	-	PST-1720	100 mg
Thionazin	297-97-2	100 µg/mL	methanol	SP-170-1	1 x 1 mL
		neat	-	PST-1030	100 mg
Thiophenol	108-98-5	1000 µg/mL	methylene chloride	PH-280-1	1 x 1 mL
Tokuthion	34643-46-4	100 µg/mL	hexane	PST-1825H100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1825K1000	1 x 1 mL
		neat	-	PST-1825	10 mg
Toluene	108-88-3	100 µg/mL	methanol	AM-160-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1050-1	1 x 1 mL
		neat	-	RAB-001	100 mg
Toluene-d8	2037-26-5	2000 µg/mL	methanol	STS-310-1	1 x 1 mL
		2000 µg/mL	methylene chloride	ATS-170-1	1 x 1 mL
Toluene Diisocyanate	584-84-9	1000 µg/mL	toluene	NAI-200-1	1 x 1 mL
o-Toluidine	95-53-4	100 µg/mL	methanol	NH-250-1	1 x 1 mL
		neat	-	RCC-193	100 mg
Toxaphene	8001-35-2	100 µg/mL	methanol	PP-270-1	1 x 1 mL
		100 µg/mL	hexane	PP-271-1	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-970A1000	1 x 1 mL
		1000 µg/mL	hexane	PST-970H1000	1 x 1 mL
		1000 µg/mL	methanol	EPA-1161-1	1 x 1 mL
		2500 µg/mL	acetone	PPS-240-1	1 x 1 mL
		4000 µg/mL	methanol	PST-970M4000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1249-1	1 x 1 mL
		neat	-	PST-970	100 mg
Triadimefon	43121-43-3	100 µg/mL	methanol	PST-1830M100A01	1 x 1 mL
		neat	-	PST-1830	100 mg

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
1,3,5-Tribromobenzene	626-39-1	50 µg/mL	acetone	IST-420-1	1 x 1 mL
		neat	-	RBF-003	100 mg
2,4,6-Tribromophenol	118-79-6	200 µg/mL	methanol	ATS-182-1	1 x 1 mL
		2000 µg/mL	methylene chloride	ATS-180-1	1 x 1 mL
		2000 µg/mL	methanol	ATS-181-1	1 x 1 mL
		neat	-	RBF-009	100 mg
Trichlorfon	52-68-6	100 µg/mL	acetonitrile	PST-490A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-490A1000	1 x 1 mL
		neat	-	PST-490	100 mg
Trichloroacetic Acid	76-03-9	1000 µg/mL	MTBE	EPA-1238-1	1 x 1 mL
		neat	-	PST-4290-100MG	100 mg
Trichloroacetonitrile	545-06-2	1000 µg/mL	acetone	EPA-1239A-1	1 x 1 mL
1,2,3-Trichlorobenzene	87-61-6	100 µg/mL	methanol	HC-420-1	1 x 1 mL
		1000 µg/mL	methanol	RCP-024M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1051-1	1 x 1 mL
		neat	-	RCP-024	100 mg
1,2,4-Trichlorobenzene	120-82-1	100 µg/mL	methanol	CH-190-1	1 x 1 mL
		1000 µg/mL	acetone	RCP-025K1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1052-1	1 x 1 mL
		neat	-	RCP-025	100 mg
1,3,5-Trichlorobenzene	108-70-3	1000 µg/mL	hexane	EPA-1240-1	1 x 1 mL
		neat	-	RCP-026	100 mg
1,1,1-Trichloroethane	71-55-6	100 µg/mL	methanol	HC-250-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1053-1	1 x 1 mL
		neat	-	RHH-014	1 gm
1,1,2-Trichloroethane	79-00-5	100 µg/mL	methanol	HC-260-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1054-1	1 x 1 mL
		neat	-	RHH-015	1 gm
Trichloroethene	79-01-6	100 µg/mL	methanol	HC-270-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1055-1	1 x 1 mL
		neat	-	RHH-022	1 gm
Trichlorofluoromethane	75-69-4	100 µg/mL	methanol	HC-280-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1056-1	1 x 1 mL
Trichloronate	327-98-0	100 µg/mL	methanol	PST-1835M100A01	1 x 1 mL
		neat	-	PST-1835	10 mg
2,4,5-Trichlorophenol	95-95-4	100 µg/mL	methanol	PH-260-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1162-1	1 x 1 mL
		neat	-	RCP-013	20 mg
2,4,6-Trichlorophenol	88-06-2	100 µg/mL	methanol	PH-200-1	1 x 1 mL
		1000 µg/mL	methanol	PST-6590M1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1163-1	1 x 1 mL
		neat	-	RCP-014	20 mg
1,2,3-Trichloropropane	96-18-4	100 µg/mL	methanol	HC-440-1	1 x 1 mL
		1000 µg/mL	methanol	PPS-250-1	1 x 1 mL
		1000 µg/mL	MTBE	PPS-251-1	1 x 1 mL
		2000 µg/mL	MTBE	RHH-039B2000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1057-1	1 x 1 mL
		neat	-	RHH-039	1 gm
1,1,2-Trichlorotrifluoroethane	76-13-1	100 µg/mL	methanol	HC-480-1	1 x 1 mL
Tricyclazole	41814-78-2	100 µg/mL	acetonitrile	PST-1840A100A01	1 x 1 mL
		1000 µg/mL	acetonitrile	PST-1840A1000	1 x 1 mL
		neat	-	PST-1840	10 mg
0,0,0-Triethyl Phosphorothioate	126-68-1	100 µg/mL	methanol	SP-180-1	1 x 1 mL
		neat	-	PST-1865	100 mg

INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
2',4',5'-Trifluoroacetophenone	129322-83-4	20 µg/mL	acetonitrile	PPS-411-1	1 x 1 mL
		10000 µg/mL	acetonitrile	PPS-410-1	1 x 1 mL
		20000 µg/mL	acetonitrile	PPS-412-1	1 x 1 mL
Trifluoromethane	75-46-7	100 µg/mL	methanol	CFC-140-1	1 x 1 mL
α,α,α-Trifluorotoluene	98-08-8	200 µg/mL	methanol	STS-221-1	1 x 1 mL
		2000 µg/mL	methanol	STS-220N-1	1 x 1 mL
		20000 µg/mL	methanol	STS-222-1	1 x 1 mL
Trifluralin	1582-09-8	100 µg/mL	methanol	PST-1740M100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-1740A100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1740K1000	1 x 1 mL
		neat	-	PST-1740	100 mg
2,4,5-Trimethylaniline	137-17-7	1000 µg/mL	methylene chloride	NAI-175-1	1 x 1 mL
		neat	-	RCA-016-10MG	10 mg
1,2,4-Trimethylbenzene	95-63-6	100 µg/mL	methanol	AM-280-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1058-1	1 x 1 mL
		neat	-	RAB-005	100 mg
1,3,5-Trimethylbenzene	108-67-8	100 µg/mL	methanol	AM-290-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1059-1	1 x 1 mL
		neat	-	RAB-007	100 mg
1,2,4-Trimethyl-5-nitrobenzene	610-91-3	1000 µg/mL	methanol	IST-706-1	1 x 1 mL
		2000 µg/mL	methanol	IST-706A-1	1 x 1 mL
1,3,5-Trimethyl-2-nitrobenzene	603-71-4	1000 µg/mL	methanol	IST-705-1	1 x 1 mL
		2000 µg/mL	methanol	IST-705A-1	1 x 1 mL
Trimethyl Phosphate	512-56-1	1000 µg/mL	methanol	NV-260-1	1 x 1 mL
1,3,5-Trinitrobenzene	99-35-4	100 µg/mL	methanol	NAI-170-1	1 x 1 mL
		1000 µg/mL	methanol	NAI-171-1	1 x 1 mL
		2000 µg/mL	methanol	NAI-172-1	1 x 1 mL
2,4,6-Trinitrotoluene	118-96-7	1000 µg/mL	acetonitrile	EPA-1243-1	1 x 1 mL
Triphenyl Phosphate (TPP)	115-86-6	500 µg/mL	MTBE	PPS-110-1	1 x 1 mL
		500 µg/mL	acetonitrile	PPS-501-1	1 x 1 mL
Tris(2,3-dibromopropyl)phosphate	126-72-7	1000 µg/mL	methylene chloride	NV-265-1	1 x 1 mL
Urethane (Ethyl Carbamate)	51-79-6	1000 µg/mL	methanol	NH-320-1	1 x 1 mL
Vernolate	1929-77-7	1000 µg/mL	acetonitrile	PST-1745A1000	1 x 1 mL
		neat	-	PST-1745	100 mg
Vinyl Acetate	108-05-4	100 µg/mL	acetonitrile	NV-240B-1	1 x 1 mL
		5000 µg/mL	acetonitrile	EPA-1060-1	1 x 1 mL
		neat	-	RCC-218	100 mg

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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

Compound	CAS #	Concentration	Solvent	Catalog Number	Unit Size
Vinyl Chloride	75-01-4	100 µg/mL	methanol	HC-290-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1250-1	1 x 1 mL
o-Xylene	95-47-6	100 µg/mL	methanol	AM-300-1	1 x 1 mL
		1000 µg/mL	acetone	RAB-002K1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1061-1	1 x 1 mL
		neat	-	RAB-002	100 mg
m-Xylene	108-38-3	100 µg/mL	methanol	AM-310-1	1 x 1 mL
		1000 µg/mL	methanol	EPA-1062-1	1 x 1 mL
		neat	-	RAB-003	100 mg
p-Xylene	106-42-3	100 µg/mL	methanol	AM-320-1	1 x 1 mL
		1000 µg/mL	acetone	RAB-004K1000	1 x 1 mL
		5000 µg/mL	methanol	EPA-1063-1	1 x 1 mL
		neat	-	RAB-004	100 mg
Ziram	137-30-4	100 µg/mL	methanol	PST-1750M100A01	1 x 1 mL
		neat	-	PST-1750	100 mg

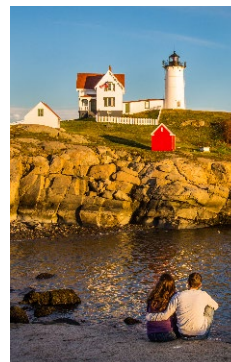
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EPA METHOD 500 SERIES

Analysis of Finished Drinking Water and Raw Source Water

The EPA 500 methods are designed to identify and quantify organic compounds in municipal drinking water. This series consists of methods for the detection of volatile organic compounds (VOCs), pesticides, and synthetic organic compounds (SOCs). These methods are cited under the Safe Drinking Water Act (SWDA).

ULTRA has prepared a series of reference standards for the 500 series methods, as well as the necessary surrogate and internal standards. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 2.0\%$. A Level II – ISO Guide 34 Reference Material Certificate of Analysis is available for each product.

Find additional EPA Method 500 Series Standards online at www.ultrasci.com/EPA500

EPA METHOD	PAGE	EPA METHOD	PAGE
● EPA METHOD 501	114	● EPA METHOD 529	168
● EPA METHOD 502.2	115	● EPA METHOD 531.1, 531.2	170
● EPA METHOD 503.1	121	● EPA METHOD 532	171
● EPA METHOD 504, 504.1	122	● EPA METHOD 535	172
● EPA METHOD 505	123	● EPA METHOD 536	173
● EPA METHOD 506	125	● EPA METHOD 539	174
● EPA METHOD 507	126	● EPA METHOD 547	174
● EPA METHOD 508, 508.1	129	● EPA METHOD 548, 548.1	175
● EPA METHOD 508A	132	● EPA METHOD 549.2	175
● EPA METHOD 509	133	● EPA METHOD 550, 550.1	176
● EPA METHOD 515.1, 515.2, 515.3, 515.4	134	● EPA METHOD 551.1	177
● EPA METHOD 521	142	● EPA METHOD 552, 552.1, 552.2, 552.3	181
● EPA METHOD 523	143	● EPA METHOD 553	187
● EPA METHOD 524.2, 524.3, 524.4	144	● EPA METHOD 554	188
● EPA METHOD 525.1, 525.2	158	● EPA METHOD 555	189
● EPA METHOD 526	165	● EPA METHOD 556, 556.1	190
● EPA METHOD 527	166	● EPA METHOD 557	190
● EPA METHOD 528	167		

EPA METHOD 501

Trihalomethanes

Method 501 is a purge and trap method for measurement of total trihalomethanes using GC/ECD. These standards may be used for Methods 501.1, 501.2, and 501.3.

Recommended Standards

Calibration Standards: THM-501N-1
THM-511-1
THM-521-1

**Recommended Method 501
Trihalomethanes Mixtures***4 Analytes*

bromodichloromethane
bromoform
chloroform
dibromochloromethane

@ 100 µg/mL in methanol

THM-501N-1 1 x 1 mL

@ 200 µg/mL in methanol

THM-511-1 1 x 1 mL

@ 2000 µg/mL in methanol

THM-515-1 1 x 1 mL

@ 5000 µg/mL in methanol

THM-521-1 1 x 1 mL

Performance Check Mixture*8 Analytes*

benzene
carbon tetrachloride
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
1,1,1-trichloroethane
trichloroethene
vinyl chloride

@ 2000 µg/mL in methanol

EPA-100A-1 1 x 1 mL

Promulgated VOC Mixture*12 Analytes*

chlorobenzene
1,2-dichlorobenzene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
ethylbenzene
o-xylene
m-xylene
p-xylene
styrene
tetrachloroethene
toluene

@ 200 µg/mL in methanol

DWM-591A-1 1 x 1 mL

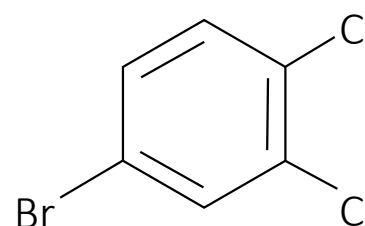
Trihalomethanes Kit**Kit – contains five ampules**

1 x 1 mL of each individual component

@ 100 µg/mL in methanol

bromodichloromethane
bromoform
chloroform
dibromochloromethane
plus
Trihalomethanes Mixture (THM-501N-1)

THK-501 Kit

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EPA METHOD 502.2

VOLATILE ORGANIC COMPOUNDS

EPA Method 502.2 is an enhanced and expanded version of 502.1. It is a purge and trap GC method, but uses a capillary column to effect a more efficient separation. Detection is carried out using a photoionization detector in series with either an electrolytic conductivity or microcoulometric detector, allowing determination of all sixty analytes of interest.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	DWM-580-1 DWM-588-1
Internal Standard:	STM-240N-1

Recommended Method 502.2 VOC Mixtures

60 Analytes

benzene	1,1-dichloroethane	o-xylene
bromobenzene	1,2-dichloroethane	m-xylene
bromochloromethane	1,1-dichloroethene	p-xylene
bromodichloromethane	1,1-dichloropropene	sec-butylbenzene
bromoform	cis-1,2-dichloroethene	styrene
bromomethane	trans-1,2-dichloroethene	tert-butylbenzene
carbon tetrachloride	dichlorodifluoromethane	1,1,1,2-tetrachloroethane
chlorobenzene	1,2-dichloropropane	1,1,2,2-tetrachloroethane
chloroethane	1,3-dichloropropane	tetrachloroethene
chloroform	2,2-dichloropropane	toluene
chloromethane	cis-1,3-dichloropropene	1,1,1-trichloroethane
2-chlorotoluene	trans-1,3-dichloropropene	1,2,3-trichlorobenzene
4-chlorotoluene	ethylbenzene	1,1,2-trichloroethane
dibromochloromethane	hexachlorobutadiene	trichloroethene
1,2-dibromo-3-chloropropane	isopropylbenzene	trichlorofluoromethane
dibromomethane	4-isopropyltoluene	1,2,3-trichloropropane
1,2-dibromoethane	methylene chloride	1,2,4-trichlorobenzene
1,2-dichlorobenzene	naphthalene	1,2,4-trimethylbenzene
1,3-dichlorobenzene	n-butylbenzene	1,3,5-trimethylbenzene
1,4-dichlorobenzene	n-propylbenzene	vinyl chloride

@ 200 µg/mL in methanol

DWM-580-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-588-1 1 x 1 mL

Recommended Method 502.2
Internal Standard Mixture

2 Analytes

2-bromo-1-chloropropane
fluorobenzene

@ 2000 µg/mL in methanol

STM-240N-1 1 x 1 mL

Individual Internal & Surrogate Standards for Method 502

All @ 1000 µg/mL in methanol **1 x 1 mL Ampules**

2-bromo-1-chloropropane STS-191-1

1,4-dichlorobutane STS-201-1

fluorobenzene STS-161-1

1-chloro-2-fluorobenzene STS-451-1

All @ 2000 µg/mL in methanol **1 x 1 mL Ampules**

2-bromo-1-chloropropane STS-190-1

1-chloro-2-fluorobenzene STS-450-1

1,4-dichlorobutane STS-200-1

fluorobenzene STS-160-1

methylene chloride-d₂ IST-510-1

(continued on next page)

EPA METHOD 502.2

(continued)

VOC Mixtures (No Gases)

54 Analytes

benzene	1,3-dichlorobenzene	n-propylbenzene
bromobenzene	1,4-dichlorobenzene	styrene
bromochloromethane	1,2-dichloroethane	1,1,1,2-tetrachloroethane
bromodichloromethane	1,1-dichloroethane	1,1,2,2-tetrachloroethane
bromoform	1,1-dichloroethene	tetrachloroethene
n-butylbenzene	cis-1,2-dichloroethene	toluene
sec-butylbenzene	trans-1,2-dichloroethene	1,2,3-trichlorobenzene
tert-butylbenzene	1,2-dichloropropane	1,2,4-trichlorobenzene
carbon tetrachloride	1,3-dichloropropane	1,1,1-trichloroethane
chlorobenzene	2,2-dichloropropane	1,1,2-trichloroethane
chloroform	1,1-dichloropropene	trichloroethene
2-chlorotoluene	cis-1,3-dichloropropene	1,2,3-trichloropropane
4-chlorotoluene	trans-1,3-dichloropropene	1,2,4-trimethylbenzene
dibromomethane	ethylbenzene	1,3,5-trimethylbenzene
1,2-dibromoethane	hexachlorobutadiene	o-xylene
dibromochloromethane	isopropylbenzene	m-xylene
1,2-dibromo-3-chloropropane	4-isopropyltoluene	p-xylene
1,2-dichlorobenzene	methylene chloride	
	naphthalene	

@ 200 µg/mL in methanol

DWM-583-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-589N-1 1 x 1 mL

VOC Mixture with MTBE

55 Analytes

benzene	1,3-dichlorobenzene	n-propylbenzene
bromobenzene	1,4-dichlorobenzene	styrene
bromochloromethane	1,1-dichloroethane	1,1,1,2-tetrachloroethane
bromodichloromethane	1,2-dichloroethane	1,1,2,2-tetrachloroethane
bromoform	1,1-dichloroethene	1,2,3-trichlorobenzene
n-butylbenzene	cis-1,2-dichloroethene	1,2,4-trichlorobenzene
sec-butylbenzene	trans-1,2-dichloroethene	1,1,1-trichloroethane
tert-butylbenzene	1,2-dichloropropane	1,1,2-trichloroethane
carbon tetrachloride	1,3-dichloropropane	1,2,3-trichloropropane
chlorobenzene	2,2-dichloropropane	1,2,4-trimethylbenzene
chloroform	1,1-dichloropropene	1,3,5-trimethylbenzene
2-chlorotoluene	cis-1,3-dichloropropene	tert-butyl methyl ether
4-chlorotoluene	trans-1,3-dichloropropene	tetrachloroethene
dibromochloromethane	ethylbenzene	toluene
dibromomethane	hexachlorobutadiene	trichloroethene
1,2-dibromoethane	isopropylbenzene	o-xylene
1,2-dibromo-3-chloropropane	4-isopropyltoluene	m-xylene
	methylene chloride	p-xylene
1,2-dichlorobenzene	naphthalene	

@ 2000 µg/mL in methanol

DWM-596-1 1 x 1 mL

VOC Gas Mixtures

6 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL

Internal Standard Mixture

2 Analytes

2-bromo-1-chloropropane
1-chloro-2-fluorobenzene

@ 2000 µg/mL in methanol

STM-460-1 1 x 1 mL

Aromatic Volatiles Mixture

3 Analytes

o-xylene
m-xylene
p-xylene

@ 200 µg/mL in methanol

AMM-500-1 1 x 1 mL

@ 2000 µg/mL in methanol

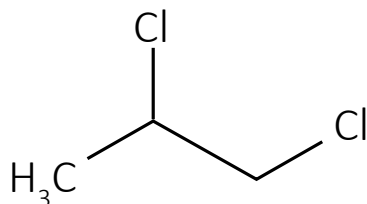
AMM-501-1 1 x 1 mL

Haloalkanes Mixture

35 Analytes

bromochloromethane
 bromodichloromethane
 bromoform
 bromomethane
 carbon tetrachloride
 chloroethane
 chloroform
 chloromethane
 dibromochloromethane
 1,2-dibromoethane
 dibromomethane
 1,2-dibromo-3-chloropropane
 dichlorodifluoromethane
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 cis-1,2-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 1,3-dichloropropane
 2,2-dichloropropane
 1,1-dichloropropene
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 hexachlorobutadiene
 methylene chloride
 1,1,1,2-tetrachloroethane
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene
 trichlorofluoromethane
 1,2,3-trichloropropane
 vinyl chloride

@ 200 µg/mL in methanol

DWM-540-1**1 x 1 mL****VOC Mixture**

6 Analytes

bromodichloromethane
 dibromochloromethane
 1,1-dichloroethene
 cis-1,2-dichloroethene
 trans-1,2-dichloroethene
 methylene chloride

@ 2000 µg/mL in methanol

DWM-610-1**1 x 1 mL****VOC Mixture**

14 Analytes

1,2-dibromo-3-chloropropane
 1,2-dichloroethane
 1,2-dichloropropane
 1,3-dichloropropane
 1,1-dichloropropene
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 1,2-dibromoethane (EDB)
 hexachlorobutadiene
 1,1,1,2-tetrachloroethane
 1,1,2,2-tetrachloroethane
 trichloroethene
 1,1,2-trichloroethane
 1,2,3-trichloropropane

@ 2000 µg/mL in methanol

DWM-620-1**1 x 1 mL****VOC Mixture**

12 Analytes

1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 2-chlorotoluene
 4-chlorotoluene
 chlorobenzene
 isopropylbenzene
 n-propylbenzene
 o-xylene
 p-xylene
 sec-butylbenzene
 tert-butylbenzene

@ 2000 µg/mL in methanol

DWM-630-1**1 x 1 mL****VOC Mixture**

9 Analytes

bromochloromethane
 bromoform
 carbon tetrachloride
 chloroform
 dibromomethane
 1,1-dichloroethane
 2,2-dichloropropane
 tetrachloroethene
 1,1,1-trichloroethane

@ 2000 µg/mL in methanol

DWM-615-1**1 x 1 mL****VOC Mixture**

13 Analytes

1,2,3-trichlorobenzene
 1,2,4-trichlorobenzene
 1,2,4-trimethylbenzene
 1,3,5-trimethylbenzene
 4-isopropyltoluene
 benzene
 bromobenzene
 ethylbenzene
 m-xylene
 naphthalene
 n-butylbenzene
 styrene
 toluene

@ 2000 µg/mL in methanol

DWM-625-1**1 x 1 mL****VOC Mixture**

12 Analytes

1,1,1-trichloroethane
 1,1-dichloroethene
 1,2-dichloroethane
 1,4-dichlorobenzene
 benzene
 bromodichloromethane
 bromoform
 carbon tetrachloride
 chloroform
 dibromochloromethane
 trichloroethene
 vinyl chloride

@ 2000 µg/mL in methanol

DWM-635-1**1 x 1 mL**

EPA METHOD 502.2

(continued)

VOC Mixture

12 Analytes

chlorobenzene
1,2-dichlorobenzene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
ethylbenzene
styrene
tetrachloroethene
toluene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

DWM-591-1**1 x 1 mL**

Promulgated VOC Mixture

26 Analytes

benzene
bromobenzene
bromochloromethane
bromoform
sec-butylbenzene
carbon tetrachloride
chloroethane
4-chlorotoluene
dibromomethane
1,2-dibromoethane (EDB)
1,2-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethene
trans-1,2-dichloroethene
2,2-dichloropropane
dichlorodifluoromethane
ethylbenzene
isopropylbenzene
1,1,1,2-tetrachloroethane
tetrachloroethene
trichloroethene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
toluene
vinyl chloride
o-xylene

@ 200 µg/mL in methanol

DWM-645-1**1 x 1 mL**

VOC Mixture

21 Analytes

bromomethane
chlorobenzene
chloromethane
2-chlorotoluene
dibromochloromethane
1,3-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
cis-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
hexachlorobutadiene
methylene chloride
styrene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichlorofluoromethane
1,2,3-trichloropropane
1,2,4-trimethylbenzene
m-xylene

@ 200 µg/mL in methanol

DWM-650-1**1 x 1 mL**

Calibration Mixture

12 Analytes

bromodichloromethane
n-butylbenzene
tert-butylbenzene
chloroform
1,2-dibromo-3-chloropropane
1,3-dichloropropane
1,1-dichloropropene
naphthalene
n-propylbenzene
1,1,1,2-tetrachloroethane
1,3,5-trimethylbenzene
p-xylene

@ 200 µg/mL in methanol

DWM-655-1**1 x 1 mL**

Calibration Mixture

14 Analytes

bromodichloromethane
bromoform
carbon tetrachloride
chloroform
1,1-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,3-dichloropropane
2,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
dichloromethane
1,1,1-trichloroethane
trichloroethene

@ 2000 µg/mL in methanol

DWM-665-1**1 x 1 mL**

Calibration Mixture

39 Analytes

bromobenzene	2,2-dichloropropane
bromochloromethane	1,1-dichloropropene
bromodichloromethane	cis-1,3-dichloropropene
bromoform	trans-1,3-dichloropropene
bromomethane	hexachlorobutadiene
n-butylbenzene	methylene chloride
sec-butylbenzene	naphthalene
tert-butylbenzene	n-propylbenzene
chloroethane	1,1,1,2-tetrachloroethane
chloroform	1,1,2,2-tetrachloroethane
chloromethane	1,2,3-trichlorobenzene
2-chlorotoluene	1,2,4-trichlorobenzene
4-chlorotoluene	1,1,2-trichloroethane
dibromochloromethane	trichlorofluoromethane
dibromomethane	1,2,3-trichloropropane
1,3-dichlorobenzene	1,2,4-trimethylbenzene
dichlorodifluoromethane	4-isopropyltoluene
1,1-dichloroethane	isopropylbenzene
1,2-dichloropropane	1,3,5-trimethylbenzene
1,3-dichloropropane	

@ 2000 µg/mL in methanol

DWM-660-1 1 x 1 mL**Calibration Mixture**

14 Analytes

bromochloromethane
dibromochloromethane
1,2-dibromo-3-chloropropane
1,2-dibromoethane (EDB)
dibromomethane
1,2-dichloroethane
cis-1,2-dichloroethene
1,2-dichloropropene
1,1-dichloropropene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
tetrachloroethene
1,1,2-trichloroethane
1,2,3-trichloropropane

@ 2000 µg/mL in methanol

DWM-670-1 1 x 1 mL**Calibration Mixture**

9 Analytes

benzene
tert-butylbenzene
chlorobenzene
cumene (isopropylbenzene)
n-propylbenzene
styrene
toluene
1,3,5-trimethylbenzene
m-xylene

@ 2000 µg/mL in methanol

DWM-675-1 1 x 1 mL**Calibration Mixture**

10 Analytes

bromobenzene
n-butylbenzene
sec-butylbenzene
2-chlorotoluene
1,3-dichlorobenzene
ethylbenzene
1,2,4-trichlorobenzene
1,2,4-trimethylbenzene
o-xylene
p-xylene

@ 2000 µg/mL in methanol

DWM-680-1 1 x 1 mL**Calibration Mixture**

7 Analytes

4-chlorotoluene
1,2-dichlorobenzene
1,4-dichlorobenzene
hexachlorobutadiene
4-isopropyltoluene
naphthalene
1,2,3-trichlorobenzene

@ 2000 µg/mL in methanol

DWM-685-1 1 x 1 mL

EPA METHOD 502.2

(continued)

Purgeable Mixture

15 Analytes

bromoform
 carbon tetrachloride
 chlorobenzene
 chloroform
 dibromochloromethane
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 1,1,2-trichloroethane
 trichloroethene

@ 200 µg/mL in methanol

PMX-230-1 1 x 1 mL

@ 2000 µg/mL in methanol

PMX-235-1 1 x 1 mL**Internal and Surrogate Standard Mixture**

15 Analytes

1,4-dichlorobutane
 1,4-difluorobenzene
 1-chloro-2-fluorobenzene
 1-chloro-3-fluorobenzene
 1-chloro-4-fluorobenzene
 2-bromochlorobenzene
 2-bromo-1-chloropropane
 2-chloropropane
 4-bromochlorobenzene
 4-bromofluorobenzene
 alpha,alpha,alpha-trifluorotoluene
 bromochloromethane
 dibromofluoromethane
 fluorobenzene
 pentafluorobenzene

@ 200 µg/mL in methanol

ISM-455-1 1 x 1 mL**Deuterated Internal and Surrogate Standard Mixture**

8 Analytes

benzene-d6
 1,2-dichlorobenzene-d4
 1,2-dichloroethane-d4
 1,4-dichlorobenzene-d4
 chlorobenzene-d5
 ethylbenzene-d10
 methylene chloride-d2
 toluene-d8

@ 200 µg/mL in methanol

ISM-460-1 1 x 1 mL**Internal Standard Mixture**

3 Analytes

2-bromo-1-chloropropane
 fluorobenzene
 methylene chloride-d2

@ 2000 µg/mL in methanol

STM-245-1 1 x 1 mL**Surrogate Standard Mixture**

3 Analytes

1-bromo-2-chloroethane
 1-chloro-3-fluorobenzene
 fluorobenzene

@ 2000 µg/mL in methanol

STM-255-1 1 x 1 mL**Internal & Surrogate Standard Mixture**

4 Analytes

1-chloro-2-fluorobenzene
 2-chloropropane
 alpha,alpha,alpha-trifluorotoluene
 fluorobenzene

@ 2000 µg/mL in methanol

STM-525-1 1 x 1 mL**Fluorobenzene Solution**

fluorobenzene

@ 1000 µg/mL in methanol

STS-161-1 1 x 1 mL**1,4-Dichlorobutane Solution**

1,4-dichlorobutane

@ 1000 µg/mL in methanol

STS-201-1 1 x 1 mL**1-Chloro-2-Fluorobenzene Solution**

1-chloro-2-fluorobenzene

@ 1000 µg/mL in methanol

STS-451-1 1 x 1 mL**Trihalomethanes Mixture**

4 Analytes

bromodichloromethane
 bromoform
 chloroform
 dibromochloromethane

@ 200 µg/mL in methanol

THM-511-1 1 x 1 mL

@ 2000 µg/mL in methanol

THM-515-1 1 x 1 mL**Methylene Chloride-d₂ Solution**methylene chloride-d₂

@ 2000 µg/mL in methanol

IST-510-1 1 x 1 mL

EPA METHOD 503.1

VOLATILE AROMATICS
AND UNSATURATED
ORGANIC COMPOUNDS

Method 503.1 is applicable for the determination of volatile aromatic and unsaturated compounds. It is a purge and trap method, using GC with a high temperature photoionization detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: DWM-503-1

Internal Standard: STS-220N-1

Recommended Method 503.1
Aromatics & Alkenes Mixture

28 Analytes

benzene
bromobenzene
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
chlorobenzene
2-chlorotoluene
4-chlorotoluene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
ethylbenzene
hexachlorobutadiene
isopropylbenzene
4-isopropyltoluene
naphthalene
n-propylbenzene
styrene
tetrachloroethene
toluene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
trichloroethene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene

@ 200 µg/mL in methanol

DWM-503-1 1 x 1 mL

Recommended Method 503.1
Internal and Surrogate Standard

alpha,alpha,alpha-trifluorotoluene

@ 200 µg/mL in methanol

STS-221-1 1 x 1 mL

@ 2000 µg/mL in methanol

STS-220N-1 1 x 1 mL

Aromatic Hydrocarbons Mixture

16 Analytes

benzene
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
ethylbenzene
isopropylbenzene
4-isopropyltoluene
naphthalene
n-propylbenzene
styrene
toluene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene

@ 200 µg/mL in methanol

DWM-550-1 1 x 1 mL

Halocarbons Mixture

12 Analytes

bromobenzene
chlorobenzene
2-chlorotoluene
4-chlorotoluene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
hexachlorobutadiene
tetrachloroethene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
trichloroethene

@ 200 µg/mL in methanol

DWM-563-1 1 x 1 mL

Volume discounts for
individual solutions

Order 4–19 ampules of the same item
and receive a **20% DISCOUNT**

Order 20 or more ampules of the same
item and receive a **30% DISCOUNT**



EPA METHOD 504, 504.1

EDB, DBCP, AND
123-TCP

Method 504 is used to measure low concentrations of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB). It is an extraction method, using GC with a capillary column and electron capture detector. Method 504.1 adds 1,2,3-trichloropropane to the analyte list.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Method 504
Calibration Standards: DWM-504N-1
HCM-812-1

Method 504.1
Calibration Standard: DWM-514-1

Technical Note

Chlorinated drinking water may contain the disinfection by-product dibromochloromethane (DBCM). High levels of DBCM may mask very low levels of EDB.

Recommended
DBCP/EDB Mixture

2 Analytes

1,2-dibromo-3-chloropropane
1,2-dibromoethane

@ 200 µg/mL in methanol

DWM-504N-1 1 x 1 mL

@ 2000 µg/mL in methanol

HCM-812-1 1 x 1 mL

Recommended
Method 504.1 Mixture

3 Analytes

1,2-dibromo-3-chloropropane
1,2-dibromoethane
1,2,3-trichloropropane

@ 200 µg/mL in methanol

DWM-514-1 1 x 1 mL

EPA Method 504.1 Mixture

3 Analytes

1,2-dibromo-3-chloropropane (DBCP)
1,2-dibromoethane (EDB)
1,2,3-trichloropropane

@ 0.02 µg/mL in methanol

DWM-514B-1 1 x 1 mL

@ 0.25 µg/mL in methanol

DWM-514A-1 1 x 1 mL

@ 200 µg/mL in methanol

DWM-514-1 1 x 1 mL

@ 2000 µg/mL in methanol

HCM-815-1 1 x 1 mL

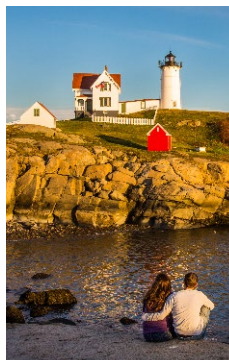
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EPA METHOD 505

ORGANOHALIDE
PESTICIDES AND
AROCLORS

Method 505 is used to analyze for organohalide pesticides and commercial PCBs. It is a microextraction method, using GC with a capillary column and electron capture detector. To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:
PPM-505D-1
PPM-505E-1

Recommended Method 505
Organochlorine Pesticides Mixture

<i>12 Analytes</i>	
alachlor	50 µg/mL
aldrin	20 µg/mL
atrazine	500 µg/mL
gamma-BHC (lindane)	20 µg/mL
dieldrin	20 µg/mL
endrin	20 µg/mL
heptachlor	20 µg/mL
heptachlor epoxide (B)	20 µg/mL
hexachlorobenzene	10 µg/mL
hexachlorocyclopentadiene	20 µg/mL
methoxychlor	200 µg/mL
simazine	100 µg/mL

in acetone

PPM-505D-1 **1 x 1 mL**

Recommended Method 505
Organochlorine Pesticides Mixture

<i>16 Analytes</i>	
alachlor	10 µg/mL
aldrin	1 µg/mL
atrazine	250 µg/mL
gamma-BHC (lindane)	1 µg/mL
alpha-chlordane	1 µg/mL
gamma-chlordane	1 µg/mL
dieldrin	1 µg/mL
endrin	1 µg/mL
heptachlor	1 µg/mL
heptachlor epoxide (B)	1 µg/mL
hexachlorobenzene	1 µg/mL
hexachlorocyclopentadiene	1 µg/mL
methoxychlor	5 µg/mL
cis-nonachlor	1 µg/mL
trans-nonachlor	1 µg/mL
simazine	250 µg/mL

in acetone

PPM-505E-1 **1 x 1 mL**

Organochlorine Pesticide Mixture

16 Analytes

alachlor	
aldrin	
atrazine	
cis-chlordane	
cis-nonachlor	
dieldrin	
endrin	
heptachlor	
heptachlor epoxide - isomer B	
hexachlorobenzene	
hexachlorocyclopentadiene	
lindane	
methoxychlor	
simazine	
trans-chlordane	
trans-nonachlor	

@100 µg/mL in acetone

PPM-200-1 **1 x 1 mL**

@100 µg/mL in methanol

PPM-130-1 **1 x 1 mL**

@200 µg/mL in methanol

PPM-135-1 **1 x 1 mL**

Organochlorine Pesticide Mixture

14 Analytes

alachlor	100 µg/mL
aldrin	10 µg/mL
cis-chlordane	10 µg/mL
cis-nonachlor	10 µg/mL
dieldrin	10 µg/mL
endrin	10 µg/mL
heptachlor	10 µg/mL
heptachlor epoxide - isomer B	10 µg/mL
hexachlorobenzene	10 µg/mL
hexachlorocyclopentadiene	10 µg/mL
lindane	10 µg/mL
methoxychlor	10 µg/mL
trans-chlordane	10 µg/mL
trans-nonachlor	10 µg/mL

in methanol

PPM-140-1 **1 x 1 mL**

Organohalide Pesticides Mixture

16 Analytes

alachlor	10 µg/mL
aldrin	1 µg/mL
atrazine	250 µg/mL
cis-chlordane	1 µg/mL
cis-nonachlor	1 µg/mL
dieldrin	1 µg/mL
endrin	1 µg/mL
heptachlor	1 µg/mL
heptachlor epoxide - isomer B	1 µg/mL
hexachlorobenzene	1 µg/mL
hexachlorocyclopentadiene	1 µg/mL
lindane	1 µg/mL
methoxychlor	5 µg/mL
simazine	250 µg/mL
trans-chlordane	1 µg/mL
trans-nonachlor	1 µg/mL

in methanol

PPM-210-1 **1 x 1 mL**

Recommended Method 505 Chlordane, Toxaphene, and PCB Standards

All in 1 x 1 mL Ampules

Compound	Concentration	Solvent	Catalog Number
Aroclor 1016 Solution	@100 µg/mL	methanol	PP-280-1
Aroclor 1016 Solution	@1000 µg/mL	methanol	PP-283-1
Aroclor 1016 Solution	@1000 µg/mL	hexane	PP-284-1
Aroclor 1221 Solution	@100 µg/mL	methanol	PP-290-1
Aroclor 1221 Solution	@1000 µg/mL	methanol	PP-293-1
Aroclor 1221 Solution	@1000 µg/mL	hexane	PP-294-1
Aroclor 1232 Solution	@100 µg/mL	methanol	PP-300-1
Aroclor 1232 Solution	@1000 µg/mL	methanol	PP-303-1
Aroclor 1232 Solution	@1000 µg/mL	hexane	PP-304-1
Aroclor 1242 Solution	@100 µg/mL	methanol	PP-310-1
Aroclor 1242 Solution	@1000 µg/mL	methanol	PP-312-1
Aroclor 1242 Solution	@1000 µg/mL	hexane	PP-313-1
Aroclor 1248 Solution	@100 µg/mL	methanol	PP-340-1
Aroclor 1248 Solution	@1000 µg/mL	methanol	PP-343-1
Aroclor 1248 Solution	@1000 µg/mL	hexane	PP-344-1
Aroclor 1254 Solution	@100 µg/mL	methanol	PP-350-1
Aroclor 1254 Solution	@1000 µg/mL	methanol	PP-353-1
Aroclor 1254 Solution	@1000 µg/mL	hexane	PP-354-1
Aroclor 1260 Solution	@100 µg/mL	methanol	PP-360-1
Aroclor 1260 Solution	@1000 µg/mL	methanol	PP-362-1
Aroclor 1260 Solution	@1000 µg/mL	hexane	PP-363-1
Aroclor 1262 Solution	@1000 µg/mL	hexane	PP-373-1
Aroclor 1268 Solution	@1000 µg/mL	hexane	PP-383-1
Chlordane Solution	@100 µg/mL	methanol	PP-150-1
Chlordane Solution	@1000 µg/mL	hexane	PST-110H1000
Chlordane Solution	@2000 µg/mL	methanol	PST-110M2000
Toxaphene Solution	@100 µg/mL	methanol	PP-270-1
Toxaphene Solution	@1000 µg/mL	hexane	PST-970H1000
Toxaphene Solution	@4000 µg/mL	methanol	PST-970M4000

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EPA METHOD 506

PHTHALATE AND ADIPATE ESTERS

Method 506 is an extraction method, using GC with a capillary column and a photoionization detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: PSM-506-1

Recommended Method 506
Phthalates Mixture

7 Analytes

bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
di-n-octyl phthalate

@ 1000 µg/mL in isooctane

PSM-506-1 1 x 1 mL

@ 200 µg/mL in methanol

PSM-520-1 1 x 1 mL

Phthalates Mixture

7 Analytes

bis(2-ethylhexyl) adipate 1200 µg/mL
bis(2-ethylhexyl) phthalate 250 µg/mL
butyl benzyl phthalate 250 µg/mL
di-n-butyl phthalate 100 µg/mL
diethyl phthalate 100 µg/mL
dimethyl phthalate 100 µg/mL
di-n-octyl phthalate 650 µg/mL

in methanol

PSM-516-1 1 x 1 mL



Find additional EPA Method 500
Series Standards online:

www.ultrasci.com/EPA500

Phthalate Mixture

2 Analytes

butyl benzyl phthalate
di-n-butyl phthalate

@ 100 µg/mL in acetone

PSM-510-1 1 x 1 mL

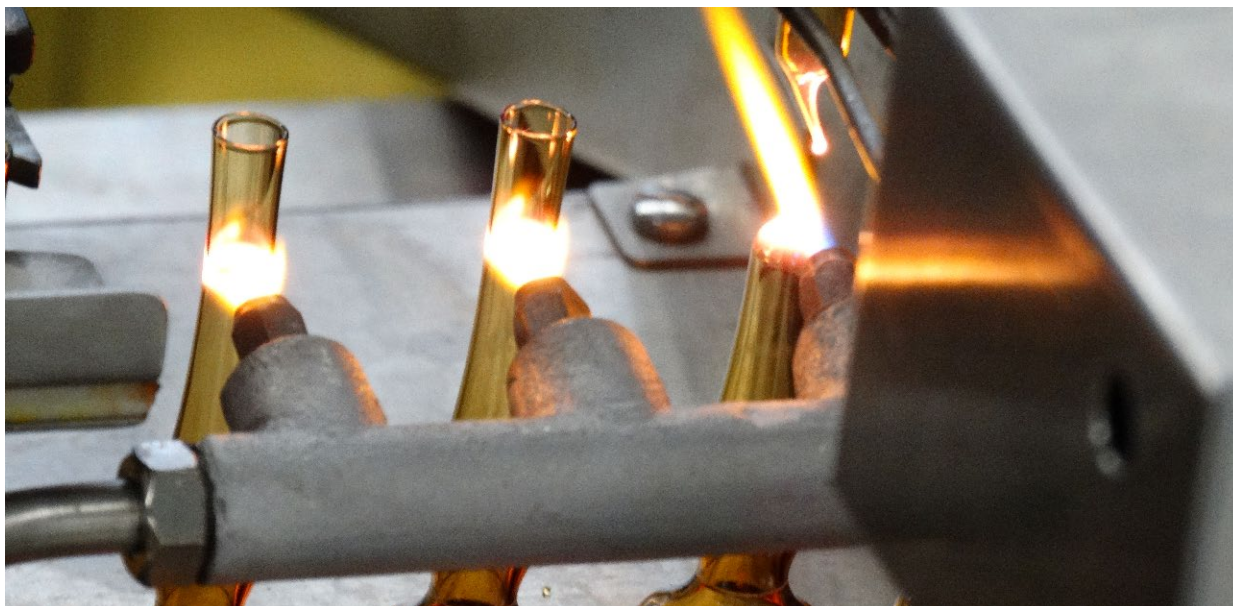
Phthalates Mixture

8 Analytes

bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
diethyl phthalate
diisobutyl phthalate
dimethyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate

@ 1000 µg/mL in isooctane

PSM-516-1 1 x 1 mL



EPA METHOD 507

NITROGEN AND
PHOSPHORUS
CONTAINING PESTICIDES

Method 507 is used to determine nitrogen and phosphorus containing pesticides. It is an extraction method, using GC with a capillary column and a Nitrogen-Phosphorus detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	NPM-101-1
	NPM-102-1
	NPM-103-1
	NPM-104A-1
	NPM-105-1
	NPM-109-1
Internal Standard:	PPS-110-1
Surrogate Standard:	PPS-100-1

Recommended Pesticides Mixture

6 Analytes

ametryn	fenamiphos
cycloate	merphos
disulfoton	prometon

@ 1000 µg/mL in methyl tert-butyl ether

NPM-101-1 1 x 1 mL

Recommended Pesticides Mixture

9 Analytes

atrazine	prometryn
diphenamid	propazine
EPTC	terbutryn
ethoprop	triadimefon
mevinphos	

@ 1000 µg/mL in methyl tert-butyl ether

NPM-102-1 1 x 1 mL

Recommended Pesticides Mixture

9 Analytes

butachlor	metribuzin
carboxin	norflurazon
diazinon	terbufos
metolachlor	vernolate
MGK-264, mixed isomers	

@ 1000 µg/mL in methyl tert-butyl ether

NPM-103-1 1 x 1 mL

Recommended Pesticides Mixture

10 Analytes

alachlor	hexazinone
atraton	molinate
bromacil	pronamide
butylate	stirofos
chlorpropham	tricyclazole

@ 1000 µg/mL in acetone

NPM-104A-1 1 x 1 mL

@ 1000 µg/mL in methyl tert-butyl ether

NPM-112-1 1 x 1 mL

Recommended Pesticides Mixture

8 Analytes

dichlorvos	pebulate
fenarimol	simetryn
fluridone	tebuthiuron
napropamide	terbacil

@ 1000 µg/mL in methyl tert-butyl ether

NPM-105-1 1 x 1 mL

Pesticides Mixture

8 Analytes

benefin	pendimethalin
isopropalin	profluralin
oxadiazon	propachlor
oxyfluorfen	trifluralin

@ 1000 µg/mL in methyl tert-butyl ether

NPM-106-1 1 x 1 mL

Simazine Standard

simazine

@ 1000 µg/mL in acetone

NPM-107A-1 1 x 1 mLRecommended Method 507
Surrogate Standard Solution

1,3-dimethyl-2-nitrobenzene

@ 250 µg/mL in methyl tert-butyl ether

PPS-100-1 1 x 1 mLRecommended Method 507
Internal Standard Solution

triphenyl phosphate (TPP)

@ 500 µg/mL in methyl tert-butyl ether

PPS-110-1 1 x 1 mLMethod 507 Laboratory
Performance Check Solution

6 Analytes

atrazine	150 ng/mL
bromacil	5000 ng/mL
prometon	300 ng/mL
vernolate	50 ng/mL
1,3-dimethyl-2-nitrobenzene	2500 ng/mL
triphenyl phosphate (TPP)	2500 ng/mL

in methyl tert-butyl ether

NPM-507-1 1 x 1 mL

DEF Standard

DEF

@ 1000 µg/mL in methyl tert-butyl ether

NPM-108-1 1 x 1 mL**Recommended Pesticides Mixture**

2 Analytes

simazine

methyl paraoxon

@ 1000 µg/mL in acetone

NPM-109-1 1 x 1 mL**Laboratory Performance Check Solution**

6 Analytes

1,3-dimethyl-2-nitrobenzene 250 µg/mL

atrazine 15 µg/mL

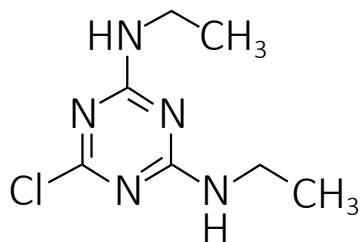
bromacil 500 µg/mL

prometon 30 µg/mL

triphenyl phosphate (TPP) 250 µg/mL

vernolate 5 µg/mL

in methyl tert-butyl ether

NPM-508-1 1 x 1 mL**Pesticides Calibration Mixture**

5 Analytes

bromacil

butachlor

metolachlor

metribuzin

prometon

@ 100 µg/mL in methanol

US-305-1 1 x 1 mL**Pesticides Calibration Mixture**

32 Analytes

ametryn 2500 µg/mL

atraton 1000 µg/mL

bromacil 1000 µg/mL

carboxin 1000 µg/mL

chlorpropham 1000 µg/mL

cycloate 1000 µg/mL

diazinon 1000 µg/mL

dichlorvos 1000 µg/mL

diphenamid 1000 µg/mL

disulfoton 1000 µg/mL

disulfoton sulfone 2500 µg/mL

disulfoton-sulfoxide 2500 µg/mL

EPTC 1000 µg/mL

ethoprop 1000 µg/mL

fenamiphos 1000 µg/mL

fenarimol 1000 µg/mL

fluridone 1000 µg/mL

hexazinone 1000 µg/mL

merphos 1000 µg/mL

methyl paraoxon 2500 µg/mL

MGK-264 (mixed, total) 1000 µg/mL

napropamide 1000 µg/mL

norflurazon 1000 µg/mL

pebulate 1000 µg/mL

phosdrin 1000 µg/mL

prometon 1000 µg/mL

prometryn 1000 µg/mL

pronamide 1000 µg/mL

simetryn 1000 µg/mL

tebuthiuron 1000 µg/mL

terbacil 1000 µg/mL

tetrachlorvinphos 1000 µg/mL

in methyl tert-butyl ether

US-310-1 1 x 1 mL**Herbicides Calibration Mixture**

3 Analytes

bromacil

chlorpropham

metolachlor

@ 100 µg/mL in acetone

US-355-1 1 x 1 mL**Pesticides Calibration Mixture**

12 Analytes

alachlor

butylate

diphenamid

fenarimol

metribuzin

norflurazon

pebulate

prometryn

simazine

simetryn

triadimefon

vernolate

@ 100 µg/mL in acetone

US-360-1 1 x 1 mL**Pesticides Calibration Mixture**

6 Analytes

atrazine

diazinon

dichlorvos

ethoprop

fenamiphos

terbufos

@ 100 µg/mL in acetone

US-365-1 1 x 1 mL

EPA METHOD 507

(continued)

Pesticides Calibration Mixture

5 Analytes

carboxin
fluridone
MGK-264 (mixed, total)
terbacil
tricyclazole

@ 100 µg/mL in acetone

US-370-1**1 x 1 mL****Pesticides Calibration Mixture**

11 Analytes

ametryn
atraton
butachlor
cycloate
EPTC
hexazinone
molinate
napropamide
prometon
propazine
terbutryn(e)

@ 100 µg/mL in acetone

US-375-1**1 x 1 mL****Pesticides Calibration Mixture**

4 Analytes

disulfoton
methyl paraoxon
mevinphos
stirofos

@ 100 µg/mL in acetone

US-380-1**1 x 1 mL****Pesticides Calibration Mixture**

7 Analytes

alachlor
atrazine
butachlor
metolachlor
metribuzin
propachlor
simazine

@ 100 µg/mL in ethyl acetate

US-385-1**1 x 1 mL****Pesticides Calibration Mixture**

3 Analytes

alachlor
atrazine
simazine

@ 100 µg/mL in acetone

US-390-1**1 x 1 mL****Pesticides Calibration Mixture**

4 Analytes

butachlor
metolachlor
metribuzin
prometon

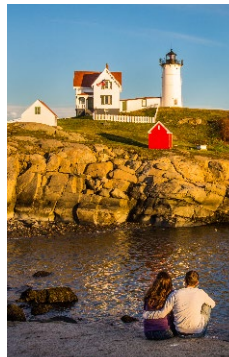
@ 100 µg/mL in acetone

US-395-1**1 x 1 mL****WWW.ULTRASCI.COM****Download and Print from Our Online Library**

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EPA METHOD 508, 508.1

CHLORINATED
PESTICIDES

Methods 508 and 508.1 are used to determine chlorinated pesticides. They are extraction methods, using GC with a capillary column and electron capture detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Method 508
Calibration Standards: PPM-508B-1
PPM-508D-1

Internal Standard: PPS-130-1

Surrogate Standard: PPS-120-1

Method 508.1
Calibration Standards: PPM-508F-1
PPM-508G-1

Internal Standard: PPS-132-1

Surrogate Standard: PPS-420-1
IST-132-1

Recommended Method 508
Organochlorine Pesticides Mixture

17 Analytes

aldrin
alpha-BHC (alpha-HCH)
beta-BHC (beta-HCH)
delta-BHC (delta-HCH)
gamma-BHC (gamma-HCH)
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide (B)
methoxychlor

@ 1000 µg/mL in methyl tert-butyl ether

PPM-508B-1 1 x 1 mL

Recommended Method 508
Surrogate Standard Solution

4,4-dichlorobiphenyl (DCB)

@ 500 µg/mL in methyl tert-butyl ether

PPS-120-1 1 x 1 mL

Toxaphene Solution

toxaphene

@ 4000 µg/mL in methanol

PST-970M4000 1 x 1 mL

Recommended Method 508
Organochlorine Pesticides Mixture

12 Analytes

alpha-chlordane
gamma-chlordane
chlorobenzilate
chloroneb
chlorothalonil
chlorpyrifos
DCPA
etridiazole
hexachlorobenzene
permethrin, mixed isomers (@ 2000 µg/mL)
propachlor
trifluralin

@ 1000 µg/mL in methyl tert-butyl ether

PPM-508D-1 1 x 1 mL

Toxaphene Standard

toxaphene

@ 2500 µg/mL in acetone

PPS-240-1 1 x 1 mL

Pesticide Degradation Check
Solution

2 Analytes

4,4-DDT 200 µg/mL
endrin 100 µg/mL

methyl tert-butyl ether

ISM-452-1 1 x 1 mL

Cyanazine Standard

cyanazine

@ 1000 µg/mL in methanol

EPA-1165-1 1 x 1 mL

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individual solutions

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EPA METHOD 508, 508.1

(continued)

Laboratory Performance Check Solution**4 Analytes**

chlorothalonil	25 µg/mL
chlorpyrifos	1 µg/mL
DCPA	25 µg/mL
delta-HCH	20 µg/mL

*in methyl tert-butyl ether***PPM-507-1 1 x 1 mL****Method 508 Laboratory Performance Check Solution****4 Analytes**

chlorothalonil	50 ng/mL
chlorpyrifos	2 ng/mL
DCPA	50 ng/mL
delta-BHC	40 ng/mL

*in methyl tert-butyl ether***PPM-508-1 1 x 1 mL****Organochlorine Pesticides Mixture****16 Analytes**

4,4'-DDD	600 µg/mL
4,4'-DDE	200 µg/mL
4,4'-DDT	600 µg/mL
aldrin	100 µg/mL
alpha-BHC	100 µg/mL
beta-BHC	100 µg/mL
delta-BHC	100 µg/mL
dieldrin	200 µg/mL
endosulfan I	200 µg/mL
endosulfan II	200 µg/mL
endosulfan sulfate	600 µg/mL
endrin	200 µg/mL
endrin aldehyde	600 µg/mL
gamma-BHC	100 µg/mL
heptachlor	100 µg/mL
heptachlor epoxide - isomer B	100 µg/mL

*in methanol***PPM-165-1 1 x 1 mL****Organochlorine Pesticides Mixture****12 Analytes**

chlorobenzilate
chloroneb
chlorothalonil
cis-chlordane
DCPA
etridiazole
hexachlorobenzene
methoxychlor
permethrins (mixed isomers,total)
propachlor
trans-chlordane
trifluralin

*@ 100 µg/mL in ethyl acetate***PPM-170-1 1 x 1 mL****Pesticides Calibration Mixture****11 Analytes**

aldrin
dieldrin
endrin
gamma-BHC (lindane)
heptachlor
heptachlor epoxide - isomer B
hexachlorobenzene
hexachlorocyclopentadiene
methoxychlor
propachlor
trifluralin

*@ 100 µg/mL in acetone***US-315-1 1 x 1 mL****Pesticides Calibration Mixture****18 Analytes**

alachlor
aldrin
atrazine
butachlor
cyanazine
dieldrin
endrin
heptachlor
heptachlor epoxide - isomer B
hexachlorobenzene
hexachlorocyclopentadiene
lindane
methoxychlor
metolachlor
metribuzin
propachlor
simazine
trifluralin

*@ 500 µg/mL in ethyl acetate***US-320-1 1 x 1 mL****Pesticides Calibration Mixture****15 Analytes**

chlorobenzilate
chloroneb
chlorothalonil
chlorpyrifos
cis-chlordane
cis-permethrin
cyanazine
DCPA
etridiazole
hexachlorobenzene
propachlor
trans-chlordane
trans-nonachlor
trans-permethrin
trifluralin

*@ 1000 µg/mL in methyl tert-butyl ether***US-325-1 1 x 1 mL**

Pesticides Calibration Mixture

5 Analytes

chlorothalonil
 etridiazole
 hexachlorobenzene
 hexachlorocyclopentadiene
 trifluralin

@ 500 µg/mL in ethyl acetate

US-330-1 1 x 1 mL

Pesticides Calibration Mixture

7 Analytes

alachlor
 butachlor
 chloroneb
 cyanazine
 metolachlor
 permethrin (mixed isomers, total)
 propachlor

@ 5000 µg/mL in ethyl acetate

US-340-1 1 x 1 mL

**Recommended Method 508.1
Organochlorine Pesticides Mixture**

17 Analytes

aldrin
 alpha-BHC
 beta-BHC
 delta-BHC (d-HCH)
 gamma-BHC
 4,4'-DDD
 4,4'-DDE
 4,4'-DDT
 dieldrin
 endosulfan I
 endosulfan II
 endosulfan sulfate
 endrin
 endrin aldehyde
 heptachlor
 heptachlor epoxide (B)
 methoxychlor

@ 100 µg/mL in ethyl acetate

PPM-508F-1 1 x 1 mL

@ 500 µg/mL in ethyl acetate

PPM-175-1 1 x 1 mL

**Chlorinated Pesticides Calibration
Mixture**

20 Analytes

4,4'-DDD
 4,4'-DDE
 4,4'-DDT
 alachlor
 aldrin
 alpha-BHC
 atrazine
 beta-BHC
 chlordane (technical mixture)
 delta-BHC
 dieldrin
 endosulfan I
 endosulfan II
 endosulfan sulfate
 endrin
 endrin aldehyde
 gamma-BHC
 heptachlor
 heptachlor epoxide - isomer B
 methoxychlor

@ 1000 µg/mL in hexane/toluene (1:1)

US-335-1 1 x 1 mL

**Recommended Method 508.1
Organochlorine Pesticides Mixture**

19 Analytes

alachlor
 atrazine
 butachlor
 alpha-chlordane
 gamma-chlordane
 chlorobenzilate
 chloroneb
 chlorothalonil
 cyanazine
 DCPA
 etridiazole
 hexachlorobenzene
 hexachlorocyclopentadiene
 metolachlor
 metribuzin
 permethrin, mixed isomers (@ 200 µg/mL)
 propachlor
 simazine
 trifluralin

@ 100 µg/mL in ethyl acetate

PPM-508G-1 1 x 1 mL

**Recommended Method 508.1
Internal Standard Solution**

pentachloronitrobenzene (PCNB)

@ 100 µg/mL in ethyl acetate

PST-770Y100A01 1 x 1 mL

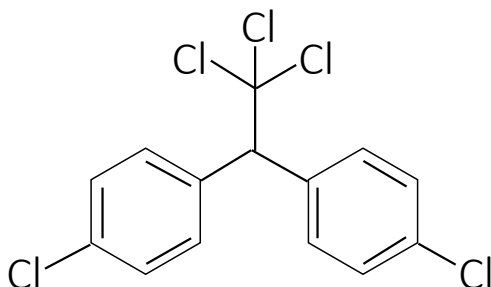
@ 1000 µg/mL in ethyl acetate

PPS-132-1 1 x 1 mL

pentachloronitrobenzene (Quintozene)

@ 1000 µg/mL in methyl tert-butyl ether

PST-770B1000 1 x 1 mL



EPA METHOD 508, 508.1

(continued)

**Recommended Method 508.1
Surrogate Standard Solution**

4,4-dibromobiphenyl

@ 1000 µg/mL in ethyl acetate

PPS-420-1 1 x 1 mL

@ 100. µg/mL in ethyl acetate

IST-132-1 1 x 1 mL**Method 508.1 Degradation
Check Solution**

2 Analytes

4,4'-DDT

endrin

@ 1 µg/mL in ethyl acetate

ISM-451-1 1 x 1 mL

@ 100 µg/mL in ethyl acetate

ISM-453-1 1 x 1 mL**Organochlorine Pesticide Mixture**

19 Analytes

4,4'-DDD

4,4'-DDE

4,4'-DDT

aldrin

alpha-BHC

beta-BHC

cis-chlordane

delta-BHC

dieldrin

endosulfan I

endosulfan II

endosulfan sulfate

endrin

endrin aldehyde

gamma-BHC

heptachlor

heptachlor epoxide - isomer B

methoxychlor

trans-chlordane

@ 500 µg/mL in ethyl acetate

PPM-506-1 1 x 1 mL**Organochlorine Pesticide Mixture**

18 Analytes

alachlor

atrazine

butachlor

chlorobenzilate

chloroneb

chlorothalonil

cis-permethrin

cyanazine

DCPA

etridiazole

hexachlorobenzene

hexachlorocyclopentadiene

metolachlor

metribuzin

propachlor

simazine

trans-permethrin

trifluralin

@ 500 µg/mL in ethyl acetate

PPM-509-1 1 x 1 mL

EPA METHOD 508A

Polychlorinated Biphenyls

Method 508A is used to screen for PCBs. It is an extraction method, using GC with either a packed or a capillary column, and an electron capture detector.

To read the complete method, log onto our website at www.ultrasci.com.

Aroclor 1260 Stock Solution

Aroclor 1260

@ 1000 µg/mL in methanol

PPS-141-1 1 x 1 mL

@ 5000 µg/mL in methanol

PPS-140-1 1 x 1 mL**Decachlorobiphenyl Stock Solution**

decachlorobiphenyl

@ 1000 µg/mL in toluene

PPS-150-1 1 x 1 mL**Need a custom defined chemical solution?**

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EPA METHOD 509

ETHYLENE THIOUREA
(ETU)

Method 509 is used to determine ethylene thiourea (ETU). Samples are passed through a column of diatomaceous earth and analyzed using capillary column gas chromatography with a nitrogen-phosphorus detector.

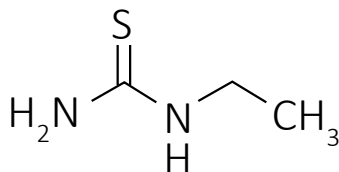
To read the complete method, log onto our website at www.ultrasci.com.

Method 509 Internal Standard

3,4,5,6-tetrahydro-2-pyrimidinethiol

@ 1000 µg/mL in 0.1% w/v DTT in ethyl acetate

IST-800-1 1 x 1 mL



Free Radical Scavenger Solution

dithiothreitol

@ 1000 mg/L in ethyl acetate

EPA-1390-1 1 x 1 mL

Method 509 Stock Standard

ethylene thiourea

@ 100 µg/mL in 0.1% w/v DTT in ethyl acetate

PPS-640-1 1 x 1 mL

@ 1000 µg/mL in 0.1% w/v DTT in ethyl acetate

PPS-641-1 1 x 1 mL

Instrument Performance Check Solution

3 Analytes

ethylene thiourea	(10 ng/mL)
propylene thiourea	(100 ng/mL)
3,4,5,6-tetrahydro-2-pyrimidinethiol	(1000 ng/mL)

in 0.1% w/v DTT in 0.1% w/v DTT in ethyl acetate

GCM-170-1 1 x 1 mL

Method 509 Surrogate Standard

propylene thiourea

@ 100 µg/mL in 0.1% w/v DTT in ethyl acetate

PPS-642-1 1 x 1 mL

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EPA METHOD 515.1

CHLORINATED ACIDS

Methods 515.1 and 515.2 are used to determine chlorinated acids. They are extraction followed by derivatization methods, using GC with a capillary column and electron capture detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Method 515.1	
Calibration Standard:	HBM-5155A-1
Internal Standard:	PPS-170-1 PPS-169-1
Surrogate Standard:	PPS-160-1
Method 515.2	
Calibration Standards:	HBM-5152A-1 HBM-5153A-1
Internal Standard:	PPS-172-1
Surrogate Standard:	PPS-162-1

SDWA Herbicides Mixture

6 Analytes

2,4-D	200 µg/mL
dalapon	1300 µg/mL
dinoseb	200 µg/mL
silvex (2,4,5-TP)	100 µg/mL
pentachlorophenol	100 µg/mL
picloram	100 µg/mL

Acids Mixture

in methanol

HBM-5154A-1 1 x 1 mL

Methylated Mixture

in methanol

HBM-5154M-1 1 x 1 mL

Recommended Method 515.1
Chlorinated Herbicides Mixtures

16 Analytes

acifluorfen	100 µg/mL
bentazon	200 µg/mL
chloramben	100 µg/mL
2,4-D	200 µg/mL
dalapon	1300 µg/mL
2,4-DB	800 µg/mL
dacthal (DCPA)	100 µg/mL
dicamba	100 µg/mL
3,5-dichlorobenzoic acid	100 µg/mL
dichlorprop	300 µg/mL
dinoseb	200 µg/mL
4-nitrophenol	100 µg/mL
pentachlorophenol	100 µg/mL
picloram	100 µg/mL
silvex (2,4,5-TP)	100 µg/mL
2,4,5-T	100 µg/mL

Acids Mixture

in methyl tert-butyl ether

HBM-5155A-1 1 x 1 mL

Methylated Mixture

in methyl tert-butyl ether

HBM-5155M-1 1 x 1 mL

Chlorinated Herbicides Mixture

16 Analytes

3,5-dichlorobenzoic acid
4-nitrophenol
acifluorfen
bentazon
chloramben
2,4-D
dalapon
2,4-DB
DCPA
dicamba
dichlorprop
dinoseb
pentachlorophenol
picloram
2,4,5-T
2,4,5-TP

@ 100 µg/mL in methyl tert-butyl ether

HBM-400-1 1 x 1 mL

Methylated Chlorinated Herbicides
Mixture

16 Analytes

4-nitroanisole
acifluorfen methyl ester
bentazon methyl derivative
chloramben methyl ester
2,4-D methyl ester
dacthal
2,4-DB methyl ester
dalapon methyl ester
dicamba methyl ester
dichlorprop methyl ester
dinoseb methyl ether
methyl-3,5-dichlorobenzoate
pentachloroanisole
picloram methyl ester
silvex methyl ester
2,4,5-T methyl ester

@ 100 µg/mL in hexane/toluene (95:5 V/V)

HBM-400M-1 1 x 1 mL

Recommended Method 515.1
Surrogate Standard Solutions

2,4-dichlorophenylacetic acid (DCAA)

@ 100 µg/mL in methyl tert-butyl ether

PPS-160-1 1 x 1 mL

DCAA methyl ester

@ 100 µg/mL in methyl tert-butyl ether

PPS-161-1 1 x 1 mL

Recommended Method 515.1
Internal Standard Solution

4,4-dibromooctafluorobiphenyl (DBOB)

@ 100 µg/mL in methyl tert-butyl ether

PPS-170-1 1 x 1 mL

EPA METHOD 515.1

(continued)

Laboratory Performance Check Solution

5 Analytes

DCAA	500 µg/mL
4,4-dibromooctafluorobiphenyl	
	250 µg/mL
3,5-dichlorobenzoic acid	600 µg/mL
dinoseb	4 µg/mL
4-nitrophenol	1600 µg/mL

in isooctane

PPM-180-1 **1 x 5 mL!****Laboratory Performance Check Solution Methyl Derivatives**

3 Analytes

dinoseb methyl ether	4 µg/mL
methyl-3,5-dichlorobenzoate	600 µg/mL
4-nitroanisole	1600 µg/mL

in methyl tert-butyl ether

PPM-500-1 **1 x 1 mL****DCAA Methyl Ester Solution**2,4-dichlorophenylacetic acid methyl ester
@ 5000 µg/mL in methyl tert-butyl ether**PPS-169-1** **1 x 1 mL****Herbicides Calibration Mixture (Free Acids)**

8 Analytes

acifluorfen
2,4-D
dalapon
dicamba
dinoseb
pentachlorophenol
picloram
silvex

@ 100 µg/mL in methyl tert-butyl ether

US-345-1 **1 x 1 mL****Herbicides Calibration Mixture (Methyl Esters)**

8 Analytes

acifluorfen methyl ester
2,4-D methyl ester
dalapon methyl ester
dicamba methyl ester
dinoseb methyl ether
pentachloroanisole
picloram methyl ester
silvex methyl ester

@ 100 µg/mL in hexane

US-350-1 **1 x 1 mL****WWW.ULTRASCI.COM****Download and Print from Our Online Library**

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EPA METHOD 515.2

**Recommended Method 515.2
Chlorinated Herbicides Mixtures***6 Analytes*

dacthal (DCPA)	100 µg/mL
3,5-dichlorobenzoic acid	500 µg/mL
dichlorprop	100 µg/mL
dinoseb	200 µg/mL
pentachlorophenol	100 µg/mL
2,4,5-T	100 µg/mL

Acids Mixture A

*in methanol***HBM-5152A-1** 1 x 1 mL

Methylated Mixture A

*in methanol***HBM-5152M-1** 1 x 1 mL**Recommended Method 515.2
Surrogate Standard Solutions**

2,4-dichlorophenylacetic acid (DCAA)

@ 5000 µg/mL in methanol

PPS-162-1 1 x 1 mL

DCAA methyl ester

@ 5000 µg/mL in methanol

PPS-163-1 1 x 1 mL**Chlorinated Herbicides Mixture***13 Analytes*

acifluorfen
 bentazon
 2,4-D
 dacthal
 2,4-DB
 dicamba
 3,5-dichlorobenzoic acid
 dichlorprop
 dinoseb
 pentachlorophenol
 picloram
 2,4,5-TP
 1,4,5-trimethylnaphthalene

@ 100 µg/mL in methyl tert-butyl ether

HBM-512-1 1 x 1 mL**Recommended Method 515.2
Chlorinated Herbicides Mixtures***7 Analytes*

acifluorfen	200 µg/mL
bentazon	1000 µg/mL
2,4-D	100 µg/mL
2,4-DB	1000 µg/mL
dicamba	300 µg/mL
picloram	300 µg/mL
silvex (2,4,5-TP)	100 µg/mL

Acids Mixture B

*in methanol***HBM-5153A-1** 1 x 1 mL

Methylated Mixture B

*in methanol***HBM-5153M-1** 1 x 1 mL**Recommended Method 515.2
Internal Standard Solution**

4,4-dibromooctafluorobiphenyl (DBOB)

@ 5000 µg/mL in methanol

PPS-172-1 1 x 1 mL**Laboratory Performance Check
Solutions for Methods 515.1, 515.2**

Acid Solutions

5 Analytes

DBOB	2500 ng/mL
DCAA	5000 ng/mL
3,5-dichlorobenzoic acid	6000 ng/mL
dinoseb	40 ng/mL
4-nitrophenol	16,000 ng/mL

Acid LPC Solution

*in methyl tert-butyl ether/methanol***PPM-515A-1** 1 x 1 mL*5 Analytes*

DBOB	250 µg/mL
DCAA	500 µg/mL
3,5-dichlorobenzoic acid	600 µg/mL
dinoseb	4 µg/mL
4-nitrophenol	1600 µg/mL

Acid LPC Solution

*in isooctane (2,2,4-trimethylpentane)***PPM-180** 1 x 1 mL

Methylated Solution

5 Analytes

DBOB	250 ng/mL
DCAA	500 ng/mL
3,5-dichlorobenzoic acid	600 ng/mL
dinoseb	4 ng/mL
4-nitrophenol	1,600 ng/mL

Methylated LPC Solution

*in methyl tert-butyl ether/methanol***PPM-515M-1** 1 x 1 mL**Volume discounts for
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EPA METHOD 515.3

CHLORINATED ACIDS

Method 515.3 is used to determine chlorinated acids. It is an extraction followed by derivatization method, using GC with a capillary column and electron capture detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	HBM-5156A-1 HBM-5156M-1
Internal Standard:	PPS-174-1 PPS-170-1
Surrogate Standard:	PPS-167-1 PPS-168-1

Recommended Method 515.3
Chlorinated Acids Mixtures

16 Analytes	
acifluorfen	5 µg/mL
bentazon	10 µg/mL
chloramben	5 µg/mL
2,4-D	10 µg/mL
dalapon	10 µg/mL
2,4-DB	10 µg/mL
dacthal acid metabolites	5 µg/mL
dicamba	5 µg/mL
3,5-dichlorobenzoic acid	5 µg/mL
dichlorprop	10 µg/mL
dinoseb	10 µg/mL
4-nitrophenol	10 µg/mL
pentachlorophenol	1 µg/mL
picloram	10 µg/mL
silvex (2,4,5-TP)	2.5 µg/mL
2,4,5-T	2.5 µg/mL

Acids Mixture

in acetone

HBM-5156A-1 1 x 1 mL

Methylated Mixture

in acetone

HBM-5156M-1 1 x 1 mL

Recommended Method 515.3
Surrogate Standard Solutions

2,4-dichlorophenylacetic acid (DCAA)	
@ 100 µg/mL in acetone	
PPS-165-1	1 x 1 mL
2,4-dichlorophenylacetic acid (DCAA)	
@ 1000 µg/mL in acetone	
PPS-167-1	1 x 1 mL
DCAA methyl ester	
@ 1000 µg/mL in acetone	
PPS-168-1	1 x 1 mL

Recommended Method 515.3
Internal Standard Solution

4,4-dibromooctafluorobiphenyl (DBOB)	
@ 2000 µg/mL in methyl tert-butyl ether	
PPS-174-1	1 x 1 mL

Chlorinated Herbicides Mixture

17 Analytes

4-nitrophenol
acifluorfen
bentazon
chloramben
2,4-D
dalapon
2,4-DB
dicamba
3,5-dichlorobenzoic acid
dichlorprop
dinoseb
monomethyl tetrachloroterephthalate
pentachlorophenol
picloram
2,4,5-T
tetrachloroterephthalic acid
2,4,5-TP

@ 100 µg/mL in methyl tert-butyl ether

HBM-405-1 1 x 1 mL

Methylated Chlorinated Herbicides
Mixture

17 Analytes

acifluorfen methyl ester
bentazon methyl derivative
chloramben methyl ester
2,4-D methyl ester
dacthal
dalapon methyl ester
2,4-DB methyl ester
dicamba methyl ester
dichlorprop methyl ester
dinoseb methyl ether
methyl-3,5-dichlorobenzoate
monomethyl tetrachloroterephthalate
4-nitroanisole
pentachloroanisole
picloram methyl ester
silvex methyl ester
2,4,5-T methyl ester

@ 100 µg/mL in hexane/toluene (95:5 V/V)

HBM-410M-1 1 x 1 mL

Chlorinated Herbicides Mixture

16 Analytes

acifluorfen	100 µg/mL
bentazon	200 µg/mL
chloramben	100 µg/mL
2,4-D	200 µg/mL
dalapon	1300 µg/mL
2,4-DB	800 µg/mL
dicamba	100 µg/mL
3,5-dichlorobenzoic acid	100 µg/mL
dichlorprop	300 µg/mL
dinoseb	200 µg/mL
4-nitrophenol	100 µg/mL
pentachlorophenol	100 µg/mL
picloram	100 µg/mL
2,4,5-T	100 µg/mL
tetrachloroterephthalic acid	100 µg/mL
2,4,5-TP	100 µg/mL

in methanol

HBM-415-1 1 x 1 mL

EPA METHOD 515.3

(continued)

Chlorinated Herbicides Mixture

17 Analytes

acifluorfen	50 µg/mL
bentazon	100 µg/mL
chloramben	50 µg/mL
2,4-D	100 µg/mL
dalapon	100 µg/mL
2,4-DB	100 µg/mL
dicamba	50 µg/mL
3,5-dichlorobenzoic acid	50 µg/mL
dichlorprop	100 µg/mL
dinoseb	100 µg/mL
monomethyl tetrachloroterephthalate	50 µg/mL
4-nitrophenol	100 µg/mL
pentachlorophenol	10 µg/mL
picloram	100 µg/mL
2,4,5-T	25 µg/mL
tetrachloroterephthalic acid	50 µg/mL
2,4,5-TP	25 µg/mL

in acetone

HBM-420-1 1 x 1 mL**Laboratory Performance Check Solution Methyl Derivatives**

4 Analytes

chloramben methyl ester	12.5 µg/mL
2,4-DB methyl ester	25 µg/mL
dinoseb methyl ether	25 µg/mL
4-nitroanisole	25 µg/mL

in methyl tert-butyl ether

PPM-505M-1 1 x 1 mL**Methylated Chlorinated Herbicides Mixture**

16 Analytes

acifluorfen methyl ester	50 µg/mL
bentazon methyl derivative	100 µg/mL
chloramben methyl ester	50 µg/mL
2,4-D methyl ester	100 µg/mL
dacthal	100 µg/mL
dalapon methyl ester	100 µg/mL
2,4-DB methyl ester	100 µg/mL
dicamba methyl ester	50 µg/mL
dichlorprop methyl ester	100 µg/mL
dinoseb methyl ether	100 µg/mL
methyl-3,5-dichlorobenzoate	50 µg/mL
4-nitroanisole	100 µg/mL
pentachloroanisole	10 µg/mL
picloram methyl ester	100 µg/mL
silvex methyl ester	25 µg/mL
2,4,5-T methyl ester	25 µg/mL

in methyl tert-butyl ether

HBM-430M-1 1 x 1 mL**MCPA/MCPP Solution**

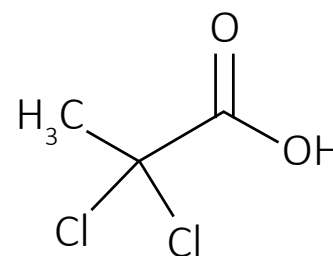
2 Analytes

MCPA
MCPP (mecoprop)
@ 20 µg/mL in methyl tert-butyl ether
HBM-513-1 1 x 1 mL

MCPA/MCPP Methyl Ester Solution

2 Analytes

MCPA methyl ester
MCPP methyl ester
@ 20 µg/mL in hexane
HBM-513M-1 1 x 1 mL

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EPA METHOD 515.4

CHLORINATED ACIDS

Method 515.4 is used to determine chlorinated acids. It is an extraction followed by derivatization method, using fast GC with a capillary column and electron capture detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: HBM-5157A-1

Internal Standard: PPS-174-1

Surrogate Standard: PPS-167-1
PPS-168-1

Recommended Method 515.4
Chlorinated Acids Mixtures

16 Analytes	
acifluorfen	5 µg/mL
bentazon	10 µg/mL
chloramben	5 µg/mL
2,4-D	10 µg/mL
dalapon	10 µg/mL
2,4-DB	10 µg/mL
dacthal acid metabolites	5 µg/mL
dicamba	5 µg/mL
3,5-dichlorobenzoic acid	5 µg/mL
dichlorprop	10 µg/mL
dinoseb	10 µg/mL
pentachlorophenol	1 µg/mL
picloram	5 µg/mL
silvex (2,4,5-TP)	2.5 µg/mL
2,4,5-T	2.5 µg/mL
quinclorac	5 µg/mL

in acetone

HBM-5157A-1 1 x 1 mL

Recommended Method 515.4
Surrogate Standard Solutions

2,4-dichlorophenylacetic acid (DCAA)

@ 1000 µg/mL in acetone

PPS-167-1 1 x 1 mL

DCAA methyl ester

@ 1000 µg/mL in acetone

PPS-168-1 1 x 1 mL

DCAA methyl ester

@ 200 µg/mL in hexane

PST-4065H200A01 1 x 1 mL

Recommended Method 515.4
Internal Standard Solution

4,4-dibromooctafluorobiphenyl (DBOB)

@ 2000 µg/mL in methyl tert-butyl ether

PPS-174-1 1 x 1 mL

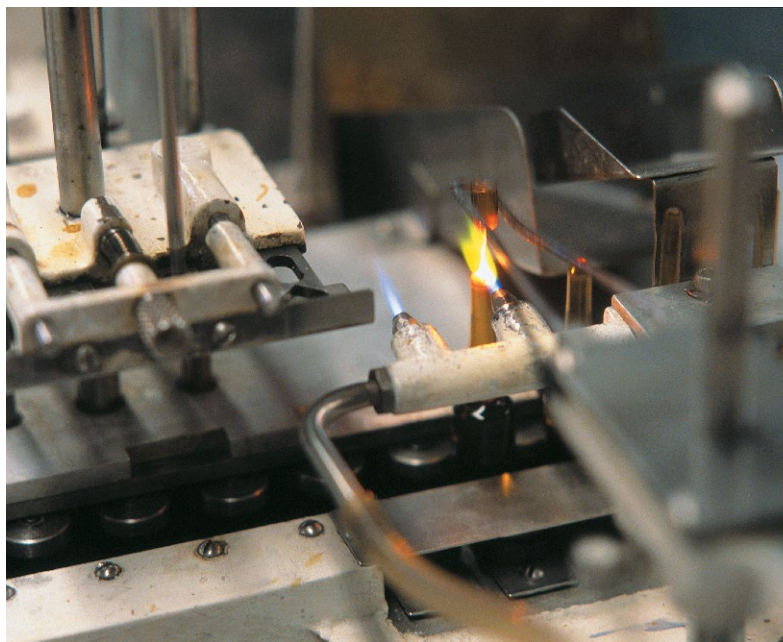
Chlorinated Herbicides Mixture

15 Analytes

acifluorfen	50 µg/mL
bentazon	100 µg/mL
chloramben	50 µg/mL
2,4-D	100 µg/mL
dalapon	100 µg/mL
2,4-DB	100 µg/mL
dicamba	50 µg/mL
3,5-dichlorobenzoic acid	50 µg/mL
dichlorprop	100 µg/mL
dinoseb	100 µg/mL
pentachlorophenol	10 µg/mL
picloram	50 µg/mL
quinclorac	50 µg/mL
2,4,5-T	25 µg/mL
2,4,5-TP	25 µg/mL

in acetone

HBM-435-1 1 x 1 mL



ADDITIONAL CALIBRATION STANDARDS FOR EPA METHOD 515

Methylated Chlorinated Herbicides Mixture

13 Analytes

acifluorfen methyl ester
bentazon methyl derivative
2,4-D methyl ester
dacthal
2,4-DB methyl ester
dicamba methyl ester
dichlorprop methyl ester
dinoseb methyl ether
methyl-3,5-dichlorobenzoate
pentachloroanisole
picloram methyl ester
silvex methyl ester
2,4,5-T methyl ester

@ 100 µg/mL in hexane/toluene (95:5 V/V)

HBM-510M-1 1 x 1 mL

Methylated Herbicides Mixture

8 Analytes

2,4-D methyl ester
dalapon methyl ester
dicamba methyl ester
dinoseb methyl ether
pentachloroanisole
picloram methyl ester
silvex methyl ester
2,4,5-T methyl ester

@ 100 µg/mL in hexane/toluene (95:5 V/V)

HBM-515M-1 1 x 1 mL

Methylated Herbicides Mixture

12 Analytes

acifluorfen methyl ester 50 µg/mL
bentazon methyl derivative 50 µg/mL
2,4-D methyl ester 500 µg/mL
dalapon methyl ester 500 µg/mL
2,4-DB methyl ester 1000 µg/mL
dicamba methyl ester 50 µg/mL
dichlorprop methyl ester 350 µg/mL
dinoseb methyl ether 100 µg/mL
pentachloroanisole 15 µg/mL
picloram methyl ester 50 µg/mL
silvex methyl ester 100 µg/mL
2,4,5-T methyl ester 100 µg/mL

in methyl tert-butyl ether

HBM-520M-1 1 x 1 mL

Chlorinated Herbicides Mixture

16 Analytes

acifluorfen 50 µg/mL
bentazon 100 µg/mL
chloramben 50 µg/mL
2,4-D 100 µg/mL
dalapon 100 µg/mL
2,4-DB 100 µg/mL
dicamba 50 µg/mL
3,5-dichlorobenzoic acid 50 µg/mL
dichlorprop 100 µg/mL
dinoseb 100 µg/mL
pentachlorophenol 10 µg/mL
picloram 50 µg/mL
quinclorac 50 µg/mL
2,4,5-T 25 µg/mL
tetrachloroterephthalic acid 50 µg/mL
2,4,5-TP 25 µg/mL

in acetone

HBM-440-1 1 x 1 mL

Chlorinated Herbicides Mixture (Free Acids)

8 Analytes

acifluorfen
bentazon
chloramben
3,5-dichlorobenzoic acid
4-nitrophenol
pentachlorophenol
picloram
tetrachloroterephthalic acid

@ 200 µg/mL in methanol

HBM-526-1 1 x 1 mL

Herbicides Mixture

12 Analytes

acifluorfen 200 µg/mL
bentazon 400 µg/mL
2,4-D 200 µg/mL
dalapon 2000 µg/mL
2,4-DB 4000 µg/mL
dicamba 200 µg/mL
dichlorprop 1400 µg/mL
dinoseb 4000 µg/mL
pentachlorophenol 80 µg/mL
picloram 200 µg/mL
silvex 400 µg/mL
2,4,5-T 400 µg/mL

in methyl tert-butyl ether

HBM-530-1 1 x 1 mL

ADDITIONAL CALIBRATION STANDARDS FOR EPA METHOD 515

(continued)

Herbicides Mixture*12 Analytes*

acifluorfen	50 µg/mL
bentazon	50 µg/mL
2,4-D	500 µg/mL
dalapon	500 µg/mL
2,4-DB	1000 µg/mL
dicamba	50 µg/mL
dichlorprop	350 µg/mL
dinoseb	100 µg/mL
pentachlorophenol	15 µg/mL
picloram	50 µg/mL
silvex	100 µg/mL
2,4,5-T	100 µg/mL

*in methyl tert-butyl ether***HBM-531-1** **1 x 1 mL****Herbicide Mixture (Underivatized Acids)***18 Analytes*

acifluorfen	100 µg/mL
bentazon	100 µg/mL
chloramben	100 µg/mL
2,4-D	100 µg/mL
dalapon	100 µg/mL
2,4-DB	100 µg/mL
dicamba	100 µg/mL
3,5-dichlorobenzoic acid	100 µg/mL
dichlorprop	100 µg/mL
dinoseb	100 µg/mL
MCPA	5000 µg/mL
MCPP (mecoprop)	5000 µg/mL
4-nitrophenol	100 µg/mL
pentachlorophenol	100 µg/mL
picloram	100 µg/mL
silvex	100 µg/mL
tetrachloroterephthalic acid	100 µg/mL
2,4,5-T	100 µg/mL

*in acetone***HBM-535-1** **1 x 1 mL***in methanol***HBM-536-1** **1 x 1 mL****Laboratory Performance Check Solution***5 Analytes*

dinoseb methyl ether	4 µg/mL
4-nitroanisole	1600 µg/mL
DCAA methyl ester	500 µg/mL
4,4-dibromooctafluorobiphenyl	250 µg/mL
methyl-3,5-dichlorobenzoate	600 µg/mL

*in methyl tert-butyl ether***PPM-515-1** **1 x 1 mL****DCAA Methyl Ester Solution**

DCAA methyl ester

*@ 200 µg/mL in hexane***PST-4065H100A01** **1 x 1 mL****Discover the ULTRA difference –
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EPA METHOD 521

NITROSAMINES

Method 521 is used to determine nitrosamines. It uses solid phase extraction and GC/MS.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	US-113N-1
Internal Standard:	IST-770-1
Surrogate Standard:	IST-760-1

Nitrosamines Mixture

9 Analytes

N-nitrosodi-n-butylamine
 N-nitrosodiethylamine
 N-nitrosodimethylamine
 N-nitrosodiphenylamine
 N-nitrosodi-n-propylamine
 N-nitrosomethylethylamine
 N-nitrosomorpholine
 N-nitrosopiperidine
 N-nitrosopyrrolidine

@ 2000 µg/mL in methylene chloride

US-113N-1 1 x 1 mL

Nitrosamines Mixture

7 Analytes

N-nitrosodiethylamine
 N-nitrosodimethylamine
 N-nitrosodi-n-butylamine
 N-nitrosodi-n-propylamine
 N-nitrosomethylethylamine
 N-nitrosopiperidine
 N-nitrosopyrrolidine

@ 200 µg/mL in methylene chloride

NSM-800-1 1 x 1 mL

@ 1000 µg/mL in methylene chloride

NSM-805-1 1 x 1 mL

Recommended Method 521
Surrogate & Internal Standards

N-nitrosodimethylamine-d6

@ 1000 µg/mL in methylene chloride

IST-760-1 1 x 1 mL

N-nitrosodi-n-propylamine-d14

@ 100 µg/mL in methylene chloride

IST-771-1 1 x 1 mL

@ 1000 µg/mL in methylene chloride

IST-770-1 1 x 1 mL

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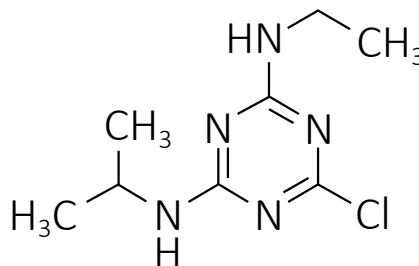


EPA METHOD 523

TRIAZINE PESTICIDES

Method 523 is used to determine triazine pesticides and their degradation products. It is a solid phase extraction method, using GC/MS with a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.



523 Method Stock Standards

Compound	Concentration	UOM	Part Number
ametryn	1200 µg/mL in ethyl acetate	1 x 1 mL	PST-024Y1200
atrazine	2000 µg/mL in ethyl acetate	1 x 1 mL	PST-005Y2000
atrazine-desethyl	1000 µg/mL in ethyl acetate	1 x 1 mL	PST-4010Y1000
atrazine-desethyl desisopropyl	100 µg/mL in ethyl acetate	1 x 1 mL	PST-6935Y100A01
atrazine-desisopropyl	500 µg/mL in ethyl acetate	1 x 1 mL	PST-4005Y500
cyanazine	2000 µg/mL in ethyl acetate	1 x 1 mL	PST-1360Y2000
prometon	1200 µg/mL in ethyl acetate	1 x 1 mL	PST-830Y1200
prometryn	900 µg/mL in ethyl acetate	1 x 1 mL	PST-840Y900
propazine	2000 µg/mL in ethyl acetate	1 x 1 mL	PST-850Y2000
simazine	500 µg/mL in ethyl acetate	1 x 1 mL	PST-1130Y500
simetryn	840 µg/mL in ethyl acetate	1 x 1 mL	PST-1805Y840
terbuthylazine	2000 µg/mL in ethyl acetate	1 x 1 mL	PST-1705Y2000
terbuthylazine-desethyl	850 µg/mL in ethyl acetate	1 x 1 mL	PST-6850Y850

523 Method Surrogate Standards

Compound	Concentration	UOM	Part Number
atrazine-desisopropyl-d ₅ (ethyl-d ₃)	neat	1 x 10 mg	PST-6940-10MG
cyanazine-d ₅ (n-ethyl-d ₃)	neat	1 x 10 mg	PST-6920-10MG
simazine-d ₁₀ (diethyl-d ₁₀)	neat	1 x 10 mg	PST-6950-10MG

523 Method Internal Standards

Compound	Concentration	UOM	Part Number
atrazine-d ₅	neat	1 x 10 mg	PST-6790-10MG
atrazine-desethyl-d ₇ (isopropyl-d ₇)	neat	1 x 10 mg	PST-6910-10MG

EPA METHOD 524.2

PURGEABLE ORGANIC COMPOUNDS

Method 524.2 is a purge and trap GC/MS method allowing determination of all VOCs, using a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	DWM-580-1 DWM-588-1 DWM-592-1
Internal & Surrogate Standard:	STM-320N-1

Recommended Method 524.2
VOC Mixture - Rev. 4.1 Additions

24 Analytes

acetone
acrylonitrile
allyl chloride
2-butanone (MEK)
carbon disulfide
chloroacetonitrile
1-chlorobutane
trans-1,4-dichloro-2-butene
1,1-dichloro-2-propanone
diethyl ether
ethyl methacrylate
hexachloroethane
2-hexanone
methacrylonitrile
methyl acrylate
methyl iodide
methyl methacrylate
4-methyl-2-pentanone
methyl tert-butyl ether
nitrobenzene
2-nitropropane
pentachloroethane
propionitrile
tetrahydrofuran

@ 2000 µg/mL in methanol

DWM-592-1 1 x 1 mL

Recommended Method 524.2 VOC Mixtures

60 Analytes

benzene	1,2-dichlorobenzene	n-propylbenzene
bromobenzene	1,3-dichlorobenzene	styrene
bromochloromethane	1,4-dichlorobenzene	1,1,1,2-tetrachloroethane
bromodichloromethane	dichlorodifluoromethane	1,1,2,2-tetrachloroethane
bromoform	1,1-dichloroethane	tetrachloroethene
bromomethane	1,2-dichloroethane	toluene
n-butylbenzene	1,1-dichloroethene	1,2,3-trichlorobenzene
sec-butylbenzene	cis-1,2-dichloroethene	1,2,4-trichlorobenzene
tert-butylbenzene	trans-1,2-dichloroethene	1,1,1-trichloroethane
carbon tetrachloride	1,2-dichloropropane	1,1,2-trichloroethane
chlorobenzene	1,3-dichloropropane	trichloroethene
chloroethane	2,2-dichloropropane	trichlorofluoromethane
chloroform	1,1-dichloropropene	1,2,3-trichloropropane
chloromethane	cis-1,3-dichloropropene	1,2,4-trimethylbenzene
2-chlorotoluene	trans-1,3-dichloropropene	1,3,5-trimethylbenzene
4-chlorotoluene	ethylbenzene	vinyl chloride
dibromochloromethane	hexachlorobutadiene	o-xylene
1,2-dibromo-3-chloropropane	isopropylbenzene	m-xylene
1,2-dibromoethane	4-isopropyltoluene	p-xylene
dibromomethane	methylene chloride	
	naphthalene	

@ 200 µg/mL in methanol

DWM-580-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-588-1 1 x 1 mL

Recommended Method 524.2
Internal & Surrogate
Standard Mixture

3 Analytes

4-bromofluorobenzene
1,2-dichlorobenzene-d₄
fluorobenzene

@ 1000 µg/mL in methanol

STM-321-1 1 x 1 mL

@ 2000 µg/mL in methanol

STM-320N-1 1 x 1 mL

(continued on next page)

VOC Mixtures (No Gases)

54 Analytes

benzene	1,3-dichlorobenzene	n-propylbenzene
bromobenzene	1,4-dichlorobenzene	styrene
bromochloromethane	1,1-dichloroethane	1,1,1,2-tetrachloroethane
bromodichloromethane	1,2-dichloroethane	1,1,2,2-tetrachloroethane
bromoform	1,1-dichloroethene	tetrachloroethene
n-butylbenzene	cis-1,2-dichloroethene	toluene
sec-butylbenzene	trans-1,2-dichloroethene	1,2,3-trichlorobenzene
tert-butylbenzene	1,2-dichloropropane	1,2,4-trichlorobenzene
carbon tetrachloride	1,3-dichloropropane	1,1,1-trichloroethane
chlorobenzene	2,2-dichloropropane	1,1,2-trichloroethane
chloroform	1,1-dichloropropene	trichloroethene
2-chlorotoluene	cis-1,3-dichloropropene	1,2,3-trichloropropane
4-chlorotoluene	trans-1,3-dichloropropene	1,2,4-trimethylbenzene
dibromochloromethane	ethylbenzene	1,3,5-trimethylbenzene
1,2-dibromo-3-chloropropane	hexachlorobutadiene	o-xylene
1,2-dibromoethane	isopropylbenzene	m-xylene
dibromomethane	4-isopropyltoluene	p-xylene
1,2-dichlorobenzene	methylene chloride	
	naphthalene	

@ 200 µg/mL in methanol

DWM-583-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-589N-1 1 x 1 mL

Surrogate Standard Mixture

2 Analytes

4-bromofluorobenzene
1,2-dichlorobenzene-d4

@ 2000 µg/mL in methanol

STM-590-1 1 x 1 mL

@ 1000 µg/mL in methanol

STM-591-1 1 x 1 mL

Internal & Surrogate Standard Mixture

2 Analytes

1,2-dichlorobenzene-d4
fluorobenzene

@ 2000 µg/mL in methanol

STM-250N-1 1 x 1 mL

VOC Gas Mixtures

6 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL

Individual Internal & Surrogate Standards

bromochloromethane

@ 200 µg/mL in methanol

STS-181-1 1 x 1 mL

4-bromofluorobenzene (BFB)

@ 1000 µg/mL in methanol

STS-114-1 1 x 1 mL

@ 2000 µg/mL in methanol

STS-110N-1 1 x 1 mL

1,2-dichlorobenzene-d4

@ 2000 µg/mL in methanol

STS-210-1 1 x 1 mL

fluorobenzene

@ 200 µg/mL in methanol

STS-164-1 1 x 1 mL

fluorobenzene

@ 1000 µg/mL in methanol

STS-161-1 1 x 1 mL

fluorobenzene

@ 2000 µg/mL in methanol

STS-160-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 524.2

(continued)

Drinking Water VOC-Liquids Mix

76 Analytes

acetone	1,2-dibromo-3-chloropropane	diethyl ether	n-propylbenzene
acrylonitrile	1,2-dibromoethane	ethylbenzene	styrene
allyl chloride	dibromomethane	ethyl methacrylate	1,1,1,2-tetrachloroethane
benzene	1,2-dichlorobenzene	hexachlorobutadiene	1,1,2,2-tetrachloroethane
bromobenzene	1,3-dichlorobenzene	2-hexanone	trichloroethene
bromochloromethane	1,4-dichlorobenzene	isopropylbenzene	tetrahydrofuran
bromoform	trans-1,4-dichloro-2-butene	4-isopropyltoluene	toluene
2-butanone	1,1-dichloroethane	methacrylonitrile	1,2,3-trichlorobenzene
n-butylbenzene	1,2-dichloroethane	methyl acrylate	1,2,4-trichlorobenzene
sec-butylbenzene	1,1-dichloroethene	methylene chloride	1,1,1-trichloroethane
tert-butylbenzene	cis-1,2-dichloroethene	methyl iodide	1,1,2-trichloroethane
carbon disulfide	trans-1,2-dichloroethene	methyl methacrylate	tetrachloroethene
carbon tetrachloride	1,2-dichloropropane	4-methyl-2-pentanone	1,2,3-trichloropropane
chloroacetonitrile	1,3-dichloropropane	methyl tert-butyl ether	1,2,4-trimethylbenzene
chlorobenzene	2,2-dichloropropane	naphthalene	1,3,5-trimethylbenzene
chloroform	1,1-dichloropropene	nitrobenzene	o-xylene
2-chlorotoluene	1,1-dichloro-2-propanone	2-nitropropane	m-xylene
4-chlorotoluene	cis-1,3-dichloropropene	pentachloroethane	p-xylene
dibromochloromethane	trans-1,3-dichloropropene	propionitrile	bromodichloromethane

Low @ 200 µg/mL in methanol

DWM-524-1 1 x 1 mL

High @ 2000 µg/mL in methanol

DWM-524A-1 1 x 1 mL

Drinking Water VOA Mega Mixture

73 Analytes

acrylonitrile	1,2-dibromo-3-chloropropane	ethylbenzene	1,1,1,2-tetrachloroethane
allyl chloride	1,2-dibromoethane	ethyl methacrylate	1,1,2,2-tetrachloroethane
benzene	dibromomethane	hexachlorobutadiene	tetrachloroethene
bromobenzene	1,2-dichlorobenzene	hexachloroethane	tetrahydrofuran
bromochloromethane	1,3-dichlorobenzene	iodomethane	toluene
bromodichloromethane	1,4-dichlorobenzene	isopropylbenzene	1,2,3-trichlorobenzene
bromoform	trans-1,4-dichloro-2-butene	4-isopropyltoluene	1,2,4-trichlorobenzene
n-butylbenzene	1,1-dichloroethane	methacrylonitrile	1,1,1-trichloroethane
sec-butylbenzene	1,2-dichloroethane	methyl acrylate	1,1,2-trichloroethane
tert-butylbenzene	1,1-dichloroethene	methyl tert-butyl ether	trichloroethene
carbon disulfide	cis-1,2-dichloroethene	methylene chloride	1,2,3-trichloropropane
carbon tetrachloride	trans-1,2-dichloroethene	methyl methacrylate	1,2,4-trimethylbenzene
chloroacetonitrile	1,2-dichloropropane	naphthalene	1,3,5-trimethylbenzene
chlorobenzene	1,3-dichloropropane	nitrobenzene	o-xylene
1-chlorobutane	2,2-dichloropropane	2-nitropropane	m-xylene
dibromochloromethane	1,1-dichloropropene	pentachloroethane	p-xylene
chloroform	cis-1,3-dichloropropene	propionitrile	
2-chlorotoluene	trans-1,3-dichloropropene	n-propylbenzene	
4-chlorotoluene	diethyl ether	styrene	

@ 2000 µg/mL in methanol

DWM-525-1 1 x 1 mL

EPA METHOD 524.2

(continued)

**Volatile Organic Contaminants
Mix 1 (VOC-1)**

9 Analytes

bromobenzene
4-chlorotoluene
1,2-dibromo-3-chloropropane
1,2-dibromoethane
dibromomethane
2,2-dichloropropane
1,1-dichloropropene
styrene
p-xylene

@ 50 µg/mL in methanol

EPA-2044N-1**1 x 1 mL****Halomethanes Mixture**

12 Analytes

bromochloromethane
bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
chloroform
chloromethane
dibromochloromethane
dibromomethane
dichlorodifluoromethane
methylene chloride
trichlorofluoromethane

@ 200 µg/mL in methanol

DWM-510-1**1 x 1 mL****Haloethanes Mixture**

14 Analytes

chloroethane
1,2-dibromoethane
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
tetrachloroethene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
vinyl chloride

@ 200 µg/mL in methanol

DWM-520-1**1 x 1 mL****Volatile Organic Contaminants
Mix 2 (VOC-2)**

7 Analytes

bromochloromethane
2-chlorotoluene
cis-1,2-dichloroethene
1,3-dichloropropane
1,1,1,2-tetrachloroethane
1,2,3-trichloropropane
o-xylene

@ 50 µg/mL in methanol

EPA-2045N-1**1 x 1 mL****Drinking Water Calibration Mix**

12 Analytes

carbon disulfide
chloroacetonitrile
1-chlorobutane
1,1-dichloro-2-propanone
diethyl ether
hexachloroethane
iodomethane
methacrylonitrile
2-nitropropane
propionitrile
methyl tert-butyl ether
trans-1,4-dichloro-2-butene

@ 2000 µg/mL in methanol

DWM-526-1**1 x 1 mL****Drinking Water Calibration Mix**

5 Analytes

2-butanone
2-hexanone
acetone
MIBK
tetrahydrofuran

@ 2000 µg/mL in methanol/water (9:1 V/V)

DWM-527-1**1 x 1 mL****Discretionary Aromatic Volatiles
Mix (VOB)**

12 Analytes

n-butylbenzene
sec-butylbenzene
tert-butylbenzene
hexachlorobutadiene
isopropylbenzene
4-isopropyltoluene
naphthalene
n-propylbenzene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene

@ 50 µg/mL in methanol

EPA-2043N-1**1 x 1 mL****Ketones Mix**

5 Analytes

1,1-dichloro-2-propanone
2-butanone
2-hexanone
4-methyl-2-pentanone
acetone

@ 5000 µg/mL in methanol/water (9:1 V/V)

DWM-529-1**1 x 1 mL****Drinking Water Calibration Mix**

7 Analytes

acrylonitrile
allyl chloride
ethyl methacrylate
methyl acrylate
methyl methacrylate
nitrobenzene
pentachloroethane

@ 2000 µg/mL in methanol

DWM-528-1**1 x 1 mL**

EPA METHOD 524.2

(continued)

Halopropanes Mixture

9 Analytes

1,2-dibromo-3-chloropropane
 1,2-dichloropropane
 1,3-dichloropropane
 2,2-dichloropropane
 1,1-dichloropropene
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 hexachlorobutadiene
 1,2,3-trichloropropane

@ 200 µg/mL in methanol

DWM-530-1**1 x 1 mL**

Haloalkanes Mixture

35 Analytes

bromochloromethane	dibromomethane	trans-1,3-dichloropropene
bromodichloromethane	dichlorodifluoromethane	hexachlorobutadiene
bromoform	1,1-dichloroethane	methylene chloride
bromomethane	1,2-dichloroethane	1,1,1,2-tetrachloroethane
carbon tetrachloride	1,1-dichloroethene	1,1,2,2-tetrachloroethane
chloroethane	cis-1,2-dichloroethene	tetrachloroethene
chloroform	trans-1,2-dichloroethene	1,1,1-trichloroethane
chloromethane	1,2-dichloropropane	1,1,2-trichloroethane
dibromochloromethane	1,3-dichloropropane	trichloroethene
1,2-dibromo-3-chloropropane	2,2-dichloropropane	trichlorofluoromethane
1,2-dibromoethane	1,1-dichloropropene	1,2,3-trichloropropane
	cis-1,3-dichloropropene	vinyl chloride

@ 200 µg/mL in methanol

DWM-540-1**1 x 1 mL**

Aromatic Hydrocarbons Mixture

16 Analytes

benzene
 n-butylbenzene
 sec-butylbenzene
 tert-butylbenzene
 ethylbenzene
 isopropylbenzene
 4-isopropyltoluene
 naphthalene
 n-propylbenzene
 styrene
 toluene
 1,2,4-trimethylbenzene
 1,3,5-trimethylbenzene
 o-xylene
 m-xylene
 p-xylene

@ 200 µg/mL in methanol

DWM-550-1**1 x 1 mL**

Aromatic Halocarbons Mixture

9 Analytes

bromobenzene
 chlorobenzene
 2-chlorotoluene
 4-chlorotoluene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,2,3-trichlorobenzene
 1,2,4-trichlorobenzene

@ 200 µg/mL in methanol

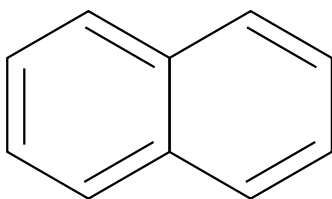
DWM-560-1**1 x 1 mL**

Aromatics Mixture

25 Analytes

benzene
 bromobenzene
 n-butylbenzene
 sec-butylbenzene
 tert-butylbenzene
 chlorobenzene
 2-chlorotoluene
 4-chlorotoluene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 ethylbenzene
 isopropylbenzene
 4-isopropyltoluene
 naphthalene
 n-propylbenzene
 styrene
 toluene
 1,2,3-trichlorobenzene
 1,2,4-trichlorobenzene
 1,2,4-trimethylbenzene
 1,3,5-trimethylbenzene
 o-xylene
 m-xylene
 p-xylene

@ 200 µg/mL in methanol

DWM-570-1**1 x 1 mL**

VOC Mixture with MTBE

55 Analytes

benzene	1,2-dichlorobenzene	naphthalene
bromobenzene	1,3-dichlorobenzene	n-propylbenzene
bromochloromethane	1,4-dichlorobenzene	styrene
bromodichloromethane	1,1-dichloroethane	1,1,1,2-tetrachloroethane
bromoform	1,2-dichloroethane	1,1,2,2-tetrachloroethane
n-butylbenzene	1,1-dichloroethene	tetrachloroethene
sec-butylbenzene	cis-1,2-dichloroethene	toluene
tert-butylbenzene	trans-1,2-dichloroethene	1,2,3-trichlorobenzene
tert-butyl methyl ether	1,2-dichloropropane	1,2,4-trichlorobenzene
carbon tetrachloride	1,3-dichloropropane	1,1,1-trichloroethane
chlorobenzene	2,2-dichloropropane	1,1,2-trichloroethane
chloroform	1,1-dichloropropene	trichloroethene
2-chlorotoluene	cis-1,3-dichloropropene	1,2,3-trichloropropane
4-chlorotoluene	trans-1,3-dichloropropene	1,2,4-trimethylbenzene
dibromochloromethane	ethylbenzene	1,3,5-trimethylbenzene
1,2-dibromo-3-chloropropane	hexachlorobutadiene	o-xylene
1,2-dibromoethane	isopropylbenzene	m-xylene
dibromomethane	4-isopropyltoluene	p-xylene
	methylene chloride	

@ 2000 µg/mL in methanol

DWM-596-1 1 x 1 mL**Oxygenates Standard**

5 Analytes

tert-butanol	10000 µg/mL
tert-butyl ethyl ether	2000 µg/mL
diisopropyl ether	2000 µg/mL
tert-amyl ethyl ether	2000 µg/mL
tert-amyl methyl ether	2000 µg/mL

in methanol

SCA-112-1 1 x 1 mL**Internal Standard Mixture**

2 Analytes

4-bromofluorobenzene
alpha,alpha,alpha-trifluorotoluene

@ 2500 µg/mL in methanol

STM-411-1 1 x 1 mL**VOC Mixture**

24 Analytes

acetone
acrylonitrile
allyl chloride
carbon disulfide
chloroacetonitrile
1-chlorobutane
1,1-dichloro-2-propanone
diethyl ether
ethyl methacrylate
hexachloroethane
2-hexanone
2-butanone (MEK)
methacrylonitrile
methyl acrylate
methyl iodide
methyl methacrylate
methyl tert-butyl ether
4-methyl-2-pentanone
nitrobenzene
2-nitropropane
pentachloroethane
propionitrile
tetrahydrofuran
trans-1,4-dichloro-2-butene

@ 200 µg/mL in methanol

DWM-710-1 1 x 1 mL

Find additional EPA Method 500
Series Standards online:

www.ultrasci.com/EPA500

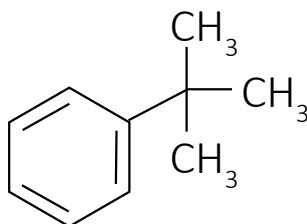
EPA METHOD 524.3, 524.4

PURGEABLE ORGANIC COMPOUNDS

Method 524.3 is used for measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry.

Method 524.4 is used for measurement of Purgeable Organic Compounds in Water by Gas Chromatography/Mass Spectrometry using Nitrogen Purge Gas.

To read the complete method, log onto our website at www.ultrasci.com.



524.3/524.4 Method VOA Mega Mix Stock Standard

76 Analytes

allyl chloride	1,3-dichlorobenzene	hexachlorobutadiene	tert-butylbenzene
benzene	1,4-dichlorobenzene	hexachloroethane	tetrachloroethene
bromobenzene	1,1-dichloroethane	iodomethane	1,1,1,2-tetrachloroethane
bromochloromethane	1,2-dichloroethane	isopropylbenzene	1,1,2,2-tetrachloroethane
bromodichloromethane	1,1-dichloroethene	4-isopropyltoluene	tetrahydrofuran
bromoform	cis-1,2-dichloroethene	methyl acetate	toluene
bromomethane	trans-1,2-dichloroethene	methylene chloride	1,2,3-trichlorobenzene
1,3-butadiene	1,2-dichloropropane	methyl tert-butyl ether	1,2,4-trichlorobenzene
carbon disulfide	1,3-dichloropropane	m-xylene	1,1,1-trichloroethane
carbon tetrachloride	1,1-dichloropropene	naphthalene	1,1,2-trichloroethane
1-chlorobutane	cis-1,3-dichloropropene	n-butylbenzene	trichloroethene
chlorobenzene	trans-1,3-dichloropropene	n-propylbenzene	trichlorofluoromethane
chlorodifluoromethane	dibromochloromethane	o-xylene	1,2,3-trichloropropane
chloroform	dibromomethane	pentachloroethane	1,2,4-trimethylbenzene
chloromethane	dichlorodifluoromethane	p-xylene	1,3,5-trimethylbenzene
2-chlorotoluene	diethyl ether	sec-butylbenzene	vinyl chloride
4-chlorotoluene	diisopropyl ether	styrene	
1,2-dibromoethane	ethylbenzene	tert-amyl ethyl ether	
1,2-dibromo-3-chloropropane	ethyl methacrylate	tert-amyl methyl ether	
1,2-dichlorobenzene	ethyl tert-butyl ether	tert-butanol	

@ 2000 µg/mL in methanol

PMX-180-1

1 x 1 mL

EPA METHOD 524.3, 524.4

(continued)

**524.3 Method Internal Standard
Mix Stock Standard**

3 Analytes

chlorobenzene-d5
1,4-difluorobenzene
1,4-dichlorobenzene-d4

@ 2000 µg/mL in methanol

ISM-760-1 1 x 1 mL

@ 2500 µg/mL in methanol

STM-600-1 1 x 1 mL**524.3 Method Surrogate Standard**

3 Analytes

4-bromofluorobenzene
1,2-dichlorobenzene-d4
tert-butyl methyl-d3 ether

@ 2000 µg/mL in methanol

ISM-765-1 1 x 1 mL

@ 1000 µg/mL in methanol

ISM-765A-1 1 x 1 mL

@ 2500 µg/mL in methanol

STM-610-1 1 x 1 mL**524.3 Internal Standard /
Surrogate Mix**

6 Analytes

4-bromofluorobenzene
chlorobenzene-d5
1,2-dichlorobenzene-d4
1,4-dichlorobenzene-d4
1,4-difluorobenzene
tert-butyl methyl-d3 ether

@ 2000 µg/mL in methanol

STM-700-1 1 x 1 mL**524.3 / 524.4 Basic Mix Stock Standard**

63 Analytes

allyl chloride	1,3-dichlorobenzene	ethyl methacrylate	styrene
benzene	1,4-dichlorobenzene	hexachlorobutadiene	tert-butylbenzene
bromobenzene	1,1-dichloroethane	hexachloroethane	tetrachloroethene
bromochloromethane	1,2-dichloroethane	iodomethane	1,1,1,2-tetrachloroethane
bromodichloromethane	1,1-dichloroethene	isopropylbenzene	1,1,2,2-tetrachloroethane
bromoform	cis-1,2-dichloroethene	4-isopropyltoluene	tetrahydrofuran
carbon disulfide	trans-1,2-dichloroethene	methylene chloride	toluene
carbon tetrachloride	1,2-dichloropropane	methyl tert-butyl ether	1,2,3-trichlorobenzene
chlorobenzene	1,3-dichloropropane	m-xylene	1,2,4-trichlorobenzene
1-chlorobutane	1,1-dichloropropene	naphthalene	1,1,1-trichloroethane
chloroform	cis-1,3-dichloropropene	n-butylbenzene	1,1,2-trichloroethane
2-chlorotoluene	trans-1,3-dichloropropene	n-propylbenzene	1,2,3-trichloropropane
4-chlorotoluene	dibromochloromethane	o-xylene	trichloroethene
1,2-dibromoethane	dibromomethane	pentachloroethane	1,2,4-trimethylbenzene
1,2-dibromo-3-chloropropane	diethyl ether	p-xylene	1,3,5-trimethylbenzene
1,2-dichlorobenzene	ethylbenzene	sec-butylbenzene	

@ 2000 µg/mL in methanol

DWM-603-1 1 x 1 mL

@ 10,000 µg/mL in methanol

DWM-602-1 1 x 1 mL

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EPA METHOD 524.3, 524.4

(continued)

Calibration Mixture #2

17 Analytes

benzene
 sec-butylbenzene
 tert-butylbenzene
 1,2-dibromo-3-chloropropane
 1,4-dichlorobenzene
 2,2-dichloropropane
 hexachlorobutadiene
 4-isopropyltoluene
 naphthalene
 n-propylbenzene
 toluene
 1,2,3-trichlorobenzene
 1,2,4-trichlorobenzene
 1,2,4-trimethylbenzene
 1,3,5-trimethylbenzene
 o-xylene
 m-xylene

@ 2000 µg/mL in methanol

DWM-536-1 1 x 1 mL**524.3 / 524.4 Method Supplemental Mix**

8 Analytes

1,3-butadiene
 chlorodifluoromethane
 diisopropyl ether
 methyl acetate
 t-amyl ethyl ether
 t-amyl methyl ether
 t-butyl alcohol
 t-butyl ethyl ether

@ 2000 µg/mL in methanol

DWM-605-1 1 x 1 mL

@ 10,000 µg/mL in methanol

DWM-601-1 1 x 1 mL**524.3 / 524.4 Method Gas Mix**

5 Analytes

bromomethane
 chloromethane
 dichlorodifluoromethane
 trichlorofluoromethane
 vinyl chloride

@ 2000 µg/mL in methanol

DWM-604-1 1 x 1 mL

@ 10,000 µg/mL in methanol

DWM-600-1 1 x 1 mL**EPA 524 Update Mixture with Pentachloroethane**

20 Analytes

acrylonitrile	4000 µg/mL
allyl chloride	2000 µg/mL
carbon disulfide	2000 µg/mL
chloroacetonitrile	40000 µg/mL
1-chlorobutane	2000 µg/mL
1,1-dichloro-2-propanone	10000 µg/mL
diethyl ether	2000 µg/mL
ethyl methacrylate	2000 µg/mL
hexachloroethane	2000 µg/mL
methacrylonitrile	2000 µg/mL
methyl acrylate	2000 µg/mL
methyl iodide	2000 µg/mL
methyl methacrylate	4000 µg/mL
nitrobenzene	20000 µg/mL
2-nitropropane	4000 µg/mL
pentachloroethane	2000 µg/mL
propionitrile	20000 µg/mL
methyl tert-butyl ether	2000 µg/mL
tetrahydrofuran	4000 µg/mL
trans-1,4-dichloro-2-butene	4000 µg/mL

in methanol

DWM-524S-1 1 x 1 mL**EPA 524 Update Mixture**

19 Analytes

acrylonitrile	4000 µg/mL
allyl chloride	2000 µg/mL
carbon disulfide	2000 µg/mL
chloroacetonitrile	20000 µg/mL
1-chlorobutane	2000 µg/mL
1,1-dichloro-2-propanone	10000 µg/mL
diethyl ether	2000 µg/mL
ethyl methacrylate	2000 µg/mL
hexachloroethane	2000 µg/mL
methacrylonitrile	2000 µg/mL
methyl acrylate	2000 µg/mL
methyl iodide	2000 µg/mL
methyl methacrylate	4000 µg/mL
nitrobenzene	20000 µg/mL
2-nitropropane	4000 µg/mL
propionitrile	20000 µg/mL
tert-butylmethyl ether	2000 µg/mL
tetrahydrofuran	4000 µg/mL
trans-1,4-dichloro-2-butene	4000 µg/mL

in methanol

DWM-524X-1 1 x 1 mL**VOC Calibration Mix**

7 Analytes

bromomethane
 1,3-butadiene
 chlorodifluoromethane
 chloromethane
 dichlorodifluoromethane
 trichlorofluoromethane
 vinyl chloride

@ 2000 µg/mL in methanol

DWM-533-1 1 x 1 mL

EPA METHOD 524.3, 524.4

(continued)

VOA Mega Mixture

68 Analytes

allyl chloride	4-chlorotoluene	trans-1,3-dichloropropene	styrene
tert-amyl ethyl ether	dibromochloromethane	diethyl ether	tetrachloroethene
tert-amyl methyl ether	1,2-dibromo-3-chloropropane	isopropyl ether	1,1,1,2-tetrachloroethane
benzene	dibromomethane	ethylbenzene	1,1,2,2-tetrachloroethane
bromobenzene	1,2-dibromoethane	tert-butyl ethyl ether	tetrahydrofuran
bromochloromethane	1,2-dichlorobenzene	ethyl methacrylate	toluene
bromoform	1,3-dichlorobenzene	hexachlorobutadiene	1,2,3-trichlorobenzene
tert-butanol	1,4-dichlorobenzene	hexachloroethane	1,2,4-trichlorobenzene
n-butylbenzene	1,1-dichloroethane	methyl iodide	1,1,1-trichloroethane
sec-butylbenzene	1,2-dichloroethane	isopropylbenzene	1,1,2-trichloroethane
tert-butylbenzene	1,1-dichloroethene	4-isopropyltoluene	trichloroethene
carbon disulfide	cis-1,2-dichloroethene	methyl acetate	1,2,3-trichloropropane
carbon tetrachloride	trans-1,2-dichloroethene	methyl tert-butyl ether	1,2,4-trimethylbenzene
chlorobenzene	1,2-dichloropropane	methylene chloride	1,3,5-trimethylbenzene
chloroform	1,3-dichloropropane	naphthalene	o-xylene
1-chlorobutane	1,1-dichloropropene	pentachloroethane	m-xylene
2-chlorotoluene	cis-1,3-dichloropropene	n-propylbenzene	p-xylene

@ 2000 µg/mL in methanol

DWM-532-1

1 x 1 mL

Calibration Mega Mixture

69 Analytes

allyl chloride	4-chlorotoluene	trans-1,3-dichloropropene	tetrachloroethene
tert-amyl ethyl ether	dibromochloromethane	diethyl ether	tetrahydrofuran
tert-amyl methyl ether	1,2-dibromo-3-chloropropane	isopropyl ether	toluene
benzene	1,2-dibromoethane	ethylbenzene	1,2,3-trichlorobenzene
bromobenzene	dibromomethane	ethyl methacrylate	1,2,4-trichlorobenzene
bromochloromethane	1,2-dichlorobenzene	hexachlorobutadiene	1,1,1-trichloroethane
bromodichloromethane	1,3-dichlorobenzene	hexachloroethane	1,1,2-trichloroethane
bromoform	1,4-dichlorobenzene	isopropylbenzene	trichloroethene
tert-butanol	1,1-dichloroethane	4-isopropyltoluene	trichlorofluoromethane
n-butylbenzene	1,2-dichloroethane	methyl acetate	1,2,3-trichloropropane
sec-butylbenzene	1,1-dichloroethene	methyl tert-butyl ether	1,2,4-trimethylbenzene
tert-butylbenzene	cis-1,2-dichloroethene	methylene chloride	1,3,5-trimethylbenzene
tert-butyl ethyl ether	trans-1,2-dichloroethene	naphthalene	o-xylene
carbon disulfide	1,2-dichloropropane	pentachloroethane	m-xylene
carbon tetrachloride	1,3-dichloropropane	n-propylbenzene	p-xylene
chlorobenzene	2,2-dichloropropane	styrene	
chloroform	1,1-dichloropropene	1,1,1,2-tetrachloroethane	
2-chlorotoluene	cis-1,3-dichloropropene	1,1,2,2-tetrachloroethane	

@ 2000 µg/mL in methanol

DWM-534-1

1 x 1 mL

EPA METHOD 524.3, 524.4

(continued)

VOA Mixture

73 Analytes

benzene	1,4-dichlorobenzene	styrene	methyl methacrylate
bromobenzene	1,1-dichloroethane	1,1,1,2-tetrachloroethane	tetrahydrofuran
bromochloromethane	1,2-dichloroethane	1,1,2,2-tetrachloroethane	acrylonitrile
bromodichloromethane	1,1-dichloroethene	tetrachloroethene	carbon disulfide
bromoform	cis-1,2-dichloroethene	toluene	trans-1,4-dichloro-2-butene
n-butylbenzene	trans-1,2-dichloroethene	1,2,3-trichlorobenzene	iodomethane
sec-butylbenzene	1,2-dichloropropane	1,2,4-trichlorobenzene	methacrylonitrile
tert-butylbenzene	1,3-dichloropropane	1,1,1-trichloroethane	nitrobenzene
carbon tetrachloride	2,2-dichloropropane	trichloroethene	pentachloroethane
chlorobenzene	1,1-dichloropropene	1,2,3-trichloropropane	chloroacetonitrile
chloroform	cis-1,3-dichloropropene	1,2,4-trimethylbenzene	1-chlorobutane
2-chlorotoluene	trans-1,3-dichloropropene	1,3,5-trimethylbenzene	diethyl ether
4-chlorotoluene	ethylbenzene	o-xylene	methyl tert-butyl ether
dibromochloromethane	hexachlorobutadiene	m-xylene	propionitrile
1,2-dibromo-3-chloropropane	isopropylbenzene	p-xylene	methyl acrylate
1,2-dibromoethane	4-isopropyltoluene	2-nitropropane	1,1,2-trichloroethane
dibromomethane	methylene chloride	allyl chloride	
1,2-dichlorobenzene	naphthalene	ethyl methacrylate	
1,3-dichlorobenzene	n-propylbenzene	hexachloroethane	

@ 2000 µg/mL in methanol

DWM-539-1

1 x 1 mL

Drinking Water Pesticides Mixture

14 Analytes

alachlor
aldrin
atrazine
dieldrin
endrin
heptachlor
heptachlor epoxide - isomer B
hexachlorobenzene
hexachlorocyclopentadiene
lindane (gamma-BHC)
methoxychlor
propachlor
simazine
trifluralin

@ 100 µg/mL in acetone

PPM-525F-1

1 x 1 mL

Surrogate Standard Mixture

3 Analytes

tert-butyl methyl-d3 ether
4-bromofluorobenzene
1,2-dichlorobenzene-d4

@ 2000 µg/mL in methanol

ISM-765-1

1 x 1 mL

@ 1000 µg/mL in methanol

ISM-765A-1

1 x 1 mL

@ 2500 µg/mL in methanol

STM-610-1

1 x 1 mL

Unregulated Contaminant
Monitoring Rule 3 Mix

9 Analytes

1,1-dichloroethane	300 µg/mL
1,2,3-trichloropropane	300 µg/mL
1,3-butadiene	1000 µg/mL
bromochloromethane	600 µg/mL
bromomethane	2000 µg/mL
chlorodifluoromethane	800 µg/mL
chloromethane	2000 µg/mL
n-propylbenzene	300 µg/mL
sec-butylbenzene	40 µg/mL

in methanol

UCMR-100-1

1 x 1 mL

VOC Mixture

60 Analytes

benzene	4-chlorotoluene	2,2-dichloropropane	tetrachloroethene
bromobenzene	dibromochloromethane	1,2-dichloropropane	toluene
bromochloromethane	1,2-dibromo-3-chloropropane	1,1-dichloropropene	1,2,3-trichlorobenzene
bromodichloromethane	1,2-dibromoethane	cis-1,3-dichloropropene	1,2,4-trichlorobenzene
bromoform	dibromomethane	trans-1,3-dichloropropene	1,1,1-trichloroethane
bromomethane	1,2-dichlorobenzene	ethylbenzene	1,1,2-trifluoroethane
n-butylbenzene	1,3-dichlorobenzene	hexachlorobutadiene	trichloroethene
sec-butylbenzene	1,4-dichlorobenzene	isopropylbenzene	1,2,3-trichloropropane
tert-butylbenzene	dichlorodifluoromethane	4-isopropyltoluene	1,2,4-trimethylbenzene
carbon tetrachloride	1,1-dichloroethane	methylene chloride	1,3,5-trimethylbenzene
chlorobenzene	1,2-dichloroethane	naphthalene	o-xylene
chloroethane	1,1-dichloroethene	n-propylbenzene	m-xylene
chloroform	cis-1,2-dichloroethene	styrene	p-xylene
chloromethane	trans-1,2-dichloroethene	1,1,1,2-tetrachloroethane	trichlorofluoromethane
2-chlorotoluene	1,3-dichloropropane	1,1,2,2-tetrachloroethane	vinyl chloride

@ 200 µg/mL in methanol

DWM-705-1

1 x 1 mL

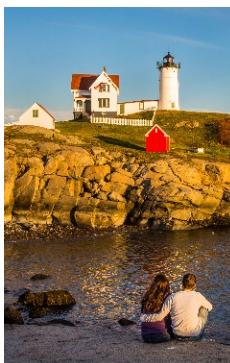
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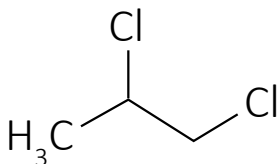
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SAFE DRINKING WATER ACT

PHASE II, PHASE V, AND
PHASE VIB STANDARDS

These standards are ideal for analysis of regulated compounds under the Safe Drinking Water Act (SDWA).



Phase V Additions VOC Mixture

3 Analytes

methylene chloride
1,1,2-trichloroethane
1,2,4-trichlorobenzene

@ 2000 µg/mL in Methanol

DWM-593A-1

1 x 1 mL

SDWA Volatiles Mixture

27 Analytes

benzene
bromodichloromethane
bromoform
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,2-dichlorobenzene
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
ethylbenzene
methylene chloride
styrene
tetrachloroethene
toluene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
vinyl chloride
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in Methanol

DWM-594-1

1 x 1 mL

Regulated VOC Mixture

12 Analytes

benzene
bromodichloromethane
bromoform
carbon tetrachloride
chloroform
dibromochloromethane
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
1,1,1-trichloroethane
trichloroethene
vinyl chloride

@ 2000 µg/mL in Methanol

DWM-590-1

1 x 1 mL

Promulgated VOC Mixture

12 Analytes

chlorobenzene
1,2-dichlorobenzene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
ethylbenzene
styrene
tetrachloroethene
toluene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in Methanol

DWM-591-1

1 x 1 mL

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SAFE DRINKING WATER ACT

(continued)

SDWA Herbicides Mixture

6 Analytes

2,4-D	200 µg/mL
dalapon	1300 µg/mL
dinoseb	200 µg/mL
silvex (2,4,5-TP)	100 µg/mL
pentachlorophenol	100 µg/mL
picloram	100 µg/mL

Acids Mixture

in Methanol

HBM-5154A-1 1 x 1 mL**Methylated Mixture**

in Methanol

HBM-5154M-1 1 x 1 mL**SDWA SOCs Mixture**

6 Analytes

benzo[a]pyrene
bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
hexachlorobenzene
hexachlorocyclopentadiene
pentachlorophenol (@ 2000 µg/mL)

@ 500 µg/mL in Acetone

SVM-500-1 1 x 1 mL**SDWA Carbamate Pesticides Mixture**

2 Analytes

carbofuran
oxamyl

@ 100 µg/mL in Methanol

PPM-530B-1 1 x 1 mL**Drinking Water Pesticides Mixture**

14 Analytes

alachlor
aldrin
atrazine
dieldrin
endrin
heptachlor
heptachlor epoxide - isomer B
hexachlorobenzene
hexachlorocyclopentadiene
lindane (g-BHC)
methoxychlor
propachlor
simazine
trifluralin

@ 100 µg/mL in Acetone

PPM-525F-1 1 x 1 mL

EPA METHOD 525.1

ORGANIC COMPOUNDS

Method 525.1 is used to determine SOCs. It is a liquid-solid extraction method, using GC/MS with a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	PM-525A-1 PPM-525C-1 PSM-525-1 RPCM-525-1 EPA-1161-1
------------------------	------------------------------------------------------------------

Internal & Surrogate Standard:	ISM-310-1
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Recommended Method 525.1
PAH Mixtures

13 Analytes

acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
chrysene
dibenz[a,h]anthracene
fluorene
indeno[1,2,3-cd]pyrene
phenanthrene
pyrene

@ 100 µg/mL in acetone

PM-525A-1 1 x 1 mL

@ 500 µg/mL in acetone

PM-525B-1 1 x 1 mL

Recommended Method 525.1
Organochlorine Pesticides Mixes

12 Analytes

alachlor
aldrin
atrazine
alpha-chlordane
gamma-chlordane
gamma-BHC (lindane)
endrin
heptachlor
heptachlor epoxide (B)
methoxychlor
trans-nonachlor
simazine

@ 100 µg/mL in acetone

PPM-525C-1 1 x 1 mL

@ 500 µg/mL in acetone

PPM-525D-1 1 x 1 mL

Drinking Water Pesticides Mixture

14 Analytes

alachlor
aldrin
atrazine
dieldrin
endrin
heptachlor
heptachlor epoxide - isomer B
hexachlorobenzene
hexachlorocyclopentadiene
lindane (gamma-BHC)
methoxychlor
propachlor
simazine
trifluralin

@ 100 µg/mL in acetone

PPM-525F-1 1 x 1 mL

Recommended Method 525.1
Extractables Mixtures

9 Analytes

bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
hexachlorobenzene
hexachlorocyclopentadiene
pentachlorophenol †
(† = @ 400 µg/mL in PSM-525)
(† = @ 2000 µg/mL in PSM-525A)

@ 100 µg/mL in acetone

PSM-525-1 1 x 1 mL

@ 500 µg/mL in acetone

PSM-525A-1 1 x 1 mL

Recommended Method 525.1
PCB Mixtures

8 Analytes

2-chlorobiphenyl
2,3-dichlorobiphenyl
2,2',4,4',5,6'-hexachlorobiphenyl
2,2',3,3',4,4',6-heptachlorobiphenyl
2,2',3,3',4,5',6,6'-octachlorobiphenyl
2,2',3',4,6-pentachlorobiphenyl
2,4,5-trichlorobiphenyl
2,2',4,4'-tetrachlorobiphenyl

@ 100 µg/mL in acetone

RPCM-525-1 1 x 1 mL

@ 500 µg/mL in acetone

RPCM-525A-1 1 x 1 mL

EPA METHOD 525.1

(continued)

**Recommended Method 525.1
Toxaphene Solutions**

toxaphene	
@ 1000 µg/mL in methanol	
EPA-1161-1	1 x 1 mL
@ 2500 µg/mL in acetone	
PPS-240-1	1 x 1 mL

**Semi-Volatiles GC/MS
Calibration Standard**

decafluorotriphenylphosphine (DFTPP)	
@ 25 µg/mL in methylene chloride	
IST-342-1	1 x 1 mL
@ 100 µg/mL in methylene chloride	
IST-341-1	1 x 1 mL
@ 250 µg/mL in methylene chloride	
IST-340-1	1 x 1 mL
@ 1000 µg/mL in acetone	
47995N-1	1 x 1 mL
@ 2500 µg/mL in methanol	
IST-344-1	1 x 1 mL
@ 2500 µg/mL in methylene chloride	
IST-343-1	1 x 1 mL

SDWA SOCs Mixture

6 Analytes	
benzo[a]pyrene	
bis(2-ethylhexyl) adipate	
bis(2-ethylhexyl) phthalate	
hexachlorobenzene	
hexachlorocyclopentadiene	
pentachlorophenol (@ 2000 µg/mL)	
@ 500 µg/mL in acetone	
SVM-500-1	1 x 1 mL

**Recommended Method 525.1
Internal and Surrogate Standard
Fortification Solutions**

4 Analytes	
acenaphthene-d10	
chrysene-d12	
phenanthrene-d10	
perylene-d12	
@ 500 µg/mL in acetone	
ISM-310-1	1 x 1 mL
@ 10 µg/mL in cyclohexane	
ISM-308-1	1 x 1 mL
@ 500 µg/mL in ethyl acetate	
ISM-309-1	1 x 1 mL
@ 2000 µg/mL in ethyl acetate	
ISM-312-1	1 x 1 mL
pyrene-d10	
@ 500 µg/mL in acetone	
IST-370-1	1 x 1 mL
p-terphenyl-d14	
@ 2000 µg/mL in methylene chloride	
ATS-160-1	1 x 1 mL
@ 500 µg/mL in methylene chloride	
ATS-161-1	1 x 1 mL
@ 1000 µg/mL in methylene chloride	
ATS-162-1	1 x 1 mL

Chlordane Solutions

chlordane	
@ 100 µg/mL in methanol	
PP-150-1	1 x 1 mL
@ 1000 µg/mL in methanol	
PST-110M1000	1 x 1 mL
@ 2000 µg/mL in methanol	
PST-110M2000	1 x 1 mL
@ 5000 µg/mL in methanol	
EPA-1086-1	1 x 1 mL

EPA Method 525.1 Kit**Kit – contains six ampules:**

1 x 1 mL of each of the following standards

PAH Mixture	(PM-525A-1)
Extractables Mixture	(PSM-525-1)
PCB Mixture	(RPCM-525-1)
Pesticides Mixture	(PPM-525C-1)
Toxaphene Solution	(EPA-1161-1)
Internal & Surrogate Std	(ISM-310-1)

DWM-525K-C**Kit****EPA Method 525.1 w/ Chlordane Kit****Kit – contains seven ampules:**

1 x 1 mL of each of the following standards

PAH Mixture	(PM-525A-1)
Extractables Mixture	(PSM-525-1)
PCB Mixture	(RPCM-525-1)
Pesticides Mixture	(PPM-525C-1)
Toxaphene Solution	(EPA-1161-1)
Chlordane Solution	(EPA-1086-1)
Internal & Surrogate Std	(ISM-310-1)

DWM-525K-D**Kit****Technical Note**

Although Method 525 quantifies chlordane using only three of its constituents, regulations often require that chlordane be quantified as total chlordane. For those instances, ULTRA also offers standards for technical chlordane.

EPA METHOD 525.2

ORGANIC COMPOUNDS

Method 525.2 is used to determine SOCs. It is a liquid-solid extraction method, using GC/MS with a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	SVM-525-1
	PPM-525E-1
	NPM-525C-1
	NPM-525B-1
	PPS-240-1
	NPM-108B-1

Internal & Surrogate Standards:	ISM-510-1
	ISM-511X

Technical Notes

Merphos is partially converted to DEF in the GC injector. The conversion is not reproducible. Therefore, merphos cannot be quantitated, and can only be identified by the presence of DEF in the sample.

Although Method 525 quantifies chlordane using only three of its constituents, regulations often require that chlordane be quantified as total chlordane. For those instances, ULTRA Scientific also offers standards for technical chlordane.

Recommended Method 525.2
Nitrogen/Phosphorus
Pesticide Mixture

6 Analytes

carboxin	fenamiphos
diazinon	merphos
disulfoton	terbufos

@ 100 µg/mL in acetone

NPM-525B-1 1 x 1 mL

@ 1000 µg/mL in acetone

NPM-526-1 1 x 1 mL

Recommended Method 525.2
Semi-Volatiles Mixture

33 Analytes

acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
butyl benzyl phthalate
2-chlorobiphenyl
chrysene
dibenz[a,h]anthracene
2,3-dichlorobiphenyl
bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
diethyl phthalate
dimethyl phthalate
di-n-butyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
fluorene
hexachlorobenzene
2,2',4,4',5,6'-hexachlorobiphenyl
2,2',3,3',4,4',6-heptachlorobiphenyl
hexachlorocyclopentadiene
indeno[1,2,3-cd]pyrene
isophorone
2,2',3,3',4,5',6,6'-octachlorobiphenyl
2,2',3',4,6-pentachlorobiphenyl
pentachlorophenol (@ 400 µg/mL)
phenanthrene
pyrene
2,2',4,4'-tetrachlorobiphenyl
2,4,5-trichlorobiphenyl

@ 100 µg/mL in acetone

SVM-525-1 1 x 1 mL

Recommended Method 525.2
Toxaphene Standards

toxaphene

@ 1000 µg/mL in methanol

EPA-1161-1 1 x 1 mL

@ 2500 µg/mL in acetone

PPS-240-1 1 x 1 mL

Recommended Method 525.2
Organochlorine Pesticides Mixture

29 Analytes

alachlor dieldrin
aldrin endosulfan I
atrazine endosulfan II
alpha-BHC endosulfan sulfate
beta-BHC endrin
γ-BHC (lindane) endrin aldehyde
δ-BHC etridiazole
chlorobenzilate cis-chlordane
chlorothalonil trans-chlordane
chloroneb heptachlor
dacthal (DCPA) heptachlor epoxide
4,4'-DDD methoxychlor
4,4'-DDT trans-nonachlor
4,4'-DDE simazine
permethrin, mixed isomers (@ 200 µg/mL)

@ 100 µg/mL in acetone

PPM-525E-1 1 x 1 mL

Recommended Method 525.2
Nitrogen/Phosphorus
Pesticides Mixture

40 Analytes

alachlor mevinphos
ametryn MGK-264 (mix)
atraton molinate
atrazine napropamide
bromacil norflurazon
butachlor pebulate
butylate prometon
chlorpropham prometryn
chloropyrifos pronamide
cycloate propachlor
cyanazine propazine
dichlorvos simetryn
diphenamid stirofos
EPTC tebuthiuron
ethoprop terbacil
fenarimol terbutryn
fluridone triadimefon
hexazinone tricyclazole
methyl paraoxon trifluralin
metolachlor vernolate

@ 100 µg/mL in acetone

NPM-525C-1 1 x 1 mL

(continued on next page)

EPA METHOD 525.2

(continued)

Recommended Method 525.2 Internal and Surrogate Standard Fortification Solution

7 Analytes

acenaphthene-d10
phenanthrene-d10
chrysene-d12
1,3-dimethyl-2-nitrobenzene
perylene-d12
triphenylphosphate
pyrene-d10

@ 500 µg/mL in acetone

ISM-510-1 1 x 1 mL

@ 50 µg/mL in acetone

ISM-511X 1 x 25 mL

EPA Method 525.2 Kit

Kit – contains eight ampules:

1 x 1 mL of each of the following standards

Semi-Volatiles Mixture	(SVM-525-1)
Pesticides Mixture	(PPM-525E-1)
Pesticides Mixture	(NPM-525C-1)
Pesticides Mixture	(NPM-525B-1)
Toxaphene Solution	(PPS-240-1)
DEF Solution	(NPM-108B-1)
Internal & Surrogate Std.	(ISM-510-1)
Performance Check Soln.	(GCM-160A-1)

DWK-5252**Kit**

EPA Method 525.2 w/ Chlordane Kit

Kit – contains nine ampules:

1 x 1 mL of each of the following standards

Semi-Volatiles Mixture	(SVM-525-1)
Pesticides Mixture	(PPM-525E-1)
Pesticides Mixture	(NPM-525C-1)
Pesticides Mixture	(NPM-525B-1)
Toxaphene Solution	(PPS-240-1)
Chlordane Solution	(EPA-1086-1)
DEF Solution	(NPM-108B-1)
Internal & Surrogate Std.	(ISM-510-1)
Performance Check Soln.	(GCM-160A-1)

DWK-5253**Kit**

Surrogate Standard Fortification Solution

4 Analytes

1,3-dimethyl-2-nitrobenzene
perylene-d12
triphenylphosphate
pyrene-d10

@ 500 µg/mL in acetone

ISM-530-1 1 x 1 mL

Semi-Volatiles GC/MS Calibration Standard

decafluorotriphenylphosphine (DFTPP)

@ 100 µg/mL in methylene chloride

IST-341-1 1 x 1 mL

@ 1000 µg/mL in acetone

47995N-1 1 x 1 mL

Chlordane Standards

chlordane

@ 100 µg/mL in methanol

PP-150-1 1 x 1 mL

@ 5000 µg/mL in methanol

EPA-1086-1 1 x 1 mL

Internal Standard Fortification Solution

3 Analytes

acenaphthene-d10
phenanthrene-d10
chrysene-d12

@ 500 µg/mL in acetone

ISM-520-1 1 x 1 mL

@ 1000 µg/mL in acetone

ISM-521-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

ISM-522-1 1 x 1 mL

DEF Standard

DEF

@ 500 µg/mL in acetone

NPM-108B-1 1 x 1 mL

GC/MS Performance Check Solution

3 Analytes

decafluorotriphenylphosphine (DFTPP)
endrin
4,4'-DDT

@ 1000 µg/mL in acetone

GCM-160A-1 1 x 1 mL

@ 500 µg/mL in methylene chloride

GCM-161-1 1 x 1 mL

@ 100 µg/mL in methylene chloride

GCM-162-1 1 x 1 mL

@ 50 µg/mL in methylene chloride

GCM-163-1 1 x 1 mL

@ 5 µg/mL in methylene chloride

GCM-164-1 1 x 1 mL

EPA METHOD 525.2

(continued)

Internal Standard Fortification Solution

3 Analytes

acenaphthene-d10
 perylene-d12
 phenanthrene-d10

@ 2000 µg/mL in methylene chloride

ISM-523-1 1 x 1 mL

@ 500 µg/mL in acetone

ISM-305-1 1 x 1 mL**Surrogate Standard Solution**

4 Analytes

1,3-dimethyl-2-nitrobenzene
 perylene-d12
 pyrene-d10
 triphenyl phosphate

@ 1000 µg/mL in acetone

ISM-531-1 1 x 1 mL**Pesticides Mixture**

9 Analytes

atrazine
 EPTC
 ethoprop
 mevinphos
 4-nitroaniline
 prometryn
 propazine
 terbutryn(e)
 triadimefon

@ 1000 µg/mL in methyl tert-butyl ether

NPM-110-1 1 x 1 mL**Pesticides Calibration Mixture**

15 Analytes

chlorobenzilate
 chloroneb
 chlorothalonil
 chlorpyrifos
 cis-chlordane
 cis-permethrin
 cyanazine
 DCPA
 etridiazole
 hexachlorobenzene
 propachlor
 trans-chlordane
 trans-nonachlor
 trans-permethrin
 trifluralin

@ 1000 µg/mL in methyl tert-butyl ether

US-325-1 1 x 1 mL**PCB Mixture**

8 Analytes

2,2',3',4,6-pentachlorobiphenyl (BZ # 98)
 2,2',3,3',4,4',6-heptachlorobiphenyl
 (BZ # 171)
 2,2',3,3',4,5',6,6'-octachlorobiphenyl
 (BZ # 200)
 2,2',4,4',5,6'-hexachlorobiphenyl
 (BZ # 154)
 2,2',4,4'-tetrachlorobiphenyl (BZ # 47)
 2,3-dichlorobiphenyl (BZ # 5)
 2,4,5-trichlorobiphenyl (BZ # 29)
 2-chlorobiphenyl (BZ # 1)

@ 200 µg/mL in acetone

RPCM-525B-1 1 x 1 mL**Pesticides Mixture**

10 Analytes

alachlor
 atraton
 bromacil
 butylate
 chlorpropham
 hexazinone
 molinate
 propyzamide
 tetrachlorvinphos
 tricyclazole

@ 1000 µg/mL in methyl tert-butyl ether

NPM-112-1 1 x 1 mL**NPM-112-5ML** 1 x 5 mL**EPA Method 525.2 Capillary Soln**

11 Analytes

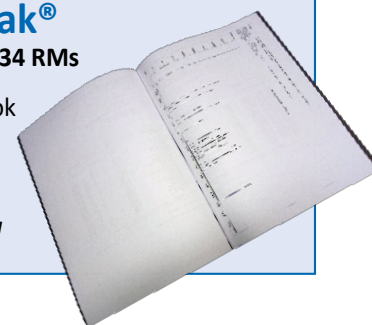
2,4-dinitrotoluene 500 µg/mL
 2,6-dinitrotoluene 500 µg/mL
 bis(2-ethylhexyl) adipate 500 µg/mL
 bis(2-ethylhexyl) phthalate 500 µg/mL
 butyl benzyl phthalate 500 µg/mL
 diethyl phthalate 500 µg/mL
 dimethyl phthalate 500 µg/mL
 di-n-butyl phthalate 500 µg/mL
 hexachlorocyclopentadiene 500 µg/mL
 isophorone 500 µg/mL
 pentachlorophenol 2000 µg/mL

in methyl tert-butyl ether

US-300-1 1 x 1 mL**Quality Control DATAPak®**

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ADDITIONAL CALIBRATION STANDARDS FOR EPA METHOD 525

Pesticides Calibration Mixture

4 Analytes

disulfoton
methyl paraoxon
mevinphos
stirofos

@ 100 µg/mL in acetone

US-380-1 1 x 1 mL

Chloroacetanilide Herbicides Mixture

3 Analytes

acetochlor
alachlor
metolachlor

@ 100 µg/mL in methanol

HBM-525-1 1 x 1 mL

PAH Mixture

16 Analytes

2,4-dinitrotoluene
2,6-dinitrotoluene
acenaphthylene
anthracene
benz[a]anthracene
benzo[a]pyrene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[k]fluoranthene
chrysene
dibenz[a,h]anthracene
fluorene
indeno[1,2,3-cd]pyrene
naphthalene
phenanthrene
pyrene

@ 100 µg/mL in acetone

PM-525-1 1 x 1 mL

Organonitrogen Pesticide Mixture

37 Analytes

alachlor
ametryn
atraton
atrazine
bromacil
butachlor
butylate
chlorpropham
cyanazine
cycloate
diphenamid
EPTC
etridiazole
fenarimol
fluridone
hexazinone
metolachlor
metribuzin
MGK-264 (mixed, total)
molinate
napropamide
norflurazon
pebulate
prometon
prometryn
pronamide
propachlor
propazine
simazine
simetryn
tebuthiuron
terbacil
terbutryn(e)
triadimefon
tricyclazole
trifluralin
vernolate

@ 500 µg/mL in acetone

NPM-520-1 1 x 1 mL

VOC Calibration Mix

26 Analytes

alachlor
atrazine
acetochlor
butachlor
cyanazine
fonofos
metribuzin
EPTC
metolachlor
molinate
terbacil
terbufos
prometon
propachlor
simazine
chrysene
benz[a]anthracene
2,4-dinitrotoluene
2,6-dinitrotoluene
benzo[a]pyrene
bis(2-ethylhexyl) adipate
hexachlorobenzene
hexachlorocyclopentadiene
bis(2-ethylhexyl) phthalate
anthracene
phenanthrene

@ 200 µg/mL in ethyl acetate

DWM-523-1 1 x 1 mL

Phthalates Mixture

8 Analytes

bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
diethyl phthalate
diethyl phthalate
dimethyl phthalate
dimethyl phthalate
di-n-butyl phthalate

@ 100 µg/mL in acetone

PSM-524-1 1 x 1 mL

ADDITIONAL CALIBRATION STANDARDS FOR EPA METHOD 525

(continued)

Organophosphorus Pesticide Mixture

7 Analytes

chlorpyrifos
dichlorvos
disulfoton
ethoprop
methyl paraoxon
mevinphos
sulfone
tetrachlorvinphos

@ 500 µg/mL in acetone

PPM-521-1**1 x 1 mL****Organochlorine Pesticide Mixture**

8 Analytes

chlorobenzilate
chloroneb
chlorothalonil
cis-permethrin
DCPA
heptachlor epoxide - isomer B
trans-nonachlor
trans-permethrin

@ 500 µg/mL in acetone

PPM-522-1**1 x 1 mL****Semi-Volatile Mixture**

11 Analytes

bis(2-ethylhexyl) adipate 500 µg/mL
butyl benzyl phthalate 500 µg/mL
diethyl phthalate 500 µg/mL
2,4-dinitrotoluene 500 µg/mL
2,6-dinitrotoluene 500 µg/mL
dimethyl phthalate 500 µg/mL
di-n-butyl phthalate 500 µg/mL
hexachlorocyclopentadiene 500 µg/mL
isophorone 500 µg/mL
pentachlorophenol 2000 µg/mL
bis(2-ethylhexyl) phthalate 500 µg/mL

in acetone

SVM-250-1**1 x 1 mL****Pesticide Mixture**

21 Analytes

4,4'-DDD
4,4'-DDE
4,4'-DDT
aldrin
alpha-BHC
beta-BHC
cis-chlordane
delta-BHC
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
endrin ketone
gamma-BHC
heptachlor
heptachlor epoxide - isomer B
methoxychlor
trans-chlordane
trans-nonachlor

@ 100 µg/mL in hexane/toluene (1:1)

PSM-250-1**1 x 1 mL****Pesticide Mixture**

13 Analytes

chlorobenzilate
chloroneb
chlorothalonil
chlorpyrifos
cyanazine
DCPA
etridiazole
isophorone
merphos
permethrins (mixed isomers, total)
pronamide
tebuthiuron
trifluralin

@ 100 µg/mL in acetone

PSM-252-1**1 x 1 mL****Pesticide Mixture**

3 Analytes

hexachlorobenzene 100 µg/mL
hexachlorocyclopentadiene 100 µg/mL
pentachlorophenol 400 µg/mL

in acetone

US-250-1**1 x 1 mL****Semi-Volatile Mixture**

28 Analytes

acenaphthylene
anthracene
benz[a]anthracene
benzo[a]pyrene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[k]fluoranthene
bis(2-ethylhexyl) adipate
bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
chrysene
dibenz[a,h]anthracene
diethyl phthalate
dimethyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
di-n-butyl phthalate
di-n-octyl phthalate
fluoranthene
fluorene
hexachlorobenzene
hexachlorocyclopentadiene
indeno[1,2,3-cd]pyrene
isophorone
naphthalene
pentachlorophenol*
phenanthrene
pyrene

@ 1000 µg/mL in acetone

(*@ 4000 µg/mL in acetone)

SVM-251-1**1 x 1 mL**

EPA METHOD 526

ORGANIC COMPOUNDS

Method 526 is used to determine SOCs. It is a solid phase extraction method, using GC/MS with a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	SVM-526-1
Surrogate Standard:	ISM-690-1
Internal Standard:	ISM-520-1

Method 526: Calibration Mixture

11 Analytes

acetochlor
cyanazine
diazinon
2,4-dichlorophenol
1,2-diphenylhydrazine
disulfoton
fonofos
nitrobenzene
prometon
terbufos
2,4,6-trichlorophenol

@ 1000 µg/mL in methyl acetate

SVM-526-1 1 x 1 mL

Recommended Method 526
Internal Standard Solution

3 Analytes

acenaphthene-d10
phenanthrene-d10
chrysene-d12

@ 500 µg/mL in acetone

ISM-520-1 1 x 1 mL

Recommended Method 526
Surrogate Standard

2 Analytes

1,3-dimethyl-2-nitrobenzene
triphenylphosphate

@ 500 µg/mL in acetone

ISM-690-1 1 x 1 mL

Primary Dilution Standard Mixture

11 Analytes

acetochlor
cyanazine
diazinon
2,4-dichlorophenol
1,2-diphenylhydrazine
disulfoton
fonofos
nitrobenzene
prometon
terbufos
2,4,6-trichlorophenol

@ 1000 µg/mL in ethyl acetate

SVM-526A-1 1 x 1 mL

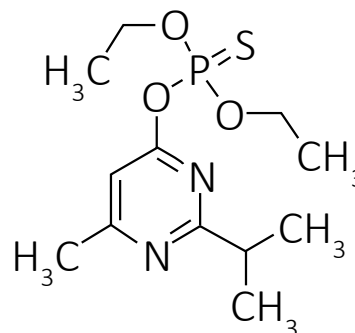
Calibration Mixture

11 Analytes

acetochlor
azobenzene
cyanazine
diazinon
2,4-dichlorophenol
disulfoton
fonofos
nitrobenzene
prometon
terbufos
2,4,6-trichlorophenol

@ 1000 µg/mL in methylene chloride

SVM-527-1 1 x 1 mL



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EPA METHOD 527

PESTICIDES AND FLAME
RETARDANTS

Method 527 is used to determine selected pesticides and flame retardants. It is a solid phase extraction method, using GC/MS with a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: PPM-527A-1
PPM-527B-1
PPM-527C-1

Surrogate Standard: ISM-710-1

Internal Standard: ISM-520-1

Recommended Method 527
Pesticides Mixture #1

16 Analytes

atrazine	bifenthrin
bromacil	S-bioallethrin (esbiol)
asana (esfenvalerate)	fenvalerate
hexazinone	kepone
mirex	nitrofen
norflurazon	oxychlordane
prometryn	propazine
thiobencarb (benthiocarb)	vinclozolin

@ 500 µg/mL in ethyl acetate

PPM-527A-1 1 x 1 mL

Recommended Method 527
Pesticides Mixture #2

5 Analytes

chlorpyrifos
dimethoate
malathion
parathion
terbufos sulfone

@ 500 µg/mL in ethyl acetate

PPM-527B-1 1 x 1 mL

Recommended Method 527
Surrogate Standard Mixture

3 Analytes

1,3-dimethyl-2-nitrobenzene
perylene-d12
triphenyl phosphate (TPP)

@ 500 µg/mL in acetone

ISM-710-1 1 x 1 mL

Recommended Method 527
Internal Standard Solution

3 Analytes

acenaphthene-d10
chrysene-d12
phenanthrene-d10

@ 500 µg/mL in acetone

ISM-520-1 1 x 1 mL

Recommended Method 527
PDBE Mixture

5 Analytes

2,2',4,4',5,5'-hexabromodiphenyl ether
2,2',4,4',5,5'-hexabromobiphenyl
2,2',4,4',6-pentabromodiphenyl ether
2,2',4,4',5-pentabromodiphenyl ether
2,2',4,4'-tetrabromodiphenyl ether

@ 500 µg/mL in ethyl acetate

PPM-527C-1 1 x 1 mL

@ 50 µg/mL in isoctane/ethyl acetate (4:1)

PPM-528-1 1 x 1 mL

Pesticide Mixture

11 Analytes

asana (esfenvalerate)
atrazine
bromacil
fenvalerate
hexazinone
kepone
norflurazon
oxychlordane
prometryn
propazine
S-bioallethrin (esbiol)

@ 500 µg/mL in methanol

PPM-523-1 1 x 1 mL

Pesticide Mixture

12 Analytes

bifenthrin
dimethoate
chlorpyrifos
fenamiphos
malathion
mirex
nitrofen
parathion (ethyl)
terbufos
sulfone
thiazopyr thiobencarb
vinclozolin

@ 500 µg/mL in methanol

PPM-524-1 1 x 1 mL

EPA METHOD 528

PHENOLS IN DRINKING WATER

Method 528 is applicable for the measurement of phenols. This method uses solid phase extraction followed by capillary column GC/MS.

To read the complete method, log onto our website at www.ultrasci.com.



Find additional EPA Method 500 Series Standards online:

www.ultrasci.com/EPA500

528 Method Phenols

Stock Calibration Standard

12 Analytes

2,4,6-trichlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-chlorophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-chloro-3-methylphenol
4-nitrophenol
o-cresol
pentachlorophenol
phenol

@ 2000 µg/mL in methylene chloride

PHM-500-1 1 x 1 mL

528 Analyte Fortification Solution

12 Analytes

2,4,6-trichlorophenol 100 µg/mL
2,4-dichlorophenol 100 µg/mL
2,4-dinitrophenol 500 µg/mL
2,4-dimethylphenol 100 µg/mL
2-chlorophenol 100 µg/mL
2-methyl-4,6-dinitrophenol 500 µg/mL
2-nitrophenol 100 µg/mL
4-chloro-3-methylphenol 100 µg/mL
4-nitrophenol 500 µg/mL
o-cresol 100 µg/mL
pentachlorophenol 500 µg/mL
phenol 100 µg/mL

in methylene chloride

PHM-501-1 1 x 1 mL

528 Method Internal Standard

2 Analytes

2,3,4,5-tetrachlorophenol 2000 µg/mL
3-nitro-o-xylene 1000 µg/mL

in methylene chloride

PHM-502-1 1 x 1 mL



EPA METHOD 529

EXPLOSIVES AND
RELATED COMPOUNDS

Method 529 is used to determine explosives and related compounds. It is a solid phase extraction method, using GC/MS with a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: NAIM-529A-1

Surrogate Standards: IST-705-1
IST-706-1
IST-210-1

Internal Standard: IST-704-1

**Recommended Method 529
Calibration Standard***14 Analytes*

2-amino-4,6-dinitrotoluene
4-amino-2,6-dinitrotoluene
3,5-dinitroaniline
m-dinitrobenzene
2,4-dinitrotoluene
2,6-dinitrotoluene
RDX
nitrobenzene
2-nitrotoluene
3-nitrotoluene
4-nitrotoluene
1,3,5-trinitrobenzene
tetryl
2,4,6-trinitrotoluene (TNT)

@ 100 µg/mL in ethyl acetate

NAIM-529A-1 1 x 1 mL

Recommended Method 529 Internal and Surrogate Standards

@ 1000 µg/mL in acetonitrile **1 x 1 mL Ampules**

3,4-dinitrotoluene IST-701A-1

@ 2000 µg/mL in ethyl acetate **1 x 1 mL Ampules**

3,4-dinitrotoluene IST-704-1

All @ 1000 µg/mL in methanol

1,3,5-trimethyl-2-nitrobenzene (2-nitromesitylene) IST-705-1

1,2,4-trimethyl-5-nitrobenzene (2-pseudocumene) IST-706-1

All @ 2000 µg/mL in methanol

1,3,5-trimethyl-2-nitrobenzene (2-nitromesitylene) IST-705A-1

1,2,4-trimethyl-5-nitrobenzene (2-pseudocumene) IST-706A-1

@ 1000 µg/mL in methylene chloride

nitrobenzene-d₅ IST-210-1

@ 2000 µg/mL in methylene chloride

nitrobenzene-d₅ IST-210A-1

Internal Standard Fortification Mixture**14 Analytes**

2-nitrotoluene
 3,5-dinitroaniline
 1,3-dinitrobenzene
 2-amino-4,6-dinitrotoluene
 4-amino-2,6-dinitrotoluene
 2,4-dinitrotoluene
 2,6-dinitrotoluene
 nitrobenzene
 3-nitrotoluene
 4-nitrotoluene
 RDX
 tetryl
 TNT
 1,3,5-trinitrobenzene

@ 200 µg/mL in ethyl acetate

NAIM-530-1

1 x 1 mL

Calibration Mixture**15 Analytes**

2-amino-4,6-dinitrotoluene 100 µg/mL
 1,3-dinitrobenzene 100 µg/mL
 2,4-dinitrotoluene 100 µg/mL
 2,6-dinitrotoluene 100 µg/mL
 4-amino-2,6-dinitrotoluene 100 µg/mL
 HMX 200 µg/mL
 2-nitrotoluene 200 µg/mL
 3-nitrotoluene 200 µg/mL
 4-nitroaniline 200 µg/mL
 4-nitrotoluene 200 µg/mL
 nitrobenzene 100 µg/mL
 RDX 200 µg/mL
 tetryl 200 µg/mL
 1,3,5-trinitrobenzene 100 µg/mL
 2,4,6-trinitrotoluene (TNT) 100 µg/mL

in acetonitrile

NAIM-535-1

1 x 1 mL

Calibration Mixture**8 Analytes**

1,3-dinitrobenzene
 2-amino-4,6-dinitrotoluene
 2,4-dinitrotoluene
 HMX
 nitrobenzene
 RDX
 1,3,5-trinitrobenzene
 2,4,6-trinitrotoluene (TNT)

@ 100 µg/mL in acetonitrile

NAIM-540-1

1 x 1 mL

Calibration Mixture**6 Analytes**

4-amino-2,6-dinitrotoluene
 2,6-dinitrotoluene
 2-nitrotoluene
 3-nitrotoluene
 4-nitrotoluene
 tetryl

@ 100 µg/mL in acetonitrile

NAIM-545-1

1 x 1 mL

Method 529 Calibration Kit**Kit – contains nine ampules:****14 Analytes**

3,5-dinitroaniline	nitrobenzene
1,3-dinitrobenzene	2-nitrotoluene
2-amino-4,6-dinitrotoluene	4-nitrotoluene
2,4-dinitrotoluene	RDX
2,6-dinitrotoluene	tetryl
3-nitrotoluene	TNT
4-amino-2,6-dinitrotoluene	1,3,5-trinitrobenzene

1 x 1 mL of each of the following standards in ethyl acetate

Calibration Standard Solution - 0.025 µg/mL	(NAIM-529-A)
Calibration Standard Solution - 0.05 µg/mL	(NAIM-529-B)
Calibration Standard Solution - 0.1 µg/mL	(NAIM-529-C)
Calibration Standard Solution - 0.25 µg/mL	(NAIM-529-D)
Calibration Standard Solution - 0.5 µg/mL	(NAIM-529-E)
Calibration Standard Solution - 1.0 µg/mL	(NAIM-529-F)
Calibration Standard Solution - 2.0 µg/mL	(NAIM-529-G)
Calibration Standard Solution - 5.0 µg/mL	(NAIM-529-H)
Calibration Standard Solution - 10.0 µg/mL	(NAIM-529-I)

NAIM-529K

Kit

EPA METHOD 531.1, 531.2

N-METHYL-CARBAMOYLOXIMES AND N-METHYLCARBAMATES

Methods 531.1 and 531.2 are used to measure N-methylcarbamoxyloximes and N-methylcarbamates. It uses direct injection of the sample on HPLC, with post-column derivatization and a fluorescence detector.

To read the complete method, log onto our website at www.ultrasci.com.

SDWA Carbamate Pesticides Mixture

2 Analytes

carbofuran
oxamyl

@ 100 µg/mL in methanol

PPM-530B-1 1 x 1 mL

Carbamate Pesticides Mixture

6 Analytes

aldicarb sulfone
aldicarb sulfoxide
aldicarb
carbofuran
methomyl
oxamyl

@ 100 µg/mL in methanol

PPM-251-1 1 x 1 mL

Carbamate Pesticides Mixture

11 Analytes

aldicarb
aldicarb sulfone
aldicarb sulfoxide
carbaryl
carbofuran
3-hydroxycarbofuran
methiocarb
methomyl
1-naphthol
oxamyl
propoxur

@ 100 µg/mL in acetonitrile

PPM-537-1 1 x 1 mL

Recommended Method 531.1
Carbamate Pesticides Mixture

10 Analytes

aldicarb
aldicarb sulfone
aldicarb sulfoxide
carbaryl
carbofuran
3-hydroxycarbofuran
methiocarb
methomyl
oxamyl
propoxur (baygon)

@ 100 µg/mL in methanol

PPM-530-1 1 x 1 mL

Internal & Surrogate Standard
Solution (BDMC)

4-bromo-3,5-dimethylphenyl
N-methylcarbamate (BDMC)

@ 100 µg/mL in methanol

PPS-180-1 1 x 1 mL

@ 100 µg/mL in acetonitrile

PST-4015A100A01 1 x 1 mL

@ 1000 µg/mL in methanol

PST-4015M1000 1 x 1 mL

Recommended Method 531.2
Carbamate Pesticides Mixture

11 Analytes

aldicarb
aldicarb sulfone
aldicarb sulfoxide
carbaryl
carbofuran
1-naphthol
3-hydroxycarbofuran
methiocarb
methomyl
oxamyl
propoxur (baygon)

@ 100 µg/mL in methanol

PPM-530C-1 1 x 1 mL

Laboratory Performance
Check Solution

4 Analytes

aldicarb sulfoxide	100 µg/mL
3-hydroxycarbofuran	2 µg/mL
methiocarb	20 µg/mL
BDMC	10 µg/mL

in methanol

PPM-531-1 1 x 1 mL

Carbamates Pesticides Mixtures Kit

Kit – contains eleven ampules:

1 x 1 mL of each of the following standards

Aldicarb Solution	(PST-940A100A01)
Aldicarb Sulfone Solution	(PST-1215A100A01)
Aldicarb Sulfoxide Solution	(PST-1760A100A01)
Carbaryl Solution	(PST-100A100A01)
Carbofuran Solution	(PST-1295A100A01)
1-Naphthol Solution	(PST-4395A100A01)
3-Hydroxycarbofuran Solution	(PST-1290A100A01)
Methiocarb Solution	(PST-1525A100A01)
Methomyl Solution	(PST-680A100A01)
Oxamyl Solution	(PST-1580A100A01)
Propoxur Solution	(PST-060A100A01)

PSK-531 Kit

EPA METHOD 532

PHENYLUREA
COMPOUNDS

Method 532 is used to determine phenylurea pesticides. It is a solid phase extraction method, using HPLC with a UV detector

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard	PPM-532-1
Surrogate Standard	PPM-532A-1

Pesticides Mixture Concentrate

6 Analytes

diuron
fluometuron
linuron
propanil
siduron (mix of isomers)
tebuthiuron

@ 5000 µg/mL in methanol

PPM-255-1 1 x 1 mL

Recommended Method 532
Calibration Standard

8 Analytes

diflubenzuron
diuron
fluometuron
linuron
propanil
siduron
tebuthiuron
thidiazuron

@ 200 µg/mL in methanol / acetone

PPM-532-1 1 x 1 mL

Recommended Method 532
Surrogate Standard

2 Analytes

carbazole
monuron

@ 500 µg/mL in methanol / acetonitrile

PPM-532A-1 1 x 1 mL

@ 200 µg/mL in methanol / acetonitrile

PPM-536-1 1 x 1 mL

@ 500 µg/mL in methanol

PPM-533-1 1 x 1 mL

@ 5000 µg/mL in methanol

PPM-534-1 1 x 1 mL

Pesticides Mixture Concentrate

8 Analytes

diflubenzuron 100 µg/mL
diuron 100 µg/mL
fluometuron 100 µg/mL
linuron 100 µg/mL
propanil 100 µg/mL
siduron (mix of isomers) 200 µg/mL
tebuthiuron 100 µg/mL
thidiazuron 100 µg/mL

in methanol

PPM-540-1 1 x 1 mL

@ 200 µg/mL in acetonitrile/acetone (9:1)

PPM-541-1 1 x 1 mL

Phenylurea Pesticide Mix

6 Analytes

diflubenzuron
diuron
fluometuron
linuron
propanil
siduron (mix of isomers)

@ 2000 µg/mL in methanol

PPM-542-1 1 x 1 mL

Phenylurea Pesticide Mix

2 Analytes

tebuthiuron
thidiazuron

@ 2000 µg/mL in acetone

PPM-543-1 1 x 1 mL

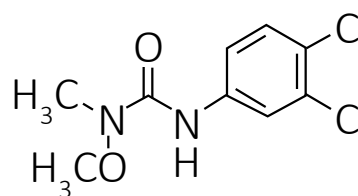
Phenylurea Pesticide Mix

2 Analytes

diflubenzuron
thidiazuron

@ 5000 µg/mL in acetone

PPM-560-1 1 x 1 mL



EPA METHOD 535

CHLOROACETANILIDE
AND OTHER ACETAMIDE
HERBICIDE DEGRADATES

Method 535 is used to determine the ethanesulfonic acid (ESA) and oxanilic acid (OA) degradates of the chloroacetanilide and other acetamide herbicides. It uses solid phase extraction and GC/MS.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	PPM-535-1
Internal Standard:	PPS-450-1 PPS-441-1
Surrogate Standard:	PPS-440-1 PPS-441-1

Recommended UCMR Acetanilide
Pesticide Degradates Mixture

<i>6 Analytes</i>	
acetochlor ESA	20 µg/mL
acetochlor OA	40 µg/mL
alachlor ESA	20 µg/mL
alachlor OA	40 µg/mL
metolachlor ESA	80 µg/mL
metolachlor OA	10 µg/mL

in methanol

PPM-535-1 1 x 1 mL

Metolachlor ESA Solution

metolachlor ESA sodium salt
@ 100 µg/mL in methanol
PST-1531M100A01 1 x 1 mL

Acetochlor ESA Solution

acetochlor ESA sodium salt
@ 100 µg/mL in methanol
PST-1881M100A01 1 x 1 mL

Alachlor ESA Solution

alachlor ESA sodium salt
@ 100 µg/mL in methanol
PST-626M100A01 1 x 1 mL

Recommended Method 535
Surrogate & Internal Standards

dimethachlor ESA	
@ 20 µg/mL in methanol	
PPS-440-1	1 x 1 mL
@ 100 µg/mL in methanol	
PPS-441-1	1 x 1 mL
butachlor ESA	
@ 20 µg/mL in methanol	
PPS-450-1	1 x 1 mL
@ 100 µg/mL in methanol	
PPS-451-1	1 x 1 mL

Metolachlor OA Solution

metolachlor OA
@ 100 µg/mL in methanol
PST-1532M100A01 1 x 1 mL

Acetochlor OA Solution

acetochlor OA
@ 100 µg/mL in methanol
PST-1882M100A01 1 x 1 mL

Alachlor OA Solution

alachlor OA
@ 100 µg/mL in methanol
PST-627M100A01 1 x 1 mL

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EPA METHOD 536

TRIAZINE PESTICIDES

Method 536 is a liquid chromatography, electrospray ionization, tandem mass spectrometry (LC-ESI-MS/MS) method used for the determination of triazine pesticides and their degradation products.



Find additional EPA Method 500 Series Standards online:
www.ultrasci.com/EPA500

536 Method Analyte Stock Standards

Compound	Concentration	UOM	Part Number
atrazine	500 µg/mL in methanol	1 x 1 mL	PST-005M500
atrazine-desethyl	500 µg/mL in methanol	1 x 1 mL	PST-4010M500
atrazine-desisopropyl	500 µg/mL in methanol	1 x 1 mL	PST-4005M500
cyanazine	500 µg/mL in methanol	1 x 1 mL	PST-1360M500
propazine	500 µg/mL in methanol	1 x 1 mL	PST-850M500

Compound	Concentration	UOM	Part Number
atrazine-desethyl desisopropyl	500 µg/mL in methanol	1 x 1 mL	PST-6935M500
simazine	100 µg/mL in methanol	1 x 1 mL	PST-1130M100A01

536 Internal Standards

Compound	Concentration	UOM	Part Number
atrazine-desethyl-d ₇	neat	1 x 10 mg	PST-6910-10MG
atrazine-desisopropyl-d ₅ (ethyl-d ₃)	neat	1 x 10 mg	PST-6915-10MG
cyanazine-d ₅ (n-ethyl-d ₃)	neat	1 x 10 mg	PST-6920-10MG
propazine-d ₁₄	neat	1 x 10 mg	PST-6925-10MG

Compound	Concentration	UOM	Part Number
simazine ₀ (diethyl-d ₁₀)	neat	1 x 10 mg	PST-6930-10MG

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EPA METHOD 539

HORMONES IN DRINKING WATER

Method 539 is for the determination of hormones. It uses solid phase extraction followed by liquid chromatography with electrospray ionization, tandem mass spectrometry (LC-ESI-MS/MS).

To read the complete method, log onto our website at www.ultrasci.com.

539 EPA Method Mix 1

7 Analytes

4-androstene-3,17-dione
b-estradiol
17a-ethynylestradiol
equilin
estriol
estrone
testosterone

@ 100 µg/mL in methanol

HMM-100A-L 1 x 1 mL

@ 1000 µg/mL in methanol

HMM-100A-H 1 x 1 mL

539 EPA Method Mix 2

7 Analytes

4-androstene-3,17-dione 30 µg/mL
b-estradiol 40 µg/mL
17a-ethynylestradiol 90 µg/mL
equilin 100 µg/mL
estriol 80 µg/mL
estrone 100 µg/mL
testosterone 10 µg/mL

in methanol

HMM-100B-1 1 x 1 mL

539 Method Surrogate Stock Standard

Compound	Concentration	UOM	Part Number
17a-ethynylestradiol-2,4,16,16-d ₄	neat	1 x 10 mg	DRG-1185-10MG
bisphenol-A-d ₁₆	neat	1 x 10 mg	RCC-240-10MG

539 Method Internal Standard

Compound	Concentration	UOM	Part Number
16a-hydroxyestradiol-d ₂	neat	1 x 10 mg	DRG-1190-10MG
testosterone-d ₃	neat	1 x 10 mg	DRG-1195-10MG

EPA METHOD 547

GLYPHOSATE

Method 547 is used to determine glyphosate. It uses direct injection of the sample on HPLC, with post-column derivatization and a fluorescence detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Method 547
Glyphosate Solution

glyphosate

@ 100 µg/mL in water

PPS-190-1 1 x 1 mL

Glyphosate Solution

glyphosate

@ 1000 µg/mL in water

PST-1850W1000 1 x 1 mL

Aminomethyl Phosphonic Acid
(AMPA) Solution

aminomethyl phosphonic acid

@ 100 µg/mL in water

PPS-260-1 1 x 1 mL

EPA METHOD 548, 548.1

ENDOTHALL

Method 548 is used to determine endo-thall. It is a derivatization followed by liquid-solid extraction method, using GC with a capillary column and an electron capture detector. Method 548.1 is a GC/MS version of the method.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Method 548	
Calibration Standard	PPS-210-1
Internal Standard	PPS-220-1 ATS-112-1
Method 548.1	
Calibration Standard	PPS-211-1
Internal Standard	ATS-111-1

Recommended Method 548
Endothall Solution

endothall
@ 50 µg/mL in water
PPS-210-1 1 x 1 mL

Recommended Method 548
Internal Standard Solution

endosulfan I
@ 10 µg/mL in methyl tert-butyl ether
PPS-220-1 1 x 1 mL
@ 1000 µg/mL in toluene
PST-501T1000 1 x 1 mL

Calibration Standard Solution

endothall-PPPH
@ 100 µg/mL in methyl tert-butyl ether
PPS-231-1 1 x 1 mL
@ 1000 µg/mL in methyl tert-butyl ether
PPS-232-1 1 x 1 mL

Recommended Method 548.1
Endothall Solution

endothall
@ 50 µg/mL in methanol
PPS-211-1 1 x 1 mL
@ 1000 µg/mL in acetone
PST-1845K1000 1 x 1 mL
@ 100 µg/mL in methanol
PST-1845M100A01 1 x 1 mL

Recommended Method 548.1
Internal Standard Solution

acenaphthene-d10
@ 500 µg/mL in methanol
ATS-111-1 1 x 1 mL
@ 1000 µg/mL in methanol
ATS-112-1 1 x 1 mL

Calibration Standard Solution

dimethyl endothall
@ 50 µg/mL in methanol
PPS-280-1 1 x 1 mL
@ 100 µg/mL in methanol
PPS-281-1 1 x 1 mL
@ 1000 µg/mL in methanol
PPS-282-1 1 x 1 mL

EPA METHOD 549.2

DIQUAT AND PARAQUAT

Method 549.2 is used to determine diquat and paraquat. It is a liquid-solid extraction method, using HPLC and a UV detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	PPM-549-1
-----------------------	-----------

Recommended Method 549.2
Diquat and Paraquat Mixture

2 Analytes
diquat (as dibromide)
paraquat (as dichloride)

(Concentrations corrected to
1000 µg/mL of each pesticide.)
@ 1000 µg/mL in water
PPM-549-1 1 x 1 mL

Diquat and Paraquat Mixture

2 Analytes
w dibromide
paraquat dichloride tetrahydrate
@ 2000 µg/mL in water
PPM-500-1 1 x 1 mL

EPA METHOD 550, 550.1

POLYCYCLIC AROMATIC
HYDROCARBONS

Method 550 is used to determine polynuclear aromatic hydrocarbons. It is a liquid-liquid extraction method, using HPLC and coupled fluorescence and UV detectors. Method 550.1 uses liquid-solid extraction.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	PM-551-1
Internal Standards:	PPS-270-1 PPS-271-1

Recommended Method 550, 550.1
PAH Fortification Mixture

<i>16 Analytes</i>	
acenaphthene	1000 µg/mL
acenaphthylene	1000 µg/mL
anthracene	62.5 µg/mL
benz[a]anthracene	1 µg/mL
benzo[b]fluoranthene	1 µg/mL
benzo[k]fluoranthene	1.25 µg/mL
benzo[ghi]perylene	5 µg/mL
benzo[a]pyrene	5 µg/mL
chrysene	62.5 µg/mL
dibenz[a,h]anthracene	12.5 µg/mL
fluoranthene	2.5 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	12.5 µg/mL
naphthalene	1000 µg/mL
phenanthrene	50 µg/mL
pyrene	62.5 µg/mL

in acetonitrile

PM-551-1 **1 x 1 mL**

Recommended Method 550, 550.1
Internal Standard Solutions

4,4-difluorobiphenyl	
@ 100 µg/mL in acetonitrile	
PPS-270-1	1 x 1 mL
@ 2000 µg/mL in acetone	
PPS-271-1	1 x 1 mL



Find additional EPA Method 500
Series Standards online:

www.ultrasci.com/EPA500

PAH Fortification Mixture

<i>16 Analytes</i>	
acenaphthene	1000 µg/mL
acenaphthylene	1000 µg/mL
anthracene	50 µg/mL
benz[a]anthracene	1 µg/mL
benzo[a]pyrene	5 µg/mL
benzo[b]fluoranthene	1 µg/mL
benzo[ghi]perylene	5 µg/mL
benzo[k]fluoranthene	1 µg/mL
chrysene	50 µg/mL
dibenz[a,h]anthracene	10 µg/mL
fluoranthene	2.5 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	10 µg/mL
naphthalene	1000 µg/mL
phenanthrene	50 µg/mL
pyrene	50 µg/mL

in acetonitrile

PM-552-1 **1 x 1 mL**

PAH Fortification Mixture

<i>16 Analytes</i>	
acenaphthene	1000 µg/mL
acenaphthylene	1000 µg/mL
anthracene	50 µg/mL
benz[a]anthracene	1 µg/mL
benzo[a]pyrene	5 µg/mL
benzo[b]fluoranthene	1 µg/mL
benzo[ghi]perylene	5 µg/mL
benzo[k]fluoranthene	1 µg/mL
chrysene	50 µg/mL
dibenz[a,h]anthracene	10 µg/mL
fluoranthene	50 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	10 µg/mL
naphthalene	1000 µg/mL
phenanthrene	50 µg/mL
pyrene	50 µg/mL

in acetonitrile

PM-553-1 **1 x 1 mL**

Aromatic Hydrocarbon Standard

<i>17 Analytes</i>	
acenaphthene	1000 µg/mL
acenaphthylene	1000 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	100 µg/mL
benzo[a]pyrene	100 µg/mL
benzo[b]fluoranthene	100 µg/mL
benzo[ghi]perylene	100 µg/mL
benzo[k]fluoranthene	100 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	100 µg/mL
fluoranthene	100 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
2-methylnaphthalene	1000 µg/mL
naphthalene	1000 µg/mL
phenanthrene	100 µg/mL
pyrene	100 µg/mL

in methanol/methylene chloride (1:1)

SMA-301-1 **1 x 1 mL**

EPA METHOD 551.1

CHLORINATION DISINFECTION BY-PRODUCTS AND CHLORINATED SOLVENTS, AND HALOGENATED PESTICIDES AND HERBICIDES

Method 551.1 is used to determine chlorination disinfection by-products and chlorinated solvents. It is an extraction method, using GC with a capillary column and an electron capture detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	HCM-551-1 PPM-551B-1 EPA-1244-1 PST-1535M100A01
Internal Standard:	STS-113-1 STS-115-1
Surrogate Standard:	IST-152-1

Technical Notes

Commercial lots of MTBE extraction solvent often contain observable amounts of chlorinated solvent impurities, e.g., chloroform, trichloroethene, and carbon tetrachloride. When present, these impurities can normally be removed by double distillation of the MTBE.

Disinfection Byproducts Kit

Kit – contains eight ampules:

1 x 1 mL of each of the following standards

Chloral Hydrate Solution	(EPA-1402)
Bromochloroacetic Acid Solution	(EPA-1403)
Chloropicrin Solution	(PST-1335K5000)
Dibromoacetonitrile Solution	(EPA-1404)
Dichloroacetonitrile Solution	(EPA-1405)
Trichloroacetonitrile Solution	(EPA-1406)
1,1-Dichloro-2-propanone Solution	(EPA-1407)
1,1,1-Trichloro-2-propanone Solution	(EPA-1408)

DBK-551 **Kit**

Recommended Method 551.1 Disinfection By-products and Chlorinated Solvents Mixture

19 Analytes

bromochloroacetonitrile
bromodichloromethane
bromoform
carbon tetrachloride
chloroform
chloropicrin
dibromoacetonitrile
dibromochloromethane
1,2-dibromo-3-chloropropane (DBCP)
1,2-dibromoethane (EDB)
dichloroacetonitrile
1,1-dichloro-2-propanone
trichloroacetonitrile
tetrachloroethene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
1,2,3-trichloropropane
1,1,1-trichloro-2-propanone

@ 2000 µg/mL in acetone

HCM-551D-1 **1 x 1 mL**

@ 100 µg/mL in methyl tert-butyl ether

HCM-550-1 **1 x 1 mL**

Disinfection By-products Mixture

7 Analytes

bromochloroacetonitrile
chloropicrin
dibromoacetonitrile
dichloroacetonitrile
1,1-dichloro-2-propanone
trichloroacetonitrile
1,1,1-trichloro-2-propanone

@ 5000 µg/mL in acetone

HCM-551B-1 **1 x 1 mL**

@ 2000 µg/mL in methyl tert-butyl ether

HCM-545-1 **1 x 1 mL**

@ 2000 µg/mL in acetone

HCM-547-1 **1 x 1 mL**

Recommended Method 551.1 Surrogate Standard Solution

decafluorobiphenyl

@ 1000 µg/mL in acetone

IST-152-1 **1 x 1 mL**

Additional Compounds

chloral hydrate

@ 1000 µg/mL in methanol

EPA-1244-1 **1 x 1 mL**

@ 1000 µg/mL in methyl tert-butyl ether

EPA-1244A-1 **1 x 1 mL**

metribuzin

@ 100 µg/mL in methanol

PST-1535M100A01 **1 x 1 mL**

EPA METHOD 551.1

(continued)

**Recommended Method 551.1
Internal Standard Solution**

4-bromofluorobenzene (BFB)	
@ 1000 µg/mL in acetone	
STS-113-1	1 x 1 mL
@ 10000 µg/mL in acetone	
STS-115-1	1 x 1 mL

**Laboratory Performance Check
Solution**

7 Analytes	
alachlor	90 µg/mL
bromacil	90 µg/mL
bromodichloromethane	30 µg/mL
endrin	30 µg/mL
hexachlorocyclopentadiene	20 µg/mL
lindane	.2 µg/mL
trichloroethene	30 µg/mL

in methyl tert-butyl ether

HCM-540-1 **1 x 1 mL****Method 551.1 Laboratory
Performance Check Solution**

7 Analytes	
alachlor	83 µg/mL
γ-BHC (lindane)	0.2 µg/mL
bromacil	83 µg/mL
bromodichloromethane	30 µg/mL
endrin	30 µg/mL
hexachlorocyclopentadiene	20 µg/mL
trichloroethene	30 µg/mL

in acetone

HCM-551E-1 **1 x 1 mL**

in n-pentane

HCM-535-1 **1 x 1 mL**

in methyl tert-butyl ether

HCM-536-1 **1 x 1 mL****Disinfection By-Products and
Chlorinated Solvents Mixture**

18 Analytes	
bromodichloromethane	
bromoform	
carbon tetrachloride	
chloroform	
chloropicrin	
DBCP	
dibromoacetonitrile	
dibromochloromethane	
1,2-dibromoethane	
dichloroacetonitrile	
1,1-dichloro-2-propanone	
tetrachloroethene	
trichloroacetonitrile	
1,1,1-trichloroethane	
1,1,2-trichloroethane	
trichloroethene	
1,2,3-trichloropropane	
1,1,1-trichloro-2-propanone	
@ 2000 µg/mL in acetone	
HCM-530-1	1 x 1 mL

**Recommended Method 551.1
Pesticides Mixture**

16 Analytes	
alachlor	
atrazine	
γ-BHC (lindane)	
bromacil	
cyanazine	
endrin	
endrin aldehyde	
endrin ketone	
heptachlor	
heptachlor epoxide (B)	
hexachlorobenzene	
hexachlorocyclopentadiene	
methoxychlor	
metolachlor	
simazine	
trifluralin	
@ 100 µg/mL in acetone	
PPM-551B-1	1 x 1 mL
@ 1000 µg/mL in acetone	
PPM-552-1	1 x 1 mL
@ 2000 µg/mL in acetone	
PPM-555-1	1 x 1 mL

**Modified Lab Performance Check -
Pentane Extracts Mixture**

4 Analytes	
bromodichloromethane	30 µg/mL
gamma-BHC	.2 µg/mL
hexachlorocyclopentadiene	20 µg/mL
trichloroethene	30 µg/mL
in n-pentane	
HCM-590-1	1 x 1 mL

Chlorinated Organic Solvents & Trihalomethanes Solution*12 Analytes*

1,1,1-trichloroethane	1000 µg/mL
1,1,2-trichloroethane	10000 µg/mL
1,2,3-trichloropropane	10000 µg/mL
1,2-dibromoethane	1000 µg/mL
1,2-dibromo-3-chloropropane	1000 µg/mL
bromodichloromethane	1000 µg/mL
bromoform	1000 µg/mL
carbon tetrachloride	500 µg/mL
chloroform	1000 µg/mL
dibromochloromethane	1000 µg/mL
tetrachloroethene	500 µg/mL
trichloroethene	1000 µg/mL

*in acetone***HCM-580-1** **1 x 1 mL****Modified Lab Performance Check - MtBE Extracts Mixture***4 Analytes*

bromodichloromethane	30 µg/mL
gamma-BHC	.2 µg/mL
hexachlorocyclopentadiene	20 µg/mL
trichloroethene	30 µg/mL

*in methyl tert-butyl ether***HCM-585-1** **1 x 1 mL****Disinfection By-Products Mixture***8 Analytes*

bromochloroacetonitrile
chloral hydrate
chloropicrin
dibromoacetonitrile
dichloroacetonitrile
1,1-dichloro-2-propanone
1,1,1-trichloro-2-propanone
trichloroacetonitrile

*@ 1000 µg/mL in acetone***HCM-548-1** **1 x 1 mL***@ 5000 µg/mL in acetone***HCM-546-1** **1 x 1 mL****Pesticides Mixture***17 Analytes*

alachlor
atrazine
bromacil
cyanazine
endrin
endrin aldehyde
endrin ketone
heptachlor
heptachlor epoxide - isomer B
hexachlorobenzene
hexachlorocyclopentadiene
lindane
methoxychlor
metolachlor
metribuzin
simazine
trifluralin

*@ 1000 µg/mL in acetone***PPM-554-1** **1 x 1 mL****Disinfection Byproducts and Chlorinated Solvents Mixture***20 Analytes*

bromochloroacetonitrile
bromodichloromethane
bromoform
carbon tetrachloride
chloral hydrate
chloroform
chloropicrin
dibromoacetonitrile
dibromochloromethane
1,2-dibromoethane
1,2-dibromo-3-chloropropane
dichloroacetonitrile
1,1-dichloro-2-propanone
tetrachloroethene
trichloroacetonitrile
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
1,2,3-trichloropropane
1,1,1-trichloro-2-propanone

*@ 100 µg/mL in methyl tert-butyl ether***HCM-555-1** **1 x 1 mL****Disinfection Byproducts and Chlorinated Solvents Mixture***17 Analytes*

bromochloroacetonitrile
bromodichloromethane
bromoform
carbon tetrachloride
chloroform
chloropicrin
dibromoacetonitrile
dibromochloromethane
1,2-dibromoethane
1,2-dibromo-3-chloropropane
dichloroacetonitrile
1,1-dichloro-2-propanone
tetrachloroethene
trichloroacetonitrile
1,1,1-trichloroethane
trichloroethene
1,1,1-trichloro-2-propanone

*@ 100 µg/mL in methyl tert-butyl ether***HCM-560-1** **1 x 1 mL**

EPA METHOD 551.1

(continued)

Disinfection Byproducts and Chlorinated Solvents Mixture*18 Analytes*

bromochloroacetonitrile
 bromodichloromethane
 bromoform
 carbon tetrachloride
 chloral hydrate
 chloroform
 chloropicrin
 dibromoacetonitrile
 dibromochloromethane
 1,2-dibromo-3-chloropropane
 dichloroacetonitrile
 1,1-dichloro-2-propanone
 1,2-dibromoethane
 tetrachloroethene
 trichloroacetonitrile
 1,1,1-trichloroethane
 trichloroethene
 1,1,1-trichloro-2-propanone

*@ 100 µg/mL in methyl tert-butyl ether***HCM-565-1** **1 x 1 mL****Chlorinated Organic Solvents & Trihalomethanes Solution***10 Analytes*

bromodichloromethane
 bromoform
 carbon tetrachloride
 chloroform
 dibromochloromethane
 1,2-dibromoethane
 1,2-dibromo-3-chloropropane
 tetrachloroethene
 1,1,1-trichloroethane
 trichloroethene

*@ 2000 µg/mL in acetone***HCM-570-1** **1 x 1 mL***@ 5000 µg/mL in methanol***HCM-575-1** **1 x 1 mL****Pesticides Mixture***17 Analytes*

alachlor 10 µg/mL
 atrazine 200 µg/mL
 bromacil 10 µg/mL
 cyanazine 30 µg/mL
 endrin 2 µg/mL
 endrin aldehyde 2 µg/mL
 endrin ketone 2 µg/mL
 heptachlor 1 µg/mL
 heptachlor epoxide - isomer B 1 µg/mL
 hexachlorobenzene 1 µg/mL
 hexachlorocyclopentadiene 1 µg/mL
 lindane 1 µg/mL
 methoxychlor 5 µg/mL
 metolachlor 10 µg/mL
 metribuzin 5 µg/mL
 simazine 200 µg/mL
 trifluralin 1 µg/mL

*in acetone***PPM-553-1** **1 x 1 mL**

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 552, 552.1, 552.2, 552.3

HALOACETIC ACIDS AND DALAPON

Method 552, 552.1, 552.2 and 552.3 are used to determine halogenated acetic acids. They are ion exchange liquid-solid extraction followed by GC methods, using a capillary column and electron capture detector.

To read the complete methods, log onto our website at www.ultrasci.com.

Recommended Standards

Method 552
Calibration Standard: PHM-552A-1

Internal Standard: PPS-250-1

Surrogate Standards: PPS-261-1
PPS-290-1

Method 552.1
Calibration Standard: PHM-5521A-1

Internal Standard: PPS-251-1

Surrogate Standard: PPS-300-1

Method 552.2
Calibration Standards: PHM-5523A-1
PHM-5524A-1

Internal Standard: PPS-251-1

Surrogate Standard: PPS-390-1

Method 552.3
Calibration Standard: PHM-5524A-1

Internal Standard: PPS-251-1

Surrogate Standard: PPS-430-1

Recommended Method 552
Haloacetic Acids Mixtures

8 Analytes

chloroacetic acid
dichloroacetic acid
trichloroacetic acid
2,4-dichlorophenol
bromoacetic acid
bromochloroacetic acid
dibromoacetic acid
2,4,6-trichlorophenol

This mix is available in two forms: as the free acids, or as the methylated acids.

Acids Mixture

@ 1000 µg/mL in methyl tert-butyl ether

PHM-552A 1 x 1 mL

Methylated Mixture

@ 1000 µg/mL in methyl tert-butyl ether

PHM-552M-1 1 x 1 mL

Recommended Methods 552.2,
552.3 Haloacetic Acids Mixtures,
No Surrogate

10 Analytes

chloroacetic acid 600 µg/mL
chlorodibromoacetic acid 1000 µg/mL
dichloroacetic acid 600 µg/mL
trichloroacetic acid 200 µg/mL
bromoacetic acid 400 µg/mL
bromochloroacetic acid 400 µg/mL
bromodichloroacetic acid 400 µg/mL
dibromoacetic acid 200 µg/mL
tribromoacetic acid 2000 µg/mL
dalapon 400 µg/mL

This mix is available in two forms: as the free acids, or as the methylated acids.

Acids Mixture

in methyl tert-butyl ether

PHM-5524A-1 1 x 1 mL

Methylated Mixture

in methyl tert-butyl ether

PHM-5524M-1 1 x 1 mL

ICR Haloacetic Acids Mixtures

11 Analytes

chloroacetic acid 3000 µg/mL
chlorodibromoacetic acid 2000 µg/mL
dichloroacetic acid 3000 µg/mL
trichloroacetic acid 1000 µg/mL
bromoacetic acid 2000 µg/mL
bromochloroacetic acid 2000 µg/mL
bromodichloroacetic acid 2000 µg/mL
dibromoacetic acid 1000 µg/mL
tribromoacetic acid 1000 µg/mL
dalapon 2000 µg/mL
2-bromopropionic acid 1000 µg/mL

This mix is available in two forms: as the free acids, or as the methylated acids.

Acids Mixture

in methyl tert-butyl ether

PHM-5522A-1 1 x 1 mL

Methylated Mixture

in methyl tert-butyl ether

PHM-5522M-1 1 x 1 mL

Recommended Internal and
Surrogate Standard

1,2,3-trichloropropane

@ 1000 µg/mL in methanol

PPS-250-1 1 x 1 mL

@ 1000 µg/mL in methyl tert-butyl ether

PPS-251-1 1 x 1 mL

@ 2000 µg/mL in methyl tert-butyl ether

RHH-039B2000 1 x 1 mL



Find additional EPA Method 500
Series Standards online:

www.ultrasci.com/EPA500

EPA METHOD 552, 552.1, 552.2, 552.3

(continued)

**Recommended Method 552.1
Haloacetic Acids Mixtures**

7 Analytes

chloroacetic acid	3000 µg/mL
dichloroacetic acid	3000 µg/mL
trichloroacetic acid	1000 µg/mL
bromoacetic acid	2000 µg/mL
bromochloroacetic acid	2000 µg/mL
dibromoacetic acid	1000 µg/mL
dalapon	2000 µg/mL

This mix is available in two forms: as the free acids, or as the methylated acids.

Acids Mixture

in methyl tert-butyl ether

PHM-5521A-1 1 x 1 mL

Methylated Mixture

in methyl tert-butyl ether

PHM-5521M-1 1 x 1 mL

**Recommended Method 552.2
Haloacetic Acids Mixture**

11 Analytes

chloroacetic acid	600 µg/mL
chlorodibromoacetic acid	1000 µg/mL
dichloroacetic acid	600 µg/mL
trichloroacetic acid	200 µg/mL
bromoacetic acid	400 µg/mL
bromochloroacetic acid	400 µg/mL
bromodichloroacetic acid	400 µg/mL
dibromoacetic acid	200 µg/mL
tribromoacetic acid	2000 µg/mL
dalapon	400 µg/mL
2,3-dibromopropionic acid	1000 µg/mL

Acids Mixture

in methyl tert-butyl ether

PHM-5523A-1 1 x 1 mL

Surrogate Standards (all 1 x 1 mL Ampules)

@ 1000 µg/mL in methanol

552	3,5-dichlorobenzoic acid	PPS-261M1000
552	methyl-3,5-dichlorobenzoate	PPS-262M1000

@ 2000 µg/mL in methanol

552	methyl-3,5-dichlorobenzoate	PPS-262M2000
-----	-----------------------------	--------------

@ 1000 µg/mL in methyl tert-butyl ether

552	3,5-dichlorobenzoic acid	PPS-261-1
552	methyl-3,5-dichlorobenzoate	PPS-262-1
552	2,3-dichloropropanoic acid	PPS-290-1

552.1	2-bromopropanoic acid	PPS-300-1
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552.1	methyl-2-bromopropionate	PPS-301-1
-------	--------------------------	-----------

552.2	2,3-dibromopropionic acid	PPS-390-1
-------	---------------------------	-----------

552.3	2-bromobutanoic acid	PPS-430-1
-------	----------------------	-----------

@ 2000 µg/mL in methyl tert-butyl ether

552	3,5-dichlorobenzoic acid	PPS-261B2000
-----	--------------------------	--------------

552.1	2-bromopropionic acid	PPS-300B2000
-------	-----------------------	--------------

552.1	methyl-2-bromopropionate	PST-4125B2000
-------	--------------------------	---------------

552.2	2,3-dibromopropionic acid	PPS-390B2000
-------	---------------------------	--------------

552.2	methyl-2,3-dibromopropionate	PST-4130B2000
-------	------------------------------	---------------

552.3	2-bromobutanoic acid	PPS-430B2000
-------	----------------------	--------------

@ 10,000 µg/mL in methyl tert-butyl ether

552.3	2-bromobutanoic acid	PPS-430B10000
-------	----------------------	---------------

@ 20,000 µg/mL in methyl tert-butyl ether

552	2,3-dibromopropionic acid	PPS-390B20000
-----	---------------------------	---------------

552.2	methyl-2,3-dibromopropionate	PST-4130B20000
-------	------------------------------	----------------

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individual solutions**

Order 4–19 ampules of the same item
and receive a **20% DISCOUNT**
Order 20 or more ampules of the same
item and receive a **30% DISCOUNT**



EPA METHOD 552, 552.1, 552.2, 552.3

(continued)

Haloacetic Acids Mixture - Acids Mixture

8 Analytes

2,4,6-trichlorophenol
2,4-dichlorophenol
bromoacetic acid
bromochloroacetic acid
chloroacetic acid
dibromoacetic acid
dichloroacetic acid
trichloroacetic acid

@ 100 µg/mL in methyl tert-butyl ether

PHM-490-1 1 x 1 mL**Haloacetic Acids Mixture**

6 Analytes

bromoacetic acid
bromochloroacetic acid
chloroacetic acid
dibromoacetic acid
dichloroacetic acid
trichloroacetic acid

Acids Mixture

@ 1000 µg/mL in methyl tert-butyl ether

PHM-495-1 1 x 1 mL

Methylated Mixture

@ 1000 µg/mL in methyl tert-butyl ether

PHM-495M-1 1 x 1 mL**Haloacetic Acid Methyl Derivatives with Surrogate Mixture**

11 Analytes

dalapon methyl ester 40 µg/mL
methyl bromoacetate 40 µg/mL
methyl bromochloroacetate 40 µg/mL
methyl bromodichloroacetate 40 µg/mL
methyl chloroacetate 60 µg/mL
methyl chlorodibromoacetate 100 µg/mL
methyl dibromoacetate 20 µg/mL
methyl dichloroacetate 60 µg/mL
methyl tribromoacetate 200 µg/mL
methyl trichloroacetate 20 µg/mL
methyl-2,3-dibromopropionate 100 µg/mL

in methyl tert-butyl ether

PHM-500M-1 1 x 1 mL**Haloacetic Acids Mixture**

11 Analytes

bromoacetic acid 40 µg/mL
bromochloroacetic acid 40 µg/mL
bromodichloroacetic acid 40 µg/mL
chloroacetic acid 60 µg/mL
chlorodibromoacetic acid 100 µg/mL
dalapon 40 µg/mL
dibromoacetic acid 20 µg/mL
dichloroacetic acid 60 µg/mL
2,3-dibromopropionic acid 100 µg/mL
tribromoacetic acid 200 µg/mL
trichloroacetic acid 20 µg/mL

in methyl tert-butyl ether

PHM-505-1 1 x 1 mL**Haloacetic Acid Methyl Derivatives with Surrogate Mixture**

11 Analytes

dalapon methyl ester
methyl bromoacetate
methyl bromochloroacetate
methyl bromodichloroacetate
methyl chloroacetate
methyl chlorodibromoacetate
methyl dibromoacetate
methyl dichloroacetate
methyl tribromoacetate
methyl trichloroacetate
methyl-2,3-dibromopropionate

@ 100 µg/mL in methyl tert-butyl ether

PHM-505M-1 1 x 1 mL**ORDERING IS EASY****Online**

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ULTRA Scientific
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02852



EPA METHOD 552, 552.1, 552.2, 552.3

(continued)

Methylated Haloacetic Acids Mixture

10 Analytes

dalapon methyl ester	40 µg/mL
methyl bromoacetate	40 µg/mL
methyl bromochloroacetate	40 µg/mL
methyl bromodichloroacetate	40 µg/mL
methyl chloroacetate	60 µg/mL
methyl chlorodibromoacetate	100 µg/mL
methyl dibromoacetate	20 µg/mL
methyl dichloroacetate	60 µg/mL
methyl tribromoacetate	200 µg/mL
methyl trichloroacetate	20 µg/mL

*in methyl tert-butyl ether***PHM-507M-1** 1 x 1 mL

@ 100 µg/mL in methyl tert-butyl ether

PHM-506M-1 1 x 1 mL**Haloacetic Acids Mixtures, No Surrogate - Acids Mixture**

10 Analytes

bromoacetic acid	2000 µg/mL
bromochloroacetic acid	2000 µg/mL
bromodichloroacetic acid	1000 µg/mL
chloroacetic acid	2000 µg/mL
chlorodibromoacetic acid	1000 µg/mL
dalapon	1000 µg/mL
dibromoacetic acid	2000 µg/mL
dichloroacetic acid	2000 µg/mL
tribromoacetic acid	1000 µg/mL
trichloroacetic acid	2000 µg/mL

*in methyl tert-butyl ether***PHM-508-1** 1 x 1 mL

@ 100 µg/mL in methyl tert-butyl ether

PHM-506-1 1 x 1 mL**Laboratory Performance Check Mixture**

4 Analytes

methyl bromochloroacetate	.004 µg/mL
methyl chloroacetate	.006 µg/mL
methyl chlorodibromoacetate	.01 µg/mL
methyl-2,3-dibromopropionate	.01 µg/mL

*in methyl tert-butyl ether***PHM-510M-1** 1 x 1 mL**Laboratory Performance Check Mixture**

4 Analytes

methyl bromochloroacetate	4 µg/mL
methyl chloroacetate	6 µg/mL
methyl chlorodibromoacetate	10 µg/mL
methyl-2,3-dibromopropionate	10 µg/mL

*in methyl tert-butyl ether***PHM-515M-1** 1 x 1 mL

@ 1000 µg/mL in methyl tert-butyl ether

PHM-520M-1 1 x 1 mL**Haloacetic Acid Mixture**

9 Analytes

bromoacetic acid	40 µg/mL
bromochloroacetic acid	40 µg/mL
bromodichloroacetic acid	40 µg/mL
chloroacetic acid	80 µg/mL
chlorodibromoacetic acid	40 µg/mL
dibromoacetic acid	40 µg/mL
dichloroacetic acid	40 µg/mL
tribromoacetic acid	40 µg/mL
trichloroacetic acid	40 µg/mL

*in methyl tert-butyl ether***PHM-525-1** 1 x 1 mL**Haloacetic Acid Mixture**

9 Analytes

bromoacetic acid
bromochloroacetic acid
bromodichloroacetic acid
chloroacetic acid
chlorodibromoacetic acid
dibromoacetic acid
dichloroacetic acid
tribromoacetic acid
trichloroacetic acid

@ 1000 µg/mL in methanol

PHM-535-1 1 x 1 mL

@ 1000 µg/mL in methyl tert-butyl ether

PHM-530-1 1 x 1 mL

@ 2000 µg/mL in methyl tert-butyl ether

PHM-540-1 1 x 1 mL**Haloacetic Acids Mixture**

9 Analytes

bromoacetic acid	400 µg/mL
bromochloroacetic acid	400 µg/mL
bromodichloroacetic acid	400 µg/mL
chloroacetic acid	600 µg/mL
chlorodibromoacetic acid	1000 µg/mL
dibromoacetic acid	200 µg/mL
dichloroacetic acid	600 µg/mL
tribromoacetic acid	2000 µg/mL
trichloroacetic acid	200 µg/mL

*in methyl tert-butyl ether***PHM-541-1** 1 x 1 mL**Haloacetic Acid Mixture**

5 Analytes

bromoacetic acid	100 µg/mL
chloroacetic acid	200 µg/mL
dibromoacetic acid	100 µg/mL
dichloroacetic acid	100 µg/mL
trichloroacetic acid	100 µg/mL

*in methyl tert-butyl ether***PHM-545-1** 1 x 1 mL**Find additional EPA Method 500 Series Standards online:**www.ultrasci.com/EPA500

EPA METHOD 552, 552.1, 552.2, 552.3

(continued)

Haloacetic Acids Mixture

7 Analytes

bromoacetic acid
 bromochloroacetic acid
 chloroacetic acid
 dalapon
 dibromoacetic acid
 dichloroacetic acid
 trichloroacetic acid

@ 100 µg/mL in methyl tert-butyl ether

PHM-550-1 1 x 1 mL**Methylated Haloacetic Acids Mixture**

7 Analytes

dalapon methyl ester
 methyl bromoacetate
 methyl bromochloroacetate
 methyl chloroacetate
 methyl dibromoacetate
 methyl dichloroacetate
 methyl trichloroacetate

@ 100 µg/mL in methyl tert-butyl ether

PHM-550M-1 1 x 1 mL**Haloacetic Acids Mixture**

7 Analytes

bromoacetic acid 200 µg/mL
 bromochloroacetic acid 200 µg/mL
 chloroacetic acid 300 µg/mL
 dalapon 200 µg/mL
 dibromoacetic acid 100 µg/mL
 dichloroacetic acid 300 µg/mL
 trichloroacetic acid 100 µg/mL

in methanol

PHM-551-1 1 x 1 mL**Methylated Haloacetic Acids Mixture**

8 Analytes

methyl bromoacetate
 methyl bromochloroacetate
 methyl chloroacetate
 methyl dibromoacetate
 methyl dichloroacetate
 2,4-dichloroanisole
 methyl trichloroacetate
 2,4,6-trichloroanisole

@ 100 µg/mL in methyl tert-butyl ether

PHM-553M-1 1 x 1 mL**Haloacetic Acid Mixture**

7 Analytes

2-bromopropionic acid 100 µg/mL
 bromoacetic acid 200 µg/mL
 bromochloroacetic acid 200 µg/mL
 chloroacetic acid 300 µg/mL
 dibromoacetic acid 100 µg/mL
 dichloroacetic acid 300 µg/mL
 trichloroacetic acid 100 µg/mL

in methyl tert-butyl ether

PHM-555-1 1 x 1 mL**Haloacetic Acid Mixture**

5 Analytes

bromoacetic acid
 chloroacetic acid
 dibromoacetic acid
 dichloroacetic acid
 trichloroacetic acid

@ 100 µg/mL in methyl tert-butyl ether

PHM-560-1 1 x 1 mL

@ 1000 µg/mL in methyl tert-butyl ether

PHM-565-1 1 x 1 mL**Haloacetic Acid Mixture**

6 Analytes

bromoacetic acid
 chloroacetic acid
 dalapon
 dibromoacetic acid
 dichloroacetic acid
 trichloroacetic acid

@ 2000 µg/mL in methyl tert-butyl ether

PHM-570-1 1 x 1 mL**Haloacetic Acid Mixture**

8 Analytes

2-bromopropionic acid 100 µg/mL
 bromoacetic acid 200 µg/mL
 bromochloroacetic acid 200 µg/mL
 chloroacetic acid 300 µg/mL
 dalapon 200 µg/mL
 dibromoacetic acid 100 µg/mL
 dichloroacetic acid 300 µg/mL
 trichloroacetic acid 100 µg/mL

in methyl tert-butyl ether

PHM-575-1 1 x 1 mL**Haloacetic Acid Mixture**

6 Analytes

bromoacetic acid
 bromochloroacetic acid
 chloroacetic acid
 dibromoacetic acid
 dichloroacetic acid
 trichloroacetic acid

@ 100 µg/mL in methyl tert-butyl ether

PHM-585-1 1 x 1 mL

@ 2000 µg/mL in methyl tert-butyl ether

PHM-580-1 1 x 1 mL

EPA METHOD 552, 552.1, 552.2, 552.3

(continued)

**Methylated Haloacetic Acids
Mixture**

6 Analytes

methyl bromoacetate
 methyl bromochloroacetate
 methyl chloroacetate
 methyl dibromoacetate
 methyl dichloroacetate
 methyl trichloroacetate

@ 100 µg/mL in methyl tert-butyl ether

PHM-585M-1 1 x 1 mL**Methylated Haloacetic Acids
Mixture**

7 Analytes

dalapon methyl ester 200 µg/mL
 methyl bromoacetate 200 µg/mL
 methyl bromochloroacetate 200 µg/mL
 methyl chloroacetate 300 µg/mL
 methyl dibromoacetate 100 µg/mL
 methyl dichloroacetate 300 µg/mL
 methyl trichloroacetate 100 µg/mL

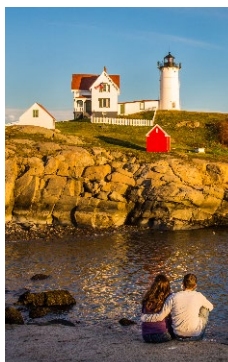
in methyl tert-butyl ether

PHM-595M-1 1 x 1 mL**WWW.ULTRASCI.COM****Download and Print from Our Online Library**

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and receive a **20% DISCOUNT**

Order 20 or more ampules of the same
item and receive a **30% DISCOUNT**



EPA METHOD 553

BENZIDINES AND NITROGEN CONTAINING PESTICIDES

Method 553 is used for the measurement of benzidines and nitrogen-containing pesticides. It is an extraction method, using particle beam HPLC/MS.

To read the complete method, log onto our website at www.ultrasci.com.

553 Method Analyte Mix

14 Analytes

benzidine
benzoylprop ethyl
caffeine
carbaryl
o-chlorophenyl thiourea
3,3-dichlorobenzidine
3,3-dimethoxybenzidine
3,3-dimethylbenzidine
diuron
ethylene thiourea
linuron
monuron
rotenone
siduron (mix of isomers)

@ 5000 µg/mL in acetonitrile/water (1:1 v/v)

NPM-530-1

1 x 1 mL

553 Method Analyte Mix

13 Analytes

benzidine 250 µg/mL
benzoylprop ethyl 350 µg/mL
caffeine 300 µg/mL
carbaryl 1000 µg/mL
o-chlorophenyl thiourea 750 µg/mL
3,3-dichlorobenzidine 250 µg/mL
3,3-dimethoxybenzidine 750 µg/mL
3,3-dimethylbenzidine 350 µg/mL
diuron 450 µg/mL
linuron 1300 µg/mL
monuron 400 µg/mL
rotenone 3200 µg/mL
siduron mix of isomers 450 µg/mL

in acetonitrile/methanol (1:1)

NPM-531-1

1 x 1 mL

553 Surrogates

Compound	Concentration	UOM	Part Number
3,3-dichlorobenzidine-d ₆	neat	1 x 10 mg	RCC-307-10MG
benzidine-ring-d ₈	neat	1 x 10 mg	RCC-235-10MG
caffeine-15N ₂	neat	1 x 10 mg	DRG-1180-10MG
DFTPPO	neat	1 x 10 mg	RAH-115-10MG

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EPA METHOD 554

CARBONYL COMPOUNDS

Method 554 is used to determine carbonyl compounds. It is a derivatization followed by an HPLC method.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: ALD-554-1

Formaldehyde Solution

formaldehyde

@ 1000 µg/mL in water (low TOC, < 50 ppb)

ALD-101-1 1 x 1 mL

Recommended Method 554
Carbonyl Compounds Mixture

12 Analytes

acetaldehyde
butanal
cyclohexanone
crotonaldehyde
decanal
formaldehyde
hexanal
heptanal
nonanal
octanal
propanal
pentanal

@ 1000 µg/mL in acetonitrile

ALD-554A-1 1 x 1 mL

Derivatized Carbonyl
Compounds Mixture

12 Analytes

acetaldehyde-DNPH
butanal-DNPH
cyclohexanone-DNPH
crotonaldehyde-DNPH
decanal-DNPH
formaldehyde-DNPH
hexanal-DNPH
heptanal-DNPH
nonanal-DNPH
octanal-DNPH
pentanal-DNPH
propanal-DNPH

@ 1000 µg/mL in acetonitrile

ALD-554DA-1 1 x 1 mL

Volume discounts for
individual solutions

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Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 555

CHLORINATED ACIDS

Method 555 is used to determine chlorinated acids. It is an extraction followed by an HPLC method.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: HBM-555A-1
HBM-555B-1

Recommended Method 555
Chlorinated Acids Mixture A

8 Analytes

acifluorfen
bentazon
chloramben
2,4-D
dicamba
dichlorprop
picloram
silvex (2,4,5-TP)

@ 1000 µg/mL in acetonitrile

HBM-555A-1 1 x 1 mL

Recommended Method 555
Chlorinated Acids Mixture B

8 Analytes

2,4-DB
3,5-dichlorobenzoic acid
dinoseb
MCPA
MCPP
4-nitrophenol
pentachlorophenol
2,4,5-T

@ 1000 µg/mL in acetonitrile

HBM-555B-1 1 x 1 mL

Herbicides Mixture

16 Analytes

acifluorfen
bentazon
chloramben
dicamba
3,5-dichlorobenzoic acid
2,4-D
2,4-DB
dichlorprop
dinoseb
MCPA
MCPP (mecoprop)
4-nitrophenol
pentachlorophenol
picloram
2,4,5-T
2,4,5-TP

@ 100 µg/mL in methyl tert-butyl ether

HBM-505-1 1 x 1 mL

Chlorophenoxy Herbicides Mixture
(HER)

2 Analytes

2,4-D
silvex

@ 1000 µg/mL in acetonitrile

TCLP-541-1 1 x 1 mL



Find additional EPA Method 500
Series Standards online:
www.ultrasci.com/EPA500

EPA METHOD 556, 556.1

CARBONYL COMPOUNDS

Methods 556 and 556.1 are used to determine carbonyl compounds. They are a derivatization followed by GC/ECD methods.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	ALD-556X
Internal Standard:	PPS-400-1
Surrogate Standard:	PPS-410-1

Recommended Method 556
Aldehydes Mixture

14 Analytes

acetaldehyde
benzaldehyde
butanal
cyclohexanone
decanal
formaldehyde
glyoxal
hexanal
heptanal
methyl glyoxal
nonanal
octanal
pentanal
propanal

@ 100 µg/mL in acetonitrile / water

ALD-556X 1 x 2 mL

Recommended Method 556
Surrogate Standards

2,4,5-trifluoroacetophenone

@ 20000 µg/mL in acetonitrile

PPS-412-1 1 x 1 mL

@ 10,000 µg/mL in acetonitrile

PPS-410-1 1 x 1 mL

@ 20 µg/mL in acetonitrile

PPS-411-1 1 x 1 mL

Recommended Method 556
Internal Standards

1,2-dibromopropane

@ 10,000 µg/mL in hexane

PPS-400-1 1 x 1 mL

EPA METHOD 557

HALOACETIC ACIDS,
BROMATE, AND
DALAPON IN DRINKING
WATER

Method 557 is a direct inject, ion chromatography, (negative) electrospray ionization, mass spectrometry (IC-ESI-MS/MS) method for the determination of haloacetic acids. Bromate and dalapon may also be measured concurrently with the haloacetic acids.

To read the complete method, log onto our website at www.ultrasci.com.

557 Method Stock
Standard Solution

10 Analytes

bromoacetic acid
bromochloroacetic acid
bromodichloroacetic acid
chloroacetic acid
chlorodibromoacetic acid
dalapon
dibromoacetic acid
dichloroacetic acid
tribromoacetic acid
trichloroacetic acid (as Cl)

@ 1000 µg/mL in methyl tert-butyl ether

PHM-557-1 1 x 1 mL



Find additional EPA Method 500
Series Standards online:

www.ultrasci.com/EPA500



EPA METHOD 600 SERIES

Analysis of Organic Compounds in Industrial and Municipal Waste Water Discharges

The 600 series methods are designed for monitoring organic pollutants in industrial and municipal discharges under the Clean Water Act (see 40 CFR 136.1). In addition, the Non-Conventional Pesticides Methods are also included in this section. The 600 series methods may be obtained from ULTRA Scientific in the publication Methods for the Determination of Organic Compounds in Industrial and Municipal Wastewater Discharges. All of the individual 600 series methods are available on our website.

ULTRA Scientific has prepared a series of reference standards for the 600 series methods, as well as the necessary surrogate and internal standards. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 2.0\%$. A Level II – ISO Guide 34 Reference Material Certificate of Analysis is available for each product.

Find additional EPA Method 600 Series Standards online at www.ultrasci.com/EPA600

EPA METHOD	PAGE	EPA METHOD	PAGE
● EPA METHOD 601	192	● EPA METHOD 613	213
● EPA METHOD 602	197	● EPA METHOD 614, 614.1	213
● EPA METHOD 603	198	● EPA METHOD 615	214
● EPA METHOD 604	199	● EPA METHOD 619	216
● EPA METHOD 605	201	● EPA METHOD 622	216
● EPA METHOD 606	201	● EPA METHOD 624	217
● EPA METHOD 607	202	● EPA METHOD 625	224
● EPA METHOD 608, 608.1, 608.2	203	● EPA METHOD 632	235
● EPA METHOD 609	207	● EPA METHOD 632.1	235
● EPA METHOD 610	208	● EPA METHOD 633	235
● EPA METHOD 611	212	● EPA METHOD 680	237
● EPA METHOD 612	212		

EPA METHOD 601

PURGEABLE
HALOCARBONS

Method 601 is a purge and trap method for determining purgeable halocarbons using an electrolytic conductivity (Hall) detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: HCM-601-1
HC-070-1

Surrogate Standard: STM-290N-1

Technical Note

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. That is why ULTRA packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

Recommended Method 601
Purgeable Halocarbon Mixture

28 Analytes

bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
chloromethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
dibromochloromethane
dichlorodifluoromethane
methylene chloride
tetrachloroethene
1,1,2,2-tetrachloroethane
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
trichlorofluoromethane
vinyl chloride

@ 100 µg/mL in methanol

HCM-601-1

1 x 1 mL

Recommended Method 601
2-Chloroethyl Vinyl Ether Standards

2-chloroethyl vinyl ether

@ 100 µg/mL in methanol

HC-070-1

1 x 1 mL

@ 5000 µg/mL in methanol

EPA-1016-1

1 x 1 mL

Purgeable Gas Mixture

5 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
vinyl chloride

@ 100 µg/mL in methanol

HCM-601G-1

1 x 1 mL

Recommended Method 601
Surrogate Standard Mixture

3 Analytes

bromochloromethane
2-bromo-1-chloropropane
1,4-dichlorobutane

@ 2000 µg/mL in methanol

STM-290N-1

1 x 1 mL

@ 20,000 µg/mL in methanol

STM-291-1

1 x 1 mL

Individual Internal & Surrogate Standards for Method 601

All @ 2000 µg/mL in methanol

1 x 1 mL Ampules

bromochloromethane

STS-180-1

2-bromo-1-chloropropane

STS-190-1

1,4-dichlorobutane

STS-200-1

(continued on next page)

Purgeable Halocarbons & Aromatics Mix**25 Analytes**

benzene
 bromodichloromethane
 bromoform
 carbon tetrachloride
 chlorobenzene
 chloroform
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 dibromochloromethane
 ethylbenzene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 toluene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene

@ 200 µg/mL in methanol

HCM-621-1**1 x 1 mL****Volatiles Mix 1 (VOA-1)****11 Analytes**

carbon tetrachloride
 chlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 ethylbenzene
 tetrachloroethene
 1,1,2-trichloroethane

@ 50 µg/mL in methanol

EPA-2041N-1**1 x 1 mL**

@ 500 µg/mL in methanol

EPA-2141N-1**1 x 1 mL****Volatiles Mix 2 (VOA-2)****12 Analytes**

benzene
 bromodichloromethane
 bromoform
 chloroform
 dibromochloromethane
 1,2-dichlorobenzene
 1,1-dichloroethane
 methylene chloride
 1,1,2,2-tetrachloroethane
 toluene
 1,1,1-trichloroethane
 trichloroethene

@ 50 µg/mL in methanol

EPA-2042N-1**1 x 1 mL**

@ 500 µg/mL in methanol

EPA-2142N-1**1 x 1 mL****Purgeable Halocarbon Kit****Kit – contains thirty ampules:**

1 x 1 mL of each individual component
 @ 100 µg/mL in methanol:

bromodichloromethane
 bromoform
 bromomethane
 carbon tetrachloride
 chlorobenzene
 chloroethane
 2-chloroethylvinyl ether
 chloroform
 chloromethane
 dibromochloromethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 dichlorodifluoromethane
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene
 trichlorofluoromethane
 vinyl chloride
 plus
 Purgeable Halocarbons Mixture
 (HCM-601-1)

HCK-601**Kit****Volume discounts for individual solutions**

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 601

(continued)

Purgeable Gas Mixture

6 Analytes

bromomethane
 chloroethane
 chloromethane
 dichlorodifluoromethane
 trichlorofluoromethane
 vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL**Performance Check Mixture**

8 Analytes

benzene
 carbon tetrachloride
 1,4-dichlorobenzene
 1,2-dichloroethane
 1,1-dichloroethene
 1,1,1-trichloroethane
 trichloroethene
 vinyl chloride

@ 200 µg/mL in methanol

EPA-100-1 1 x 1 mL**Purgeable Halocarbons Mixture**

7 Analytes

chloroform
 1,1-dichloroethane
 trans-1,2-dichloroethene
 methylene chloride
 1,1,1-trichloroethane
 trichloroethene
 vinyl chloride

@ 200 µg/mL in methanol

DWM-720-1 1 x 1 mL**Calibration Mixture**

12 Analytes

benzene
 carbon tetrachloride
 chlorobenzene
 2-chloroethylvinyl ether
 dibromochloromethane
 1,1-dichloroethane
 1,1-dichloroethene
 1,2-dichloropropane
 methylene chloride
 1,1,2-trichloroethane
 tetrachloroethene
 trichloroethene

@ 2000 µg/mL in methanol

US-430-1 1 x 1 mL**Calibration Mixture**

14 Analytes

bromodichloromethane
 bromoform
 chloroform
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,2-dichloroethane
 trans-1,2-dichloroethene
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 ethylbenzene
 1,1,2,2-tetrachloroethane
 1,1,1-trichloroethane
 toluene

@ 2000 µg/mL in methanol

US-425-1 1 x 1 mL**Volatile Halocarbons Mixture**

11 Analytes

bromodichloromethane
 bromoform
 carbon tetrachloride
 chlorobenzene
 chloroform
 dibromochloromethane
 1,2-dichloroethane
 methylene chloride
 tetrachloroethene
 1,1,1-trichloroethane
 trichloroethene

@ 100 µg/mL in methanol

DWM-735-1 1 x 1 mL**2-Chloroethylvinyl Ether Solution**

2-chloroethylvinyl ether

@ 2000 µg/mL in methanol

HC-072-1 1 x 1 mL**Volume discounts for individual solutions**

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 601

(continued)

Purgeable Halocarbon Mixture

24 Analytes

bromoform
 bromodichloromethane
 bromomethane
 carbon tetrachloride
 chlorobenzene
 2-chloroethylvinyl ether
 chloroform
 dibromochloromethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene

@ 2000 µg/mL in methanol

HCM-600-1**1 x 1 mL****Purgeable Halocarbon Mixture**

18 Analytes

carbon tetrachloride
 chlorobenzene
 1,2-dichlorobenzene
 1,4-dichlorobenzene
 1,3-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 trans-1,2-dichloroethene
 1,1-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene

@ 200 µg/mL in methanol

HCM-605-1**1 x 1 mL**

@ 2000 µg/mL in methanol

HCM-610-1**1 x 1 mL****Purgeable Halocarbon Mixture**

23 Analytes

bromoform
 carbon tetrachloride
 chlorobenzene
 2-chloroethylvinyl ether
 chloroform
 bromodichloromethane
 dibromochloromethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 trans-1,2-dichloroethene
 1,1-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene

@ 200 µg/mL in methanol

HCM-615-1**1 x 1 mL****Target Analytes Mixture**

26 Analytes

benzene
 carbon tetrachloride
 chlorobenzene
 ethylbenzene
 methyl tert-butyl ether (MTBE)
 methylene chloride
 tetrachloroethene
 toluene
 trichloroethene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane

@ 200 µg/mL in methanol

HCM-625-1**1 x 1 mL**

1,2-dichloroethane
 1,1-dichloroethene
 cis-1,2-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 1,1,2,2-tetrachloroethane
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 o-xylene
 m-xylene
 p-xylene

EPA METHOD 601

(continued)

Target Analytes Mixture

26 Analytes

benzene
 carbon tetrachloride
 chlorobenzene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 cis-1,2-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 ethylbenzene
 methyl tert-butyl ether (MTBE)
 methylene chloride
 tetrachloroethene
 toluene
 trichloroethene
 1,1,2,2-tetrachloroethane
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 o-xylene
 m-xylene
 p-xylene

@ 2000 µg/mL in methanol

HCM-630-1**1 x 1 mL****Purgeable Halocarbon & Aromatic Mixture**

35 Analytes

benzene
 bromodichloromethane
 bromoform
 bromomethane
 carbon tetrachloride
 chlorobenzene
 chloroethane
 chloroform
 chloromethane
 dibromochloromethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 dichlorodifluoromethane
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 dichloromethane
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 ethylbenzene
 MTBE
 o-xylene
 m-xylene
 p-xylene
 tetrachloroethene
 toluene
 1,1,2,2-tetrachloroethane
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene
 trichlorofluoromethane
 vinyl chloride

@ 100 µg/mL in methanol

PMX-115-1**1 x 1 mL****Purgeable Mixture**

23 Analytes

bromodichloromethane
 bromoform
 carbon tetrachloride
 chlorobenzene
 chloroform
 2-chloroethylvinyl ether
 dibromochloromethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 methylene chloride
 tetrachloroethene
 1,1,2,2-tetrachloroethane
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene

@ 2000 µg/mL in methanol

PMX-165-1**1 x 1 mL****Trihalomethanes Mixture**

4 Analytes

bromodichloromethane
 bromoform
 chloroform
 dibromochloromethane

@ 200 µg/mL in methanol

THM-511-1**1 x 1 mL**

@ 2000 µg/mL in methanol

THM-515-1**1 x 1 mL****Volume discounts for individual solutions**

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 602

PURGEABLE AROMATICS

Method 602 is a purge and trap method for determining purgeable aromatics, using a PID.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: AMM-602N-1

Internal & Surrogate Standard: STS-220N-1

Recommended Method 602 Purgeable Aromatics Mixture

7 Analytes

1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
benzene
chlorobenzene
ethylbenzene
toluene

@ 100 µg/mL in methanol

AMM-602N-1 1 x 1 mL

@ 200 µg/mL in methanol

AMM-603-1 1 x 1 mL

@ 2000 µg/mL in methanol

AMM-604-1 1 x 1 mL

Recommended Internal and Surrogate Standard

alpha,alpha,alpha-trifluorotoluene

@ 200 µg/mL in methanol

STS-221-1 1 x 1 mL

@ 2000 µg/mL in methanol

STS-220N-1 1 x 1 mL

@ 20000 µg/mL in methanol

STS-222-1 1 x 1 mL

Target Analytes Mixture

26 Analytes

benzene
carbon tetrachloride
chlorobenzene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
methylene chloride
methyl tert-butyl ether (MTBE)
1,1,1-trichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
tetrachloroethene
toluene
trichloroethene
o-xylene
m-xylene
p-xylene

@ 200 µg/mL in methanol

HCM-625-1 1 x 1 mL

@ 2000 µg/mL in methanol

HCM-630-1 1 x 1 mL

Purgeable Aromatics Mixtures

11 Analytes

benzene
chlorobenzene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
ethylbenzene
methyl tert-butyl ether
toluene
o-xylene
m-xylene
p-xylene

@ 200 µg/mL in methanol

AMM-622-1 1 x 1 mL

@ 2000 µg/mL in methanol

SCA-100-1 1 x 1 mL

Purgeable Aromatics Kit

Kit – contains eight ampules:

1 x 1 mL of each individual component

@ 100 µg/mL in methanol:

benzene
chlorobenzene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
ethylbenzene
toluene
plus

Purgeable Aromatics Mixture
(AMM-602N-1)

AMK-602

Kit

EPA METHOD 603

ACROLEIN AND
ACRYLONITRILE

Method 603 is a purge and trap method for determining acrolein and acrylonitrile, using a flame ionization detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: AMN-603-1

Technical Note: Acrolein Standards

Acrolein is known to undergo polymerization with time. ULTRA prepares the standards which contain acrolein every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. ULTRA strongly recommends that these standards be used as soon as possible after receipt.

Recommended Method 603
Acrolein-Acrylonitrile Mixtures

2 Analytes (see tech note)

acrolein
acrylonitrile

@ 100 µg/mL in methanol

AMN-603-1 1 x 1 mL

@ 2000 µg/mL in methanol

AMN-623-1 1 x 1 mL

Acrolein-Acrylonitrile
Mixtures in Water

2 Analytes (see tech note)

acrolein
acrylonitrile

@ 1000 µg/mL in water

AMN-613-1 1 x 1 mL

@ 10,000 µg/mL in water

AMN-803-1 1 x 1 mL

Acrolein Standard

acrolein

@ 5000 µg/mL in methanol

AM-171-1 1 x 1 mL

Acrolein Standard

acrolein

@ 5000 µg/mL in water

AM-173-1 1 x 1 mL

Acrylonitrile Solution

acrylonitrile

@ 1000 µg/mL in water

AM-181-1 1 x 1 mL

Acrylonitrile Solution

acrylonitrile

@ 2000 µg/mL in methanol

AM-182-1 1 x 1 mL

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EPA METHOD 604

PHENOLS

Method 604 is used to determine phenols. Samples are extracted, then concentrated in a Kuderna-Danish apparatus. Quantitation is by GC/FID, or the extract is derivatized and determined on GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: US-107N-1
EPA-2008N-1

Internal &
Surrogate Standards: IST-251-1
IST-261-1
IST-271-1

Technical Note

Phenols are subject to absorption on the active sites of GC columns. The more acidic phenols, such as 2,4-dinitrophenol, will chromatograph poorly leading to poor quantitation.

Phenols Kit

Kit – contains twelve ampules:

1 x 1 mL of 11 individual components
and 1 mix

@ 100 µg/mL in methanol:

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol (1000 µg/mL)
4,6-dinitro-2-methylphenol (1000 µg/mL)
2-nitrophenol
4-nitrophenol
pentachlorophenol (1000 µg/mL)
phenol
2,4,6-trichlorophenol
Phenols Mixture (EPA-2008N-1)

PHK-604A

Kit

Acids Surrogate Standard Mixture

3 Analytes

2-fluorophenol
phenol-d5
2,4,6-tribromophenol

@ 2000 µg/mL in methanol

ISM-290N-1 1 x 1 mL

Recommended Method 604
Phenols Mixtures

11 Analytes

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-107N-1 1 x 1 mL

@ 100 µg/mL in methanol

EPA-2008N-1 1 x 1 mL

@ 20 µg/mL in methanol

PHM-604-1 1 x 1 mL

@ 500 µg/mL in methanol

PHM-624-1 1 x 1 mL

@ 100 µg/mL in acetonitrile

PHM-610-1 1 x 10 mL

@ 1000 µg/mL in methanol

PHM-625-1 1 x 1 mL

@ 1000 µg/mL in acetonitrile

PHM-630-1 1 x 1 mL

@ 2000 µg/mL in methanol

PHM-635-1 1 x 1 mL

Recommended Internal & Surrogate Standards for Method 604

All @ 200 µg/mL in methanol 1 x 1 mL Ampules

2,4,6-tribromophenol ATS-182-1

All @ 2000 µg/mL in methanol 1 x 1 mL Ampules

2-fluorophenol IST-251-1

pentafluorophenol IST-261-1

phenol-d₅ IST-271-1

2,4,6-tribromophenol ATS-181-1

EPA METHOD 604

(continued)

Phenols Mixture

11 Analytes

4-chloro-3-methylphenol	2500 µg/mL
2-chlorophenol	500 µg/mL
2,4-dichlorophenol	500 µg/mL
2,4-dimethylphenol	500 µg/mL
2,4-dinitrophenol	1500 µg/mL
4,6-dinitro-2-methylphenol	2500 µg/mL
2-nitrophenol	500 µg/mL
4-nitrophenol	2500 µg/mL
pentachlorophenol	2500 µg/mL
phenol	600 µg/mL
2,4,6-trichlorophenol	500 µg/mL

in methanol

XY-0126-1 1 x 1 mL

Phenols Mixture

11 Analytes

4-chloro-3-methylphenol	2500 µg/mL
2-chlorophenol	500 µg/mL
2,4-dichlorophenol	500 µg/mL
2,4-dimethylphenol	500 µg/mL
2,4-dinitrophenol	1500 µg/mL
2-methyl-4,6-dinitrophenol	2500 µg/mL
2-nitrophenol	50 µg/mL
4-nitrophenol	2500 µg/mL
pentachlorophenol	2500 µg/mL
phenol	500 µg/mL
2,4,6-trichlorophenol	1500 µg/mL

in methanol

PHM-615-1 1 x 1 mL

Phenols Mixture

12 Analytes

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-nitrophenol
nonylphenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

PHM-640-1 1 x 1 mL

Phenols Mixture

11 Analytes

4-chloro-3-methylphenol	5000 µg/mL
2-chlorophenol	5000 µg/mL
2,4-dichlorophenol	5000 µg/mL
2,4-dimethylphenol	5000 µg/mL
2,4-dinitrophenol	10000 µg/mL
2-methyl-4,6-dinitrophenol	10000 µg/mL
2-nitrophenol	5000 µg/mL
4-nitrophenol	10000 µg/mL
pentachlorophenol	10000 µg/mL
phenol	5000 µg/mL
2,4,6-trichlorophenol	5000 µg/mL

in methanol

XY-0110-1 1 x 1 mL

Phenols Mixture

11 Analytes

4-chloro-3-methylphenol	2500 µg/mL
2-chlorophenol	500 µg/mL
2,4-dichlorophenol	500 µg/mL
2,4-dimethylphenol	500 µg/mL
2,4-dinitrophenol	1500 µg/mL
2-methyl-4,6-dinitrophenol	2500 µg/mL
2-nitrophenol	500 µg/mL
4-nitrophenol	2500 µg/mL
pentachlorophenol	2500 µg/mL
phenol	500 µg/mL
2,4,6-trichlorophenol	1500 µg/mL

in methanol

XY-0108-1 1 x 1 mL

in methylene chloride

XY-0112-1 1 x 1 mL

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EPA METHOD 605

BENZIDINES

Method 605 is an HPLC method for benzidines, using an electrochemical detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Method 605 Benzidines Mixture

2 Analytes

benzidine
3,3-dichlorobenzidine

@ 1000 µg/mL in methanol

GCM-111-1 1 x 1 mL

@ 2000 µg/mL in methanol

US-105N-1 1 x 1 mL

EPA METHOD 606

PHTHALATES

Method 606 is used to measure phthalates. Samples are extracted, concentrated in a Kuderna-Danish apparatus, and then quantitated with GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: PSM-606-1

Technical Note

Phthalate esters are contaminants in many products found in the laboratory, particularly plastics. Great care must be exercised to prevent contamination. Glassware must be scrupulously cleaned to eliminate backgrounds phthalates not derived from the sample.

Recommended Method 606 Phthalates Mixtures

6 Analytes

bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
di-n-octyl phthalate

@ 100 µg/mL in methanol

PSM-606-1 1 x 1 mL

@ 200 µg/mL in methanol

PSM-620-1 1 x 1 mL

@ 1000 µg/mL in isooctane

PSM-806-1 1 x 1 mL

@ 2000 µg/mL in methanol

PSM-625-1 1 x 1 mL

@ 2000 µg/mL in isooctane

PSM-630-1 1 x 1 mL

Phthalate Esters QC Reference Mix (PHE)

6 Analytes

bis(2-ethylhexyl) phthalate	50 µg/mL
butyl benzyl phthalate	10 µg/mL
dimethyl phthalate	25 µg/mL
di-n-butyl phthalate	25 µg/mL
diethyl phthalate	25 µg/mL
di-n-octyl phthalate	50 µg/mL

in acetone

EPA-2037N-1 1 x 1 mL

Phthalates Kit

Kit – contains seven ampules:

1 x 1 mL of each individual component
@ 100 µg/mL in methanol:

bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
di-n-octyl phthalate
plus
Phthalates Mixture (PSM-606-1)

PSK-606

Kit

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 607

NITROSAMINES

Method 607 is used to measure nitrosamines. Samples are extracted, concentrated in a Kuderna-Danish apparatus, then quantitated with GC and nitrogen-phosphorus detector.

To read the complete method, log onto our website at www.ultrasci.com.

Nitrosamines Mixture

3 Analytes

N-nitrosodimethylamine	2000 µg/mL
N-nitrosodiphenylamine	4000 µg/mL
N-nitrosodi-n-propylamine	2000 µg/mL

in methanol

NSM-815-1 1 x 1 mL

Recommended Method 607
Nitrosamines Mixtures

3 Analytes

N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine

@ 1000 µg/mL in methanol

NSM-810-1 1 x 1 mL

@ 2000 µg/mL in methanol

NSM-807-1 1 x 1 mL

Technical Note

N-Nitrosodiphenylamine may undergo transnitrosation reactions in the presence of reactive amines during the solution concentration step. N-Nitrosodiphenylamine may also decompose in the gas chromatographic inlet to diphenylamine.

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EPA METHOD 608, 608.1, 608.2

Organochlorine Pesticides and PCBs

Method 608 is used to measure organochlorine pesticides and PCBs, using extraction followed by GC/ECD. Methods 608.1 and 608.2 include additional analytes.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	PPM-608B-1 PPM-608F-1
Surrogate Standards:	ISM-320-1 ISM-301-1

Technical Note

Chlordane, toxaphene, and the Aroclors are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

Recommended Method 608 Organochlorine Pesticides Mixture

16 Analytes

aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide (B)

@ 20 µg/mL in methanol

PPM-608B-1 1 x 1 mL

@ 2000 µg/mL in hexane/toluene (1:1)

US-102BN-1 1 x 1 mL

@ 200 µg/mL in hexane/toluene (1:1)

PPM-665-1 1 x 1 mL

@ 400 µg/mL in hexane

PPM-680-1 1 x 1 mL

@ 2000 µg/mL in methanol

PPM-695-1 1 x 1 mL

Recommended Method 608 Pesticide Surrogate Standard Spiking Solutions

2 Analytes

2,4,5,6-tetrachloro-m-xylene
decachlorobiphenyl

@ 200 µg/mL in acetone

ISM-320-1 1 x 1 mL

2 Analytes

dibutyl chlorendate
2,4,5,6-tetrachloro-m-xylene

@ 200 µg/mL in acetone

ISM-301-1 1 x 1 mL

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EPA METHOD 608, 608.1, 608.2

(continued)

Recommended Method 608 Chlordane, Toxaphene, and PCB Standards

All @ in	1 x 1 mL Ampules		
chlordan	100 µg/mL	methanol	PP-150-1
toxaphene	100 µg/mL	methanol	PP-270-1
Aroclor 1016	100 µg/mL	methanol	PP-280-1
Aroclor 1016	200 µg/mL	hexane	PP-285-1
Aroclor 1016	1000 µg/mL	hexane	PP-284-1
Aroclor 1221	100 µg/mL	methanol	PP-290-1
Aroclor 1221	200 µg/mL	hexane	PP-295-1
Aroclor 1221	1000 µg/mL	hexane	PP-294-1
Aroclor 1232	100 µg/mL	methanol	PP-300-1
Aroclor 1232	200 µg/mL	hexane	PP-305-1
Aroclor 1232	1000 µg/mL	hexane	PP-304-1
Aroclor 1242	100 µg/mL	methanol	PP-310-1
Aroclor 1242	200 µg/mL	hexane	PP-315-1
Aroclor 1242	1000 µg/mL	hexane	PP-314-1
Aroclor 1248	100 µg/mL	methanol	PP-340-1
Aroclor 1248	200 µg/mL	hexane	PP-345-1
Aroclor 1248	1000 µg/mL	hexane	PP-344-1
Aroclor 1254	100 µg/mL	methanol	PP-350-1
Aroclor 1254	200 µg/mL	hexane	PP-355-1
Aroclor 1260	100 µg/mL	methanol	PP-360-1
Aroclor 1260	200 µg/mL	hexane	PP-364-1
Aroclor 1260	1000 µg/mL	hexane	PP-363-1
Aroclor 1262	200 µg/mL	hexane	PP-374-1
Aroclor 1262	1000 µg/mL	hexane	PP-373-1
Aroclor 1268	200 µg/mL	hexane	PP-384-1
Aroclor 1268	1000 µg/mL	hexane	PP-383-1
Chlordane	1000 µg/mL	hexane	PST-110H1000
Toxaphene	1000 µg/mL	hexane	PST-970H1000

Organochlorine Pesticides Mixture
for EPA Method 608.2

5 Analytes

chlorothalonil	1 µg/mL
DCPA	3 µg/mL
dichloran	2 µg/mL
methoxychlor	40 µg/mL
permethrin (mixed isomers)	400 µg/mL

in hexane

PPM-608F-1 **1 x 1 mL**

Waste Water Pesticides Mixture

7 Analytes

aldrin
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
heptachlor
heptachlor epoxide - isomer B

@ 100 µg/mL in acetone

PPM-608G-1 **1 x 1 mL**Chlorinated Hydrocarbon
Pesticides Mix 1

6 Analytes

aldrin	100 µg/mL
4,4'-DDD	500 µg/mL
4,4'-DDE	100 µg/mL
4,4'-DDT	500 µg/mL
dieldrin	100 µg/mL
heptachlor	100 µg/mL

in acetone

EPA-2101N-1 **1 x 1 mL**

EPA METHOD 608, 608.1, 608.2

(continued)

Organochlorine Pesticides Kit**Kit – contains twenty-six ampules:**

1 x 1 mL of each individual analyte

@ 100 µg/mL in methanol:

aldrin
 alpha-BHC
 beta-BHC
 delta-BHC
 gamma-BHC
 chlordane
 4,4'-DDD
 4,4'-DDE
 4,4'-DDT
 dieldrin
 endosulfan I
 endosulfan II
 endosulfan sulfate
 endrin
 endrin aldehyde
 heptachlor
 heptachlor epoxide (B)
 toxaphene
 Aroclor 1016
 Aroclor 1221
 Aroclor 1232
 Aroclor 1242
 Aroclor 1248
 Aroclor 1254
 Aroclor 1260
 plus
 Pesticides Mixture (PPM-608B-1)

PPK-608B**Kit****Pesticide Degradation Check Solution**

2 Analytes

4,4'-DDT
 endrin

@ 10 µg/mL in methyl tert-butyl ether (MTBE)

ISM-454-1**1 x 1 mL****Pesticides Mixture**

13 Analytes

aldrin
 alpha-BHC
 beta-BHC
 delta-BHC
 2,4'-DDD
 4,4'-DDD
 2,4'-DDE
 4,4'-DDE
 2,4'-DDT
 4,4'-DDT
 dieldrin
 endrin
 gamma-BHC

@ 100 µg/mL in isooctane/toluene (88:12 V/V)

PPM-480-1**1 x 1 mL****Organochlorine Pesticides Mixture**

17 Analytes

aldrin 20 µg/mL
 alpha-BHC 20 µg/mL
 beta-BHC 20 µg/mL
 delta-BHC 20 µg/mL
 gamma-BHC 20 µg/mL
 4,4'-DDD 100 µg/mL
 4,4'-DDE 20 µg/mL
 4,4'-DDT 100 µg/mL
 dieldrin 20 µg/mL
 endosulfan I 20 µg/mL
 endosulfan II 100 µg/mL
 endosulfan sulfate 100 µg/mL
 endrin 100 µg/mL
 endrin aldehyde 20 µg/mL
 heptachlor 20 µg/mL
 heptachlor epoxide (B) 20 µg/mL
 methoxychlor 20 µg/mL

in methanol

PPM-608C-1**1 x 1 mL****Pesticides Mixture**

12 Analytes

aldrin
 alpha-BHC
 beta-BHC
 delta-BHC
 4,4'-DDD
 4,4'-DDE
 4,4'-DDT
 dieldrin
 endrin
 gamma-BHC
 heptachlor
 heptachlor epoxide - isomer B

@ 2000 µg/mL in hexane/toluene (1:1)

PPM-485-1**1 x 1 mL****Organochlorine Pesticides Mixture**

7 Analytes

1,2-dibromo-3-chloropropane
 chlorobenzilate
 chloroneb
 chloropropylate
 etridiazole
 pentachloronitrobenzene
 propachlor

@ 100 µg/mL in isooctane

PPM-609-1**1 x 1 mL****Organochlorine Pesticides Mixture**

5 Analytes

chlorothalonil
 dacthal
 dichloran
 methoxychlor
 permethrins (mixed isomers, total)

@ 1000 µg/mL in isooctane

PPM-610-1**1 x 1 mL**

EPA METHOD 608, 608.1, 608.2

(continued)

Organochlorine Pesticides Mixture

16 Analytes

aldrin	20 µg/mL
alpha-BHC	20 µg/mL
gamma-BHC	20 µg/mL
beta-BHC	20 µg/mL
4,4'-DDD	100 µg/mL
4,4'-DDE	20 µg/mL
4,4'-DDT	100 µg/mL
delta-BHC	20 µg/mL
dieldrin	20 µg/mL
endosulfan I	20 µg/mL
endosulfan II	100 µg/mL
endosulfan sulfate	100 µg/mL
endrin	100 µg/mL
endrin aldehyde	20 µg/mL
heptachlor	20 µg/mL
heptachlor epoxide - isomer B	20 µg/mL

*in methanol***PPM-655-1** **1 x 1 mL****Organochlorine Pesticides Mixture**

17 Analytes

aldrin	20 µg/mL
alpha-BHC	20 µg/mL
beta-BHC	20 µg/mL
gamma-BHC	20 µg/mL
delta-BHC	20 µg/mL
4,4'-DDD	100 µg/mL
4,4'-DDE	20 µg/mL
4,4'-DDT	100 µg/mL
dieldrin	20 µg/mL
endosulfan I	20 µg/mL
endosulfan II	100 µg/mL
endosulfan sulfate	100 µg/mL
endrin	20 µg/mL
endrin aldehyde	100 µg/mL
heptachlor	20 µg/mL
heptachlor epoxide - isomer B	20 µg/mL
methoxychlor	20 µg/mL

*in methanol***PPM-660-1** **1 x 1 mL****Organochlorine Pesticides Mixture**

17 Analytes

aldrin	
alpha-BHC	
beta-BHC	
gamma-BHC	
delta-BHC	
4,4'-DDD	
4,4'-DDE	
4,4'-DDT	
dieldrin	
endosulfan I	
endosulfan II	
endosulfan sulfate	
endrin	
endrin aldehyde	
heptachlor	
heptachlor epoxide - isomer B	
methoxychlor	

@ 20 µg/mL in methanol

PPM-685-1 **1 x 1 mL****Chlordane and Toxaphene Mixture**

2 Analytes

chlordane	2000 µg/mL
toxaphene	4000 µg/mL

*in methanol***TCLP-533-1** **1 x 1 mL****Chlordane & Toxaphene Solution**

2 Analytes

chlordane	20 µg/mL
toxaphene	100 µg/mL

*in methanol***TCLP-534-1** **1 x 1 mL****Chlordane & Toxaphene Solution**

2 Analytes

chlordane	20 µg/mL
toxaphene	200 µg/mL

*in methanol***TCLP-535-1** **1 x 1 mL****Pesticide Degradation Check Solution**

2 Analytes

4,4'-DDT	200 µg/mL
endrin	100 µg/mL

*methyl tert-butyl ether (MTBE)***ISM-452-1** **1 x 1 mL****Aroclors Mixture**

4 Analytes

Aroclor 1016
Aroclor 1232
Aroclor 1248
Aroclor 1260

@ 200 µg/mL in methanol

XY-0130-1 **1 x 1 mL****Aroclors Mixture**

3 Analytes

Aroclor 1221
Aroclor 1242
Aroclor 1254

@ 200 µg/mL in methanol

XY-0131-1 **1 x 1 mL**

EPA METHOD 609

NITROAROMATICS AND ISOPHORONE

Method 609 is used to measure nitroaromatics and isophorone. Samples are extracted, concentrated in a Kuderna-Danish apparatus, then quantitated with GC/FID and GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Nitroaromatics Mixture

2 Analytes

2,4-dinitrotoluene
2,6-dinitrotoluene

@ 200 µg/mL in methanol

NAIM-610-1 1 x 1 mL

@ 1000 µg/mL in hexane

NAIM-611-1 1 x 1 mL

Nitroaromatics and Isophorone Mixture

4 Analytes

2,4-dinitrotoluene
2,6-dinitrotoluene
isophorone
nitrobenzene

@ 100 µg/mL in methanol

NAIM-609-1 1 x 1 mL

@ 2000 µg/mL in hexane

NAIM-625-1 1 x 1 mL

Nitrobenzene and Isophorone Mixture

2 Analytes

isophorone
nitrobenzene

@ 1000 µg/mL in hexane

NAIM-620-1 1 x 1 mL

@ 200 µg/mL in methanol

NAIM-615-1 1 x 1 mL

Nitroaromatics and Isophorone Mixture

4 Analytes

2,4-dinitrotoluene 20 µg/mL
2,6-dinitrotoluene 20 µg/mL
isophorone 100 µg/mL
nitrobenzene 100 µg/mL

in acetone

NAIM-630-1 1 x 1 mL

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EPA METHOD 610

POLYNUCLEAR
AROMATIC
HYDROCARBONS

Method 610 is used to measure polynuclear aromatic hydrocarbons, using extraction followed by either GC/FID, or HPLC using a UV or a fluorescence detector.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: US-106N-1
PM-611-1

Recommended Method 610
PAH Mixtures

16 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene
indeno[1,2,3-cd]pyrene
naphthalene
phenanthrene
pyrene

@ 20 µg/mL in methylene chloride

PM-610-1 1 x 1 mL

@ 100 µg/mL in methylene chloride

PM-611-1 1 x 1 mL

@ 2000 µg/mL in
methylene chloride/benzene (1:1)

US-106N-1 1 x 1 mL

PAH Kit

Kit – contains seventeen ampules:

1 x 1 mL of each individual component
@ 100 µg/mL in methylene chloride:

acenaphthene *
acenaphthylene *
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene *
indeno[1,2,3-cd]pyrene
naphthalene *
phenanthrene
pyrene
plus
PAH Mixture (PM-610-1)
(* methanol solvent)

PK-610

Kit

PAH Solution

16 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[a]pyrene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[k]fluoranthene
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene
indeno[1,2,3-cd]pyrene
naphthalene
phenanthrene
pyrene

@ 100 µg/mL in acetonitrile

PAH-600-1 1 x 1 mL

@ 100 µg/mL in methanol/methylene chloride (1:1)

PAH-605-1 1 x 1 mL

@ 1000 µg/mL in methylene chloride
(dichloromethane)

PAH-615-1 1 x 1 mL

@ 2000 µg/mL in toluene

PAH-630-1 1 x 1 mL

@ 2000 µg/mL in acetone

PAH-635-1 1 x 1 mL

@ 3200 µg/mL in methylene chloride/benzene (1:1)

PAH-640-1 1 x 1 mL

@ 2000 µg/mL in benzene/toluene

PAH-715-1 1 x 1 mL

@ 2000 µg/mL in

methylene chloride/benzene (1:1)

US-106N-1 1 x 1 mL

Volume discounts for
individual solutions

Order 4–19 ampules of the same item
and receive a **20% DISCOUNT**
Order 20 or more ampules of the same
item and receive a **30% DISCOUNT**



EPA METHOD 610

(continued)

PAH Solution

16 Analytes

acenaphthene	100 µg/mL
acenaphthylene	100 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	10 µg/mL
benzo[a]pyrene	10 µg/mL
benzo[b]fluoranthene	10 µg/mL
benzo[ghi]perylene	10 µg/mL
benzo[k]fluoranthene	5 µg/mL
chrysene	10 µg/mL
dibenz[a,h]anthracene	10 µg/mL
fluoranthene	10 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	10 µg/mL
naphthalene	100 µg/mL
phenanthrene	100 µg/mL
pyrene	10 µg/mL

*in methylene chloride/Cyclohexane (1:1)***PAH-645-1** **1 x 1 mL**

PAH Solution

16 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	2000 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	100 µg/mL
benzo[a]pyrene	200 µg/mL
benzo[b]fluoranthene	200 µg/mL
benzo[ghi]perylene	100 µg/mL
benzo[k]fluoranthene	100 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	100 µg/mL
fluoranthene	200 µg/mL
fluorene	200 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
naphthalene	1000 µg/mL
phenanthrene	100 µg/mL
pyrene	100 µg/mL

*in methanol/methylene chloride (1:1)***PAH-650-1** **1 x 1 mL**

PAH Solution

16 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	1000 µg/mL
anthracene	1000 µg/mL
benz[a]anthracene	100 µg/mL
benzo[a]pyrene	100 µg/mL
benzo[b]fluoranthene	100 µg/mL
benzo[ghi]perylene	100 µg/mL
benzo[k]fluoranthene	50 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	100 µg/mL
fluoranthene	100 µg/mL
fluorene	1000 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
naphthalene	1000 µg/mL
phenanthrene	1000 µg/mL
pyrene	100 µg/mL

*in methylene chloride***PAH-655-1** **1 x 1 mL**

PAH Solution

16 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	2000 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	100 µg/mL
benzo[a]pyrene	100 µg/mL
benzo[b]fluoranthene	200 µg/mL
benzo[ghi]perylene	200 µg/mL
benzo[k]fluoranthene	100 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	200 µg/mL
fluoranthene	200 µg/mL
fluorene	200 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
naphthalene	1000 µg/mL
phenanthrene	100 µg/mL
pyrene	100 µg/mL

*in methanol/methylene chloride (1:1)***PAH-660-1** **1 x 1 mL**

PAH Solution

16 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	2000 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	100 µg/mL
benzo[a]pyrene	100 µg/mL
benzo[b]fluoranthene	100 µg/mL
benzo[ghi]perylene	200 µg/mL
benzo[k]fluoranthene	100 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	200 µg/mL
fluoranthene	200 µg/mL
fluorene	200 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
naphthalene	1000 µg/mL
phenanthrene	100 µg/mL
pyrene	100 µg/mL

*in toluene***PAH-665-1** **1 x 1 mL**

EPA METHOD 610

(continued)

Matrix Spiking Solution

6 Analytes

benzo[a]pyrene	500 µg/mL
chrysene	500 µg/mL
1-methylnaphthalene	5000 µg/mL
2-methylnaphthalene	5000 µg/mL
phenanthrene	50 µg/mL
pyrene	50 µg/mL

*in acetonitrile***PM-025-1** **1 x 1 mL**

PAH Mixture

16 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	1000 µg/mL
anthracene	1000 µg/mL
benz[a]anthracene	500 µg/mL
benzo[a]pyrene	500 µg/mL
benzo[b]fluoranthene	500 µg/mL
benzo[ghi]perylene	500 µg/mL
benzo[k]fluoranthene	500 µg/mL
chrysene	500 µg/mL
dibenz[a,h]anthracene	500 µg/mL
fluoranthene	500 µg/mL
fluorene	1000 µg/mL
indeno[1,2,3-cd]pyrene	500 µg/mL
naphthalene	1000 µg/mL
phenanthrene	500 µg/mL
pyrene	500 µg/mL

*in methylene chloride***PM-030-1** **1 x 1 mL**

PAH Mixture

18 Analytes

acenaphthene	
acenaphthylene	
anthracene	
benz[a]anthracene	
benzo[a]pyrene	
benzo[b]fluoranthene	
benzo[e]pyrene	
benzo[ghi]perylene	
benzo[j]fluoranthene	
benzo[k]fluoranthene	
chrysene	
dibenz[a,h]anthracene	
fluoranthene	
fluorene	
indeno[1,2,3-cd]pyrene	
naphthalene	
phenanthrene	
pyrene	

@ 1000 µg/mL in methylene chloride

PM-035-1 **1 x 1 mL**

PAH Mixture

16 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	500 µg/mL
anthracene	20 µg/mL
benz[a]anthracene	50 µg/mL
benzo[a]pyrene	50 µg/mL
benzo[b]fluoranthene	20 µg/mL
benzo[ghi]perylene	80 µg/mL
benzo[k]fluoranthene	20 µg/mL
chrysene	50 µg/mL
dibenz[a,h]anthracene	20 µg/mL
fluoranthene	50 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	50 µg/mL
naphthalene	500 µg/mL
phenanthrene	40 µg/mL
pyrene	100 µg/mL

*in acetonitrile***PM-040-1** **1 x 1 mL**

PAH Mixture

18 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	2000 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	100 µg/mL
benzo[a]pyrene	100 µg/mL
benzo[b]fluoranthene	200 µg/mL
benzo[ghi]perylene	200 µg/mL
benzo[k]fluoranthene	100 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	200 µg/mL
fluoranthene	200 µg/mL
fluorene	200 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
1-methylnaphthalene	200 µg/mL
2-methylnaphthalene	200 µg/mL
naphthalene	1000 µg/mL
phenanthrene	100 µg/mL
pyrene	100 µg/mL

*in methanol/methylene chloride (1:1)***PM-045-1** **1 x 1 mL**

PAH Mixture

18 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	2000 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	100 µg/mL
benzo[a]pyrene	100 µg/mL
benzo[b]fluoranthene	200 µg/mL
benzo[ghi]perylene	200 µg/mL
benzo[k]fluoranthene	200 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	200 µg/mL
fluoranthene	200 µg/mL
fluorene	200 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
1-methylnaphthalene	1000 µg/mL
2-methylnaphthalene	1000 µg/mL
naphthalene	1000 µg/mL
phenanthrene	100 µg/mL
pyrene	100 µg/mL

*in acetonitrile***PM-050-1** **1 x 1 mL**

PAH Mixture*17 Analytes*

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[a]pyrene
 benzo[b]fluoranthene
 benzo[ghi]perylene
 benzo[k]fluoranthene
 chrysene
 coronene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 naphthalene
 phenanthrene
 pyrene

*@ 1000 µg/mL in acetonitrile***PM-055-1** **1 x 1 mL****PAH Mixture***18 Analytes*

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[a]pyrene
 benzo[b]fluoranthene
 benzo[e]pyrene
 benzo[ghi]perylene
 benzo[k]fluoranthene
 chrysene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 naphthalene
 phenanthrene
 pyrene
 p-terphenyl-d14

*@ 1000 µg/mL in methanol***PM-060-1** **1 x 1 mL****PAH Mixture***16 Analytes*

acenaphthene 100 µg/mL
 acenaphthylene 100 µg/mL
 anthracene 100 µg/mL
 benz[a]anthracene 10 µg/mL
 benzo[b]fluoranthene 10 µg/mL
 benzo[k]fluoranthene 5 µg/mL
 benzo[ghi]perylene 10 µg/mL
 benzo[a]pyrene 10 µg/mL
 chrysene 10 µg/mL
 dibenz[a,h]anthracene 10 µg/mL
 fluoranthene 10 µg/mL
 fluorene 100 µg/mL
 indeno[1,2,3-cd]pyrene 10 µg/mL
 naphthalene 100 µg/mL
 phenanthrene 100 µg/mL
 pyrene 10 µg/mL

*in acetonitrile***PM-613A-1** **1 x 1 mL****PAH Mixture #1***8 Analytes*

acenaphthene 1000 µg/mL
 anthracene 1000 µg/mL
 benzo[k]fluoranthene 50 µg/mL
 chrysene 100 µg/mL
 fluorene 1000 µg/mL
 indeno[1,2,3-cd]pyrene 100 µg/mL
 naphthalene 1000 µg/mL
 pyrene 100 µg/mL

*in acetonitrile***EPA-2138N-1** **1 x 1 mL****PAH Mixture #2***8 Analytes*

acenaphthylene 1000 µg/mL
 benz[a]anthracene 100 µg/mL
 benzo[b]fluoranthene 100 µg/mL
 benzo[ghi]perylene 100 µg/mL
 benzo[a]pyrene 100 µg/mL
 dibenz[a,h]anthracene 100 µg/mL
 fluoranthene 100 µg/mL
 phenanthrene 1000 µg/mL

*in acetonitrile***EPA-2139N-1** **1 x 1 mL****PAH Mixture***16 Analytes*

acenaphthene 100 µg/mL
 acenaphthylene 200 µg/mL
 anthracene 100 µg/mL
 benz[a]anthracene 100 µg/mL
 benzo[b]fluoranthene 200 µg/mL
 benzo[k]fluoranthene 100 µg/mL
 benzo[ghi]perylene 200 µg/mL
 benzo[a]pyrene 100 µg/mL
 chrysene 100 µg/mL
 dibenz[a,h]anthracene 200 µg/mL
 fluoranthene 200 µg/mL
 fluorene 200 µg/mL
 indeno[1,2,3-cd]pyrene 100 µg/mL
 naphthalene 1000 µg/mL
 phenanthrene 100 µg/mL
 pyrene 100 µg/mL

*in methylene chloride***PM-612-1** **1 x 1 mL****PAH Mix 1 (PNA-1)***7 Analytes*

acenaphthene 100 µg/mL
 anthracene 100 µg/mL
 benzo[k]fluoranthene 5 µg/mL
 chrysene 10 µg/mL
 indeno[1,2,3-cd]pyrene 10 µg/mL
 naphthalene 100 µg/mL
 pyrene 10 µg/mL

*in acetonitrile***EPA-2038N-1** **1 x 1 mL****PAH Mix 2 (PNA-2)***8 Analytes*

acenaphthylene 100 µg/mL
 benz[a]anthracene 10 µg/mL
 benzo[b]fluoranthene 10 µg/mL
 benzo[ghi]perylene 10 µg/mL
 benzo[a]pyrene 10 µg/mL
 dibenz[a,h]anthracene 10 µg/mL
 fluoranthene 10 µg/mL
 phenanthrene 100 µg/mL

*in acetonitrile***EPA-2039N-1** **1 x 1 mL**

EPA METHOD 611

HALOETHERS

Method 611 is used to measure haloethers. Samples are extracted, concentrated in a Kuderna-Danish apparatus, then quantitated using a GC with an electrolytic conductivity detector.

To read the complete method, log onto our website at www.ultrasci.com.

Haloethers Mixture (HAL)

5 Analytes

4-bromophenyl phenyl ether
4-chlorophenyl phenyl ether
bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether

@ 200 µg/mL in methanol

EPA-2017-1 1 x 1 mL

@ 2000 µg/mL in acetone

EPA-2018-1 1 x 1 mL

EPA METHOD 612

Chlorinated Hydrocarbons

Method 612 is used to measure chlorinated hydrocarbons, using extraction followed by GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: CHM-622-1

Recommended Method 612

Chlorinated Hydrocarbons Mixture

9 Analytes

2-chloronaphthalene 400 µg/mL
1,2-dichlorobenzene 200 µg/mL
1,3-dichlorobenzene 200 µg/mL
1,4-dichlorobenzene 400 µg/mL
hexachlorobenzene 1 µg/mL
hexachlorobutadiene 1 µg/mL
hexachlorocyclopentadiene 1 µg/mL
hexachloroethane 1 µg/mL
1,2,4-trichlorobenzene 40 µg/mL

in isooctane

CHM-622-1 1 x 1 mL

Chlorinated Hydrocarbons Mixture

9 Analytes

2-chloronaphthalene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
1,2,4-trichlorobenzene

@ 100 µg/mL in

methanol / methylene chloride (1:1)

CHM-612-1 1 x 1 mL

@ 2000 µg/mL in isooctane

CHM-625-1 1 x 1 mL

Chlorinated Hydrocarbons Kit

Kit – contains ten ampules:

1 x 1 mL of each individual component @ 100 µg/mL in methanol:

2-chloronaphthalene *hexachlorobutadiene
1,2-dichlorobenzene hexachlorocyclopentadiene
1,3-dichlorobenzene hexachloroethane
1,4-dichlorobenzene 1,2,4-trichlorobenzene
hexachlorobenzene *
plus
Chlorinated Hydrocarbons Mixture (CHM-612-1)
(* methylene chloride solvent)

CHK-612

Kit

EPA METHOD 613

2,3,7,8-TCDD

Method 613 is used to determine 2,3,7,8-tetra-chlorodibenzo-p-dioxin, using extraction followed by capillary column GC/MS.

To read the complete method, log onto our website at www.ultrasci.com.

**Recommended Method 613
TCDD Solution**

2,3,7,8-tetrachlorodibenzo-p-dioxin

@ 10 µg/mL in toluene

RPE-029S-1 1 x 1 mL



Find additional EPA Method 600 Series Standards online:
www.ultrasci.com/EPA600

EPA METHOD 614, 614.1

**ORGANOPHOSPHORUS
PESTICIDES**

Methods 614 and 614.1 are used to measure organophosphorus pesticides. Samples are extracted, then quantitated using GC/NPD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: SPM-614-1
SPM-624-1

**Recommended Method 614
Organophosphorus
Pesticides Mixture**

8 Analytes

azinphos methyl
demeton
diazinon
disulfoton
ethion
malathion
parathion ethyl
parathion methyl

@ 200 µg/mL in acetone

SPM-614-1 1 x 1 mL

@ 1000 µg/mL in hexane/acetone (1:1)

SPM-630-1 1 x 1 mL

**Recommended Method 614.1
Organophosphorus
Pesticides Mixture**

4 Analytes

dioxathion 10 µg/mL
EPN 200 µg/mL
ethion 100 µg/mL
terbufos 4 µg/mL

in hexane

SPM-624-1 1 x 1 mL

**Organophosphorus Pesticide
Mixture**

4 Analytes

Dioxathion
EPN
ethion
terbufos

@ 1000 µg/mL in hexane/acetone (1:1)

SPM-625-1 1 x 1 mL

Individual Internal & Surrogate Standards for Methods 614, 614.1

All @ 1000 µg/mL

All in 1 x 1 mL Ampules

terbufos	methanol	PST-1700M1000
disulfoton	methanol	PST-470M1000
dioxathion	methanol	PST-455M1000
guthion	acetone	PST-560K1000
EPN	methanol	PST-520M1000
ethion	methanol	PST-530M1000
parathion (ethyl)	methanol	PST-761M1000
demeton (total, mixed isomers)	methanol	PST-920M1000

EPA METHOD 615

CHLORINATED
HERBICIDES

Method 615 is used to measure chlorinated herbicides. Samples are extracted, derivatized, and quantitated on GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: HBM-8150A-1

Chlorinated Herbicides Mixture

8 Analytes

2,4-D
2,4-DB
dalapon
dicamba
dichlorprop
dinoseb
silvex
2,4,5-T

@ 200 µg/mL in methyl tert-butyl ether (MTBE)

HBM-541-1 1 x 1 mL

@ 20 µg/mL in hexane

HBM-542-1 1 x 1 mL

@ 200 µg/mL in hexane

HBM-543-1 1 x 1 mL

@ 20 µg/mL in methyl tert-butyl ether (MTBE)

HBM-540-1 1 x 1 mL

Recommended Method 615
Chlorinated Herbicides Mixtures

10 Analytes

2,4-D	100 µg/mL
2,4-DB	100 µg/mL
dalapon	250 µg/mL
dicamba	10 µg/mL
dichlorprop	100 µg/mL
dinoseb	50 µg/mL
MCPA	10,000 µg/mL
MCPP	10,000 µg/mL
silvex (2,4,5-TP)	10 µg/mL
2,4,5-T	10 µg/mL

Herbicide Acids Mixture

in methanol

HBM-8150A-1 1 x 1 mL

Methylated Herbicide Mixture

in methanol

HBM-8150M-1 1 x 1 mL

Internal and Surrogate Standard
Solutions for Method 615

4,4-dibromooctafluorobiphenyl

@ 250 µg/mL in acetone

PPS-171-1 1 x 1 mL

2,4-dichlorophenylacetic acid (DCAA)

@ 100 µg/mL in acetone

PPS-165-1 1 x 1 mL

2,4-dichlorophenylacetic acid (DCAA)

@ 1000 µg/mL in acetone

PPS-167-1 1 x 1 mL

DCAA methyl ester

@ 100 µg/mL in acetone

PPS-166-1 1 x 1 mL

DCAA methyl ester

@ 200 µg/mL in hexane

PST-4065H200A01 1 x 1 mL

Chlorinated Herbicides Mixture

10 Analytes

2,4-D	1000 µg/mL
2,4-DB	1000 µg/mL
dalapon	1000 µg/mL
dicamba	1000 µg/mL
dichlorprop	1000 µg/mL
dinoseb	1000 µg/mL
MCPA	10000 µg/mL
MCPP (mecoprop)	10000 µg/mL
2,4,5-T	1000 µg/mL
2,4,5-TP	1000 µg/mL

in methanol

HBM-545-1 1 x 1 mL

Volume discounts for
individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



Individual Internal & Surrogate Standards for Methods 615

All in 1 x 1 mL Ampules

dalapon	@ 200 µg/mL	methyl tert-butyl ether	PST-4040B200
dalapon	@ 200 µg/mL	methanol	PST-4040M200
dalapon methyl ester	@ 200 µg/mL	hexane	PST-171H200
dicamba	@ 200 µg/mL	methyl tert-butyl ether	PST-050B200
dicamba	@ 200 µg/mL	methanol	PST-050M200
dicamba methyl ester	@ 200 µg/mL	hexane	PST-4100H200
dichlorprop	@ 200 µg/mL	methyl tert-butyl ether	PST-370B200
dichlorprop	@ 200 µg/mL	methanol	PST-370M200
2,4-D	@ 200 µg/mL	methyl tert-butyl ether	PST-140B200
2,4-D	@ 200 µg/mL	methanol	PST-140M200
2,4-D methyl ester	@ 200 µg/mL	hexane	PST-150H200
2,4-DB	@ 200 µg/mL	methyl tert-butyl ether	PST-1170B200
2,4-DB	@ 200 µg/mL	methanol	PST-1170M200
2,4-DB methyl ester	@ 200 µg/mL	hexane	PST-1171H200
DCAA methyl ester	@ 200 µg/mL	hexane	PST-4065H200A01
dinoseb	@ 200 µg/mL	methyl tert-butyl ether	PST-450B200
dinoseb	@ 200 µg/mL	methanol	PST-450M200
dinoseb methyl ether	@ 200 µg/mL	hexane	PST-451H200
MCPA	@ 2000 µg/mL	methyl tert-butyl ether	PST-1180B2000
MCPA	@ 2000 µg/mL	methanol	PST-1180M2000
MCPA methyl ester	@ 2000 µg/mL	hexane	PST-1181H2000
MCPP	@ 2000 µg/mL	methyl tert-butyl ether	PST-1190B2000
MCPP	@ 2000 µg/mL	methanol	PST-1190M2000
MCPP methyl ester	@ 2000 µg/mL	hexane	PST-1191H2000
silvex methyl ester	@ 200 µg/mL	hexane	PST-4140H200
2,4,5-T	@ 200 µg/mL	methyl tert-butyl ether	PST-930B200
2,4,5-T	@ 200 µg/mL	methanol	PST-930M200
2,4,5-T methyl ester	@ 200 µg/mL	hexane	PST-931H200
2,4,5-TP	@ 200 µg/mL	methyl tert-butyl ether	PST-911B200
2,4,5-TP	@ 200 µg/mL	methanol	PST-911M200

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EPA METHOD 619

TRIAZINE PESTICIDES

Method 619 is used to measure triazine pesticides. Samples are extracted, then quantitated using GC/NPD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Method 619
Triazine Pesticides Mixture

11 Analytes

ametryn
atraton
atrazine
prometon
prometryn
propazine
secbumeton
simazine
simetryn
terbuthylazine
terbutryn

@ 100 µg/mL in acetone

NPM-619-1 1 x 1 mL

@ 100 µg/mL in methanol

NPM-620-1 1 x 1 mL

@ 500 µg/mL in acetone

NPM-621-1 1 x 1 mL

@ 1000 µg/mL in acetone

NPM-625-1 1 x 1 mL

Organophosphorous Pesticides
Mixture

20 Analytes

bolstar
chlorpyrifos
coumaphos
demeton (total, mixed isomers)
diazinon
dichlorvos
disulfoton
ethoprop
fenchlorphos
fensulfothion
fenthion
guthion
merphos
mevinphos
naled
methyl parathion
phorate
tetrachlorvinphos
tokuthion
trichloronate

@ 200 µg/mL in ethyl acetate

SPM-825-1 1 x 1 mL

EPA METHOD 622

ORGANOPHOSPHORUS
PESTICIDES

Method 622 is used to measure organophosphorus pesticides. Samples are extracted, then quantitated using GC/NPD or GC/FPD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: SPM-622A-1
SPM-622C-1
SPM-622D-1

Recommended Method 622
Organophosphorus
Pesticides Mixture

10 Analytes

aziphos methyl 150 µg/mL
bolstar 15 µg/mL
coumaphos 150 µg/mL
demeton 25 µg/mL
disulfoton 20 µg/mL
fensulfothion 150 µg/mL
fenthion 10 µg/mL
phorate 15 µg/mL
trichloronate 15 µg/mL
tokuthion 50 µg/mL

in hexane

SPM-622A-1 1 x 1 mL

Recommended Method 622
Organophosphorus
Pesticides Mixture

7 Analytes

chlorpyrifos methyl 30 µg/mL
chlorpyrifos 30 µg/mL
diazinon 60 µg/mL
ethoprop 25 µg/mL
parathion methyl 30 µg/mL
ronnel 30 µg/mL
merphos 25 µg/mL

in hexane

SPM-622C-1 1 x 1 mL

Recommended Method 622
Naled Solution

naled

@ 10 µg/mL in hexane

SPM-622D-1 1 x 1 mL

EPA METHOD 624

PURGEABLES

Method 624 is a GC/MS method for purgeables.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: PMX-110-1
HC-070-1

Surrogate Standard: STM-290N-1

Technical Note

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. That is why ULTRA packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

EPA Method 624 Kit

Kit – contains four ampules:

1 x 1 mL of each of the following standards

Purgeable Mixture (PMX-110-1)
Chloroethyl Vinyl Ether Soln. (HC-070-1)
Surrogate Std Mixture (STM-290N-1)
BFB Solution (STS-110N-1)

PMK-624 Kit

2-Chloroethyl Vinyl Ether Standards

2-chloroethyl vinyl ether

@ 100 µg/mL in methanol

HC-070-1 1 x 1 mL

@ 5000 µg/mL in methanol

EPA-1016-1 1 x 1 mL

Recommended Method 624
Purgeable Mixtures

30 Analytes

benzene
bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
chloromethane
dibromochloromethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
trichlorofluoromethane
vinyl chloride

@ 20 µg/mL in methanol

PMX-100-1 1 x 1 mL

@ 100 µg/mL in methanol

PMX-110-1 1 x 1 mL

Surrogate Standard Mixture

3 Analytes

4-bromofluorobenzene
fluorobenzene
pentafluorobenzene

@ 20,000 µg/mL in methanol

STM-390-1 1 x 1 mL

@ 1000 µg/mL in methanol

STM-395-1 1 x 1 mL

Purgeable Mixture

25 Analytes

benzene
bromodichloromethane
bromoform
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene

@ 2000 µg/mL in methanol

PMX-160-1 1 x 1 mL

Recommended Method 624
Surrogate Standard Mixture

3 Analytes

bromochloromethane
2-bromo-1-chloropropane
1,4-dichlorobutane

@ 1000 µg/mL in methanol

STM-288-1 1 x 1 mL

@ 1500 µg/mL in methanol

STM-289-1 1 x 1 mL

@ 2000 µg/mL in methanol

STM-290N-1 1 x 1 mL

@ 20,000 µg/mL in methanol

STM-291-1 1 x 1 mL

EPA METHOD 624

(continued)

Purgeable A Mixture

11 Analytes

carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,1-dichloroethane
1,1-dichloroethene
1,2-dichloropropane
methylene chloride
tetrachloroethene
1,1,2-trichloroethane
trichloroethene

@ 200 µg/mL in methanol

XY-0115-1 1 x 1 mL**Purgeable B Mixture**

12 Analytes

benzene
bromodichloromethane
bromoform
1,2-dichloroethane
trans-1,2-dichloroethene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
1,1,2,2-tetrachloroethane
toluene
1,1,1-trichloroethane
trichlorofluoromethane

@ 200 µg/mL in methanol

XY-0116-1 1 x 1 mL**Volatiles Mix 1 (VOA-1)**

11 Analytes

carbon tetrachloride
chlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
ethylbenzene
tetrachloroethene
1,1,2-trichloroethane

@ 50 µg/mL in methanol

EPA-2041N-1 1 x 1 mL

@ 500 µg/mL in methanol

EPA-2141N-1 1 x 1 mL**Purgeable Gas Mixtures**

6 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL**Purgeable Gas Mixture**

5 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
vinyl chloride

@ 100 µg/mL in methanol

HCM-601G-1 1 x 1 mL**Chlorinated Benzenes Mixture**

3 Analytes

1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene

@ 200 µg/mL in methanol

CHM-200-1 1 x 1 mL

@ 2000 µg/mL in methanol

CHM-205-1 1 x 1 mL**Volatiles Mix 2 (VOA-2)**

12 Analytes

benzene
bromodichloromethane
bromoform
chloroform
dibromochloromethane
1,2-dichlorobenzene
1,1-dichloroethane
methylene chloride
1,1,2,2-tetrachloroethane
toluene
1,1,1-trichloroethane
trichloroethene

@ 50 µg/mL in methanol

EPA-2042N-1 1 x 1 mL

@ 500 µg/mL in methanol

EPA-2142N-1 1 x 1 mL

Calibration Mixture**12 Analytes**

benzene
carbon tetrachloride
chlorobenzene
2-chloroethylvinyl ether
dibromochloromethane
1,1-dichloroethane
1,1-dichloroethene
1,2-dichloropropane
methylene chloride
tetrachloroethene
1,1,2-trichloroethane
trichloroethene

@ 2000 µg/mL in methanol

US-430-1**1 x 1 mL****Calibration Mixture****14 Analytes**

bromodichloromethane
bromoform
chloroform
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,2-dichloroethane
trans-1,2-dichloroethene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
1,1,2,2-tetrachloroethane
1,1,1-trichloroethane
toluene

@ 2000 µg/mL in methanol

US-425-1**1 x 1 mL****Trihalomethanes Mixture****4 Analytes**

bromodichloromethane
bromoform
chloroform
dibromochloromethane

@ 2000 µg/mL in methanol

THM-515-1**1 x 1 mL****Calibration Mixture****27 Analytes**

acrylonitrile
benzene
bromodichloromethane
bromoform
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
methylene chloride
tetrachloroethylene
1,1,2,2-tetrachloroethane
toluene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene

@ 200 µg/mL in methanol

PMX-185-1**1 x 1 mL****Internal, Surrogate, and GC/MS Calibration Standards for Method 624**

@ 200 µg/mL in methanol

1 x 1 mL Ampules

benzene-d ₆	STS-101-1
bromochloromethane	STS-181-1
1,2-dichloroethane-d ₄	STS-122-1
1,4-dichlorobutane	STS-202-1
1,4-difluorobenzene	STS-131-1
ethylbenzene-d ₁₀	STS-162-1
fluorobenzene	STS-164-1
pentafluorobenzene	STS-171-1

@ 1000 µg/mL in methanol

1 x 1 mL Ampules

4-bromofluorobenzene	STS-114-1
1,2-dichloroethane-d ₄	STS-121-1
1,4-dichlorobutane	STS-201-1
ethylbenzene-d ₁₀	STS-163-1

All @ 2000 µg/mL in methanol

1 x 1 mL Ampules

bromochloromethane	STS-180-1
2-bromo-1-chloropropane	STS-190-1
4-bromofluorobenzene	STS-110N-1
1,4-dichlorobutane	STS-200-1
1,2-dichloroethane-d ₄	STS-120-1
1,4-difluorobenzene	STS-130-1
ethylbenzene-d ₁₀	STS-150-1
fluorobenzene	STS-160-1
pentafluorobenzene	STS-170-1

EPA METHOD 624

(continued)

VOC Mixture

51 Analytes

acetone	1,2-dichlorobenzene	methyl tert-butyl ether (MTBE)
acetonitrile	1,3-dichlorobenzene	MIBK
acrylonitrile	1,4-dichlorobenzene	naphthalene
benzene	dichlorodifluoromethane	styrene
bromodichloromethane	1,1-dichloroethane	1,1,2,2-tetrachloroethane
bromoform	1,2-dichloroethane	tetrachloroethylene
bromomethane	1,1-dichloroethene	toluene
carbon disulfide	cis-1,2-dichloroethene	1,2,4-trichlorobenzene
carbon tetrachloride	trans-1,2-dichloroethene	1,1,1-trichloroethane
chlorobenzene	1,2-dichloropropane	1,1,2-trichloroethane
chloroethane	cis-1,3-dichloropropene	trichloroethylene
chloroform	trans-1,3-dichloropropene	trichlorofluoromethane
chloromethane	ethylbenzene	1,2,3-trichloropropane
dibromochloromethane	hexachlorobutadiene	vinyl chloride
1,2-dibromoethane	2-hexanone	o-xylene
dibromomethane	MEK	m-xylene
1,2-dibromo-3-chloropropane	methylene chloride	p-xylene

@ 2000 µg/mL in methanol

PMX-190-1

1 x 1 mL

VOC Mixture

52 Analytes

acetone	1,3-dichlorobenzene	naphthalene
acetonitrile	1,4-dichlorobenzene	styrene
acrylonitrile	1,1-dichloroethane	1,1,1,2-tetrachloroethane
benzene	1,2-dichloroethane	1,1,2,2-tetrachloroethane
bromodichloromethane	1,1-dichloroethene	tetrachloroethylene
bromoform	cis-1,2-dichloroethene	toluene
bromomethane	trans-1,2-dichloroethene	1,2,4-trichlorobenzene
carbon disulfide	dichlorodifluoromethane	1,1,1-trichloroethane
carbon tetrachloride	1,2-dichloropropane	1,1,2-trichloroethane
chlorobenzene	cis-1,3-dichloropropene	trichloroethylene
chloroethane	trans-1,3-dichloropropene	trichlorofluoromethane
chloroform	ethylbenzene	1,2,3-trichloropropane
chloromethane	hexachlorobutadiene	vinyl chloride
dibromomethane	2-hexanone	o-xylene
1,2-dibromoethane	MEK	m-xylene
dibromochloromethane	methylene chloride	p-xylene
1,2-dibromo-3-chloropropane	methyl tert-butyl ether (MTBE)	
1,2-dichlorobenzene	MIBK	

@ 200 µg/mL in methanol

PMX-200-1

1 x 1 mL

Calibration Mixture

31 Analytes

benzene	1,1-dichloroethene	isopropyl ether
bromodichloromethane	cis-1,2-dichloroethene	naphthalene
bromoform	trans-1,2-dichloroethene	1,1,2,2-tetrachloroethane
carbon tetrachloride	1,2-dichloropropane	trichloroethene
chlorobenzene	cis-1,3-dichloropropene	1,1,1-trichloroethane
chloroform	trans-1,3-dichloropropene	1,1,2-trichloroethane
dibromochloromethane	ethylbenzene	o-xylene
1,2-dibromoethane	methylene chloride	m-xylene
1,3-dichlorobenzene	tetrachloroethylene	p-xylene
1,4-dichlorobenzene	toluene	
1,1-dichloroethane	methyl tert-butyl ether (MTBE)	

@ 1000 µg/mL in methanol

PMX-205-1 1 x 1 mL

Calibration Mixture

29 Analytes

bromodichloromethane	1,2-dichloroethane	toluene
bromoform	trans-1,2-dichloroethene	1,2,3,4-tetrachlorobenzene
chlorobenzene	1,2-dichloropropane	1,1,2,2-tetrachloroethane
chloroform	1,2-dinitrobenzene	1,2,3-trichlorobenzene
chloromethane	1,3-dinitrobenzene	1,1,1-trichloroethane
dibromochloromethane	1,4-dinitrobenzene	1,1,2-trichloroethane
1,2-dichlorobenzene	ethylbenzene	trichloroethene
1,3-dichlorobenzene	methylene chloride	1,1-dichloroethene
1,4-dichlorobenzene	pentachlorobenzene	vinyl chloride
1,1-dichloroethane	tetrachloroethylene	

@ 1000 µg/mL in methanol

PMX-210-1 1 x 1 mL

Calibration Mixture

32 Analytes

acrylonitrile	dibromochloromethane	ethylbenzene
benzene	1,2-dichlorobenzene	methylene chloride
bromodichloromethane	1,3-dichlorobenzene	1,1,2,2-tetrachloroethane
bromoform	1,4-dichlorobenzene	tetrachloroethylene
bromomethane	1,1-dichloroethane	toluene
carbon tetrachloride	1,2-dichloroethane	1,1,1-trichloroethane
chlorobenzene	1,1-dichloroethene	1,1,2-trichloroethane
chloroethane	trans-1,2-dichloroethene	trichloroethene
2-chloroethylvinyl ether	1,2-dichloropropane	trichlorofluoromethane
chloroform	cis-1,3-dichloropropene	vinyl chloride
chloromethane	trans-1,3-dichloropropene	

@ 40 µg/mL in methanol

PMX-215-1 1 x 1 mL

EPA METHOD 624

(continued)

VOC Mixture

13 Analytes

acetonitrile
acrylonitrile
acetone
bromodichloromethane
bromoform
carbon disulfide
2-hexanone
chloroform
dibromochloromethane
1,2-dibromo-3-chloropropane
1,2-dibromoethane
MEK
MIBK

@ 2000 µg/mL in methanol

PMX-220-1 1 x 1 mL**Purgeable Mixture**

8 Analytes

benzene
bromodichloromethane
2-chloroethylvinyl ether
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
toluene
1,1,1-trichloroethane

@ 200 µg/mL in methanol

PMX-240-1 1 x 1 mL

@ 2000 µg/mL in methanol

PMX-245-1 1 x 1 mL**Purgeable Gas Mixture**

5 Analytes

bromomethane
chloroethane
chloromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-552-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-551-1 1 x 1 mL**Purgeable Mixture**

14 Analytes

2-chloroethylvinyl ether
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,2-dichlorobenzene
1,1-dichloroethane
1,1-dichloroethene
1,2-dichloropropane
methylene chloride
tetrachloroethylene
1,1,2-trichloroethane
trichloroethene
trichlorofluoromethane

@ 2000 µg/mL in methanol

PMX-225-1 1 x 1 mL**Calibration Mixture**

34 Analytes

acetone
benzene
bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
chloromethane
2-chloroethylvinyl ether
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene

@ 200 µg/mL in methanol

PMX-250-1 1 x 1 mL**Purgeable Mixture**

15 Analytes

bromoform
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
1,2-dichloropropane
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethene
trans-1,2-dichloroethene
1,1,2-trichloroethane
trichloroethene

@ 200 µg/mL in methanol

PMX-230-1 1 x 1 mL

@ 2000 µg/mL in methanol

PMX-235-1 1 x 1 mL

trans-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
dibromochloromethane
dichlorodifluoromethane
ethylbenzene
methylene chloride
methyl tert-butyl ether (MTBE)
1,1,2,2-tetrachloroethane
tetrachloroethene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
trichlorofluoromethane
vinyl chloride

Purgeable Mixture

31 Analytes

benzene
 bromodichloromethane
 bromoform
 bromomethane
 carbon tetrachloride
 chlorobenzene
 chloroethane
 chloroform
 chloromethane
 dibromochloromethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 dichlorodifluoromethane
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 ethylbenzene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 toluene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene
 trichlorofluoromethane
 vinyl chloride

@ 200 µg/mL in methanol

PMX-105-1**1 x 1 mL****Purgeable Mixture**

31 Analytes

benzene
 bromodichloromethane
 bromoform
 bromomethane
 carbon tetrachloride
 chlorobenzene
 chloroethane
 chloroform
 chloromethane
 2-chloroethylvinyl ether
 dibromochloromethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 ethylbenzene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 toluene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene
 trichlorofluoromethane
 vinyl chloride

@ 200 µg/mL in methanol

PMX-111-1**1 x 1 mL****Purgeable Mixture**

21 Analytes

benzene
 carbon tetrachloride
 chlorobenzene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,1-dichloroethane
 1,2-dichloroethane
 1,1-dichloroethene
 trans-1,2-dichloroethene
 1,2-dichloropropane
 cis-1,3-dichloropropene
 trans-1,3-dichloropropene
 ethylbenzene
 methylene chloride
 1,1,2,2-tetrachloroethane
 tetrachloroethene
 toluene
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 trichloroethene

@ 2000 µg/mL in methanol

PMX-170-1**1 x 1 mL**

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 625

BASE/NEUTRALS AND ACIDS

Method 625 is a GC/MS method for extractables.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: 625-MA-1
PHM-604-1
PPM-625B-1

Technical Notes

The base/neutral extraction in this method significantly reduces the recovery of phenol, 2-methylphenol and 2,4-dimethylphenol, therefore results obtained with this method are minimum concentrations.

The packed columns recommended for the basic fraction of this method may not be adequate to resolve certain isomeric pairs. These pairs include: anthracene and phenanthrene; chrysene and benz[a]anthracene; benzo[b]fluoranthene and benzo[k]fluoranthene. Alternative methods, such as method 610, should be employed.

EPA Method 625 Kit

Kit – contains five ampules:

1 x 1 mL of each of the following standards
B/N Extractables Mixture (625-MA-1)
Acid Extractables Mixture (PHM-604-1)
B/N Surrogate Std Mixture (ISM-280N-1)
Acid Surrogate Std Mixture (ISM-290N-1)
Internal Std Mixture (US-108N)

SVK-625A

Kit

Recommended Method 625 Base/Neutrals Extractables Mixture

41 Analytes

acenaphthene	butyl benzyl phthalate	di-n-octyl phthalate
acenaphthylene	2-chloronaphthalene	fluoranthene
anthracene	4-chlorophenyl phenyl ether	fluorene
benz[a]anthracene	chrysene	hexachlorobenzene
benzo[b]fluoranthene	dibenz[a,h]anthracene	hexachlorobutadiene
benzo[k]fluoranthene	di-n-butyl phthalate	hexachloroethane
benzo[ghi]perylene	1,2-dichlorobenzene	indeno[1,2,3-cd]pyrene
benzo[a]pyrene	1,3-dichlorobenzene	isophorone
bis(2-chloroethyl) ether	1,4-dichlorobenzene	naphthalene
bis(2-chloroethoxy) methane	3,3-dichlorobenzidine	nitrobenzene
bis(2-ethylhexyl) phthalate	diethyl phthalate	N-nitrosodi-n-propylamine
bis(2-chloroisopropyl) ether	dimethyl phthalate	phenanthrene
4-bromophenyl phenyl ether	2,4-dinitrotoluene	pyrene
	2,6-dinitrotoluene	1,2,4-trichlorobenzene

@ 20 µg/mL in methanol/methylene chloride

625-MA-1 1 x 1 mL

Recommended Method 625 Acid Extractables Mixture

11 Analytes

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 20 µg/mL in methanol

PHM-604-1 1 x 1 mL

Base/Neutrals Surrogate Mixture

3 Analytes

nitrobenzene-d5
2-fluorobiphenyl
p-terphenyl-d14

@ 1000 µg/mL in methylene chloride

ISM-280N-1 1 x 1 mL

Internal Standard Mixtures

6 Analytes

acenaphthene-d10
chrysene-d12
1,4-dichlorobenzene-d4
naphthalene-d8
perylene-d12
phenanthrene-d10

@ 2000 µg/mL in methylene chloride

ISM-560-1 1 x 1 mL

@ 4000 µg/mL in methylene chloride

US-108N-1 1 x 1 mL

Acids Surrogate Standard Mixture

3 Analytes

2-fluorophenol
phenol-d5
2,4,6-tribromophenol

@ 2000 µg/mL in methanol

ISM-290N-1 1 x 1 mL

Base/Neutrals Extractables Mixtures*44 Analytes*

acenaphthene	butyl benzyl phthalate	fluorene
acenaphthylene	2-chloronaphthalene	hexachlorobenzene
anthracene	4-chlorophenyl phenyl ether	hexachlorobutadiene
azobenzene	chrysene	hexachlorocyclopentadiene
benz[a]anthracene	dibenz[a,h]anthracene	hexachloroethane
benzo[b]fluoranthene	di-n-butyl phthalate	indeno[1,2,3-cd]pyrene
benzo[k]fluoranthene	1,2-dichlorobenzene	isophorone
benzo[ghi]perylene	1,3-dichlorobenzene	naphthalene
benzo[a]pyrene	1,4-dichlorobenzene	nitrobenzene
bis(2-chloroethyl) ether	diethyl phthalate	N-nitrosodimethylamine
bis(2-chloroethoxy) methane	dimethyl phthalate	N-nitrosodi-n-propylamine
bis(2-ethylhexyl) phthalate	2,4-dinitrotoluene	N-nitrosodiphenylamine
bis(2-chloroisopropyl) ether	2,6-dinitrotoluene	phenanthrene
4-bromophenyl phenyl ether	di-n-octyl phthalate	pyrene
	fluoranthene	1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride/benzene/acetonitrile (2:2:1)

SVM-102-1 1 x 1 mL

@ 500 µg/mL in methylene chloride

SVM-625-1 1 x 1 mL

Recommended Method 625 Pesticide Extractables Mixture*11 Analytes*

aldrin
beta-BHC
delta-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan sulfate
endrin aldehyde
heptachlor
heptachlor epoxide (B)

@ 20 µg/mL in methanol

PPM-625B-1 1 x 1 mL

GC/MS Base/Neutrals Mix 1 (GBN-1)*19 Analytes*

benz[a]anthracene
benzo[k]fluoranthene
bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
2-chloronaphthalene
di-n-butyl phthalate
1,2-dichlorobenzene
1,3-dichlorobenzene
diethyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
di-n-octyl phthalate
hexachlorobenzene
hexachlorobutadiene
isophorone
N-nitrosodi-n-propylamine
phenanthrene
pyrene
1,2,4-trichlorobenzene

@ 100 µg/mL in methanol

EPA-2010N-1 1 x 1 mL

GC/MS Base/Neutrals Mix 2 (GBN-2)*18 Analytes*

acenaphthene
anthracene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
bis(2-ethylhexyl) phthalate
4-bromophenyl phenyl ether
butyl benzyl phthalate
4-chlorophenyl phenyl ether
chrysene
dibenz[a,h]anthracene
1,4-dichlorobenzene
dimethyl phthalate
fluoranthene
fluorene
hexachloroethane
naphthalene
nitrobenzene

@ 100 µg/mL in acetone

EPA-2011N-1 1 x 1 mL

Acid Extractables Mixture (GAC)*11 Analytes*

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 100 µg/mL in methanol

EPA-2008N-1 1 x 1 mL

EPA METHOD 625 HIGH CONCENTRATION CALIBRATION STANDARDS

GC/MS High Concentration Kit**Kit – contains nine ampules:***1 x 1 mL of each of the following solutions*

Base/Neutral Mixture #1	(US-100N)
Base/Neutral Mixture #2	(US-101N)
Pesticides Mixture	(US-102BN)
Toxic Substances Mix #1	(US-103N)
Toxic Substances Mix #2	(US-104N)
Benzidines Mixture	(US-105N)
PAH Mixture	(US-106N)
Phenols Mixture	(US-107N)
Internal Standards Mixture	(US-108N)

US-109K Kit**Base/Neutrals Mix #1**

14 Analytes

bis(2-chloroethoxy)methane
 bis(2-chloroethyl) ether
 bis(2-ethylhexyl) phthalate
 bis(2-chloroisopropyl) ether
 4-bromophenyl phenyl ether
 butylbenzyl phthalate
 4-chlorophenyl phenyl ether
 diethyl phthalate
 dimethyl phthalate
 di-n-butyl phthalate
 di-n-octyl phthalate
 N-nitrosodimethylamine
 N-nitrosodi-n-propylamine
 N-nitrosodiphenylamine

*@ 2000 µg/mL in methylene chloride***US-100N-1 1 x 1 mL****Base/Neutrals Mix #2**

14 Analytes

azobenzene
 2-chloronaphthalene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 2,4-dinitrotoluene
 2,6-dinitrotoluene
 hexachlorobenzene
 hexachlorobutadiene
 hexachlorocyclopentadiene
 hexachloroethane
 isophorone
 nitrobenzene
 1,2,4-trichlorobenzene

*@ 2000 µg/mL in methylene chloride***US-101N-1 1 x 1 mL****Benzidines Mixture**

2 Analytes

benzidine
 3,3-dichlorobenzidine

*@ 2000 µg/mL in methanol***US-105N-1 1 x 1 mL****Toxic Substances Mix #1**

4 Analytes

benzoic acid
 2-methylphenol
 4-methylphenol
 2,4,5-trichlorophenol

*@ 2000 µg/mL in methylene chloride***US-103N-1 1 x 1 mL****Toxic Substances Mix #2**

8 Analytes

aniline
 benzyl alcohol
 4-chloroaniline
 dibenzofuran
 2-methylnaphthalene
 2-nitroaniline
 3-nitroaniline
 4-nitroaniline

*@ 2000 µg/mL in methylene chloride***US-104N-1 1 x 1 mL****Internal Standard Mixtures**

6 Analytes

acenaphthene-d10
 chrysene-d12
 1,4-dichlorobenzene-d4
 naphthalene-d8
 perylene-d12
 phenanthrene-d10

*@ 2000 µg/mL in methylene chloride***ISM-560-1 1 x 1 mL***@ 4000 µg/mL in methylene chloride***US-108N-1 1 x 1 mL****Phenols Mixture**

11 Analytes

4-chloro-3-methylphenol
 2-chlorophenol
 2,4-dichlorophenol
 2,4-dimethylphenol
 2,4-dinitrophenol
 2-methyl-4,6-dinitrophenol
 2-nitrophenol
 4-nitrophenol
 pentachlorophenol
 phenol
 2,4,6-trichlorophenol

*@ 2000 µg/mL in methylene chloride***US-107N-1 1 x 1 mL****Method 625 Additions Mixture**

7 Analytes

acetophenone
 carbazole
 n-decane
 2,3-dichloroaniline
 n-octadecane
 pyridine
 alpha-terpineol

*@ 2000 µg/mL in methylene chloride***US-136-1 1 x 1 mL**

SURROGATE AND INTERNAL STANDARDS FOR EPA METHOD 625

Base/Neutrals Surrogate Mixture

3 Analytes

nitrobenzene-d5
2-fluorobiphenyl
p-terphenyl-d14

@ 1000 µg/mL in methylene chloride

ISM-280N-1 **1 x 1 mL**

@ 1000 µg/mL in acetone/methylene chloride

ISM-281-1 **1 x 1 mL**

@ 5000 µg/mL in methylene chloride

US-216-1 **1 x 1 mL**

Acids Surrogate Standard Mixture

3 Analytes

2-fluorophenol
phenol-d5
2,4,6-tribromophenol

@ 2000 µg/mL in methanol

ISM-290N-1 **1 x 1 mL**

Internal Standard Mixtures

6 Analytes

acenaphthene-d10
chrysene-d12
1,4-dichlorobenzene-d4
naphthalene-d8
perylene-d12
phenanthrene-d10

@ 2000 µg/mL in methylene chloride

ISM-560-1 **1 x 1 mL**

@ 4000 µg/mL in methylene chloride

US-108N-1 **1 x 1 mL**

@ 2000 µg/mL in methylene chloride/
benzene (1:1)

ISM-560-1 **1 x 1 mL**

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



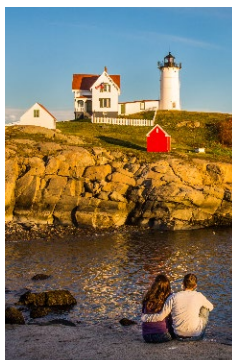
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GC/MS CALIBRATION AND TUNING STANDARDS EPA METHOD 625

**Extractables GC/MS
Calibration Standard**

decafluorotriphenylphosphine (DFTPP)	
@ 100 µg/mL in methylene chloride	
IST-341-1	1 x 1 mL
@ 1000 µg/mL in acetone	
47995N-1	1 x 1 mL

Base/Neutrals Test Mixture

2 Analytes	
benzidine	2000 µg/mL
decafluorotriphenylphosphine	1000 µg/mL
<i>In methylene chloride</i>	
GCM-130-1	1 x 1 mL

Base/Neutrals Test Mixture

2 Analytes	
benzidine	500 µg/mL
decafluorotriphenylphosphine	250 µg/mL
<i>in methylene chloride</i>	
GCM-151-1	1 x 1 mL

Base/Neutrals Test Mixture

2 Analytes	
benzidine	50 µg/mL
decafluorotriphenylphosphine	25 µg/mL
<i>in methylene chloride</i>	
GCM-156-1	1 x 1 mL

Acids Test Mixture

2 Analytes	
pentachlorophenol	
decafluorotriphenylphosphine (DFTPP)	
@ 1000 µg/mL in methylene chloride	
GCM-140-1	1 x 1 mL
@ 250 µg/mL in methylene chloride	
GCM-152-1	1 x 1 mL
@ 25 µg/mL in methylene chloride	
GCM-155-1	1 x 1 mL

Extractables GC/MS Calibration Kit**Kit – contains five ampoules:**

1 x 1 mL of each of the following standards	
DFTPP Solution	(47995N-1)
Benzidine Solution	(GCS-110-1)
Pentachlorophenol Soln .	(GCS-120-1)
Base/Neutrals Test Mix	(GCM-130-1)
Acids Test Mixture	(GCM-140-1)

GCM-100K**Kit****Extractables GC/MS Calibration Standards**

benzidine		pentachlorophenol	
@ 2000 µg/mL in methylene chloride		@ 1000 µg/mL in methylene chloride	
GCS-110-1	1 x 1 mL	GCS-120-1	1 x 1 mL
@ 500 µg/mL in methylene chloride		@ 250 µg/mL in methylene chloride	
GCS-112-1	1 x 1 mL	GCS-122-1	1 x 1 mL
@ 50 µg/mL in methylene chloride		@ 25 µg/mL in methylene chloride	
GCS-113-1	1 x 1 mL	GCS-124-1	1 x 1 mL

**Volume discounts for
individual solutions**

Order 4–19 ampoules of the same item
and receive a **20% DISCOUNT**
Order 20 or more ampoules of the same
item and receive a **30% DISCOUNT**



EPA METHOD 625 ADDITIONAL CALIBRATION STANDARDS

Base/Neutrals Extractables Mixture

12 Analytes

acenaphthylene
benzo[b]fluoranthene
bis(2-chloroethyl) ether
bis(2-ethylhexyl) phthalate
bis(2-chloroisopropyl) ether
4-bromophenyl phenyl ether
di-n-butyl phthalate
1,4-dichlorobenzene
3,3-dichlorobenzidine
dimethyl phthalate
2,6-dinitrotoluene
nitrobenzene

@ 500 µg/mL in methylene chloride

SVM-110-1 1 x 1 mL**Base/Neutrals Extractables Mixture**

15 Analytes

acenaphthene
anthracene
benz[a]anthracene
bis(2-chloroethoxy)methane
chrysene
dibenz[a,h]anthracene
1,2-dichlorobenzene
1,3-dichlorobenzene
diethyl phthalate
2,4-dinitrotoluene
fluorene
hexachlorobenzene
hexachlorobutadiene
naphthalene
pyrene

@ 500 µg/mL in methylene chloride

SVM-111-1 1 x 1 mL**Base/Neutrals Extractables Mixture**

11 Analytes

azobenzene
butyl benzyl phthalate
2-chloronaphthalene
fluoranthene
hexachlorocyclopentadiene
hexachloroethane
isophorone
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
phenanthrene
1,2,4-trichlorobenzene

@ 500 µg/mL in methylene chloride

SVM-112-1 1 x 1 mL

@ 200 µg/mL in

methanol/methylene chloride

XY-0122-1 1 x 1 mL**Base/Neutrals Extractables Mixture**

8 Analytes

benzidine
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
4-chlorophenyl phenyl ether
di-n-octyl phthalate
indeno[1,2,3-cd]pyrene
N-nitrosodimethylamine

@ 500 µg/mL in methylene chloride

SVM-113-1 1 x 1 mL**Wastewater Pesticides Mixture**

7 Analytes

aldrin
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
heptachlor
heptachlor epoxide - isomer B

@ 100 µg/mL in acetone

PPM-608G-1 1 x 1 mL**Chlordane and Toxaphene Mixture**

2 Analytes

chlordane 2000 µg/mL
toxaphene 4000 µg/mL

in methanol

TCLP-533-1 1 x 1 mL**Chlordane & Toxaphene Solution**

2 Analytes

chlordane 20 µg/mL
toxaphene 200 µg/mL

in methanol

TCLP-535-1 1 x 1 mL

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EPA METHOD 625 ADDITIONAL CALIBRATION STANDARDS

(continued)

Aroclors Mixture

4 Analytes

Aroclor 1016
Aroclor 1232
Aroclor 1248
Aroclor 1260

@ 20 µg/mL in methanol

XY-0127-1 1 x 1 mL

@ 200 µg/mL in methylene chloride

US-226-1 1 x 1 mL

@ 200 µg/mL in hexane

US-228-1 1 x 1 mL

@ 200 µg/mL in methanol

XY-0130-1 1 x 1 mL**Aroclors Mixture**

3 Analytes

Aroclor 1221
Aroclor 1242
Aroclor 1254

@ 20 µg/mL in methanol

XY-0128-1 1 x 1 mL

@ 200 µg/mL in hexane

US-227-1 1 x 1 mL

@ 200 µg/mL in methanol

XY-0131-1 1 x 1 mL**Organochlorine Pesticides Mixture**

16 Analytes

aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide (B)

@ 20 µg/mL in methanol

PPM-608B-1 1 x 1 mL**Semi-Volatiles Calibration Mixture**

54 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[a]pyrene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[k]fluoranthene
bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether
bis(2-ethylhexyl) phthalate
4-bromophenyl phenyl ether
butyl benzyl phthalate
2-chloronaphthalene
2-chlorophenol
4-chlorophenyl phenyl ether
4-chloro-3-methylphenolchrysene
dibenz[a,h]anthracene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2,4-dinitrotoluene
2,6-dinitrotoluene
4,6-dinitro-2-methylphenol
diethyl phthalate
dimethyl phthalate
diphenylamine
di-n-butylphthalate
di-n-octyl phthalate
fluoranthene
fluorenehexachlorobenzene
hexachlorocyclopentadiene
hexachloroethane
hexachloro-1,3-butadiene
indeno[1,2,3-cd]pyrene
isophorone
naphthalene
nitrobenzene
2-nitrophenol
4-nitrophenol
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
pentachlorophenol
phenanthrene
phenol
pyrene
1,2,4-trichlorobenzene
2,4,6-trichlorophenol

@ 1000 µg/mL in methylene chloride/benzene (3:1)

SVM-165-1 1 x 1 mL

EPA METHOD 625 ADDITIONAL CALIBRATION STANDARDS

(continued)

Semi-Volatiles Calibration Mixture

55 Analytes

acenaphthene	4-chlorophenyl phenyl ether	hexachlorocyclopentadiene
acenaphthylene	chrysene	hexachloroethane
anthracene	dibenz[a,h]anthracene	indeno[1,2,3-cd]pyrene
azobenzene	1,2-dichlorobenzene	isophorone
benz[a]anthracene	1,3-dichlorobenzene	2-methyl-4,6-dinitrophenol
benzo[a]pyrene	1,4-dichlorobenzene	naphthalene
benzo[b]fluoranthene	2,4-dichlorophenol	nitrobenzene
benzo[ghi]perylene	2,4-dimethylphenol	2-nitrophenol
benzo[k]fluoranthene	2,4-dinitrophenol	4-nitrophenol
bis(2-chloroethoxy)methane	2,4-dinitrotoluene	N-nitrosodimethylamine
bis(2-chloroethyl) ether	2,6-dinitrotoluene	N-nitrosodi-n-propylamine
bis(2-chloroisopropyl) ether	diethyl phthalate	pentachlorophenol
bis(2-ethylhexyl) phthalate	dimethyl phthalate	phenanthrene
4-bromophenyl phenyl ether	di-n-butyl phthalate	phenol
butyl benzyl phthalate	di-n-octyl phthalate	pyrene
carbazole	fluoranthene	2,4,6-trichlorophenol
4-chloro-3-methylphenol	fluorene	1,2,4-trichlorobenzene
2-chloronaphthalene	hexachlorobenzene	
2-chlorophenol	hexachlorobutadiene	

@ 1000 µg/mL in methylene chloride/benzene (3:1)

SVM-170-1 1 x 1 mL

Base/Neutral Analytes & Benzidine Mixture

46 Analytes

acenaphthene	2-chloronaphthalene	hexachlorobenzene
acenaphthylene	4-chlorophenyl phenyl ether	hexachlorobutadiene
anthracene	chrysene	hexachlorocyclopentadiene
azobenzene	dibenz[a,h]anthracene	hexachloroethane
benz[a]anthracene	1,2-dichlorobenzene	indeno[1,2,3-cd]pyrene
benzidine	1,3-dichlorobenzene	isophorone
benzo[a]pyrene	1,4-dichlorobenzene	naphthalene
benzo[b]fluoranthene	3,3-dichlorobenzidine	nitrobenzene
benzo[ghi]perylene	diethyl phthalate	N-nitrosodimethylamine
benzo[k]fluoranthene	dimethyl phthalate	N-nitrosodiphenylamine
bis(2-chloroethyl) ether	2,4-dinitrotoluene	N-nitrosodi-n-propylamine
bis(2-chloroisopropyl) ether	2,6-dinitrotoluene	phenanthrene
bis(2-chloroethoxy)methane	di-n-butyl phthalate	pyrene
bis(2-ethylhexyl) phthalate	di-n-octyl phthalate	1,2,4-trichlorobenzene
4-bromophenyl phenyl ether	fluoranthene	
butyl benzyl phthalate	fluorene	

@ 100 µg/mL in methylene chloride

US-435-1 1 x 1 mL

@ 500 µg/mL in methylene chloride

US-436-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride/benzene/acetonitrile (2:2:1)

US-450-1 1 x 1 mL

EPA METHOD 625 ADDITIONAL CALIBRATION STANDARDS

(continued)

Base/Neutral Mixture

30 Analytes

azobenzene	1,2-dichlorobenzene	hexachlorobutadiene
bis(2-chloroethyl) ether	1,3-dichlorobenzene	hexachlorocyclopentadiene
bis(2-chloroisopropyl) ether	1,4-dichlorobenzene	hexachloroethane
bis(2-ethylhexyl) phthalate	di-n-butyl phthalate	isophorone
bis(2-chloroethoxy)methane	di-n-octyl phthalate	nitrobenzene
4-bromophenyl phenyl ether	diethyl phthalate	N-nitrosodimethylamine
butyl benzyl phthalate	dimethyl phthalate	N-nitrosodi-n-propylamine
carbazole	2,4-dinitrotoluene	N-nitrosodiphenylamine
2-chloronaphthalene	2,6-dinitrotoluene	pyridine
4-chlorophenyl phenyl ether	hexachlorobenzene	1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride

US-440-1 1 x 1 mL

Method 625 Modification Mixture

17 Analytes

acetophenone	o-cresol	n-hexadecane
alpha-terpineol	2,3-dichloroaniline	1-methylphenanthrene
aniline	n-decane	n-octadecane
benzoic acid	n-docosane	pyridine
carbazole	n-dodecane	n-tetradecane
p-cresol	n-eicosane	

@ 2000 µg/mL in methylene chloride

US-445-1 1 x 1 mL

Organochlorine Pesticides Mixture

18 Analytes

aldrin
alpha-BHC
beta-BHC
delta-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
endrin ketone
gamma-BHC
heptachlor
heptachlor epoxide - isomer B
methoxychlor

@ 2000 µg/mL in benzene

MISA-221-1 1 x 1 mL

Base/Neutrals Mixture

13 Analytes

2-chloronaphthalene	hexachlorobenzene
1,2-dichlorobenzene	hexachlorobutadiene
1,3-dichlorobenzene	hexachlorocyclopentadiene
1,4-dichlorobenzene	hexachloroethane
2,4-dinitrotoluene	isophorone
2,6-dinitrotoluene	nitrobenzene
	1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride

US-295-1 1 x 1 mL

EPA METHOD 625 ADDITIONAL CALIBRATION STANDARDS

(continued)

PAH Mixture

16 Analytes

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[a]pyrene
 benzo[b]fluoranthene
 benzo[ghi]perylene

benzo[k]fluoranthene
 chrysene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 naphthalene
 phenanthrene
 pyrene

@ 5000 µg/mL in methylene chloride/benzene (1:1)

US-420-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride/benzene (1:1)

US-106N-1 1 x 1 mL

EPA Method 625 Acid Mixture

11 Analytes

2-chlorophenol	500 µg/mL
4-chloro-3-methylphenol	2500 µg/mL
2,4-dichlorophenol	500 µg/mL
2,4-dimethylphenol	500 µg/mL
2,4-dinitrophenol	1500 µg/mL
2-methyl-4,6-dinitrophenol	2500 µg/mL
2-nitrophenol	500 µg/mL
4-nitrophenol	2500 µg/mL
pentachlorophenol	2500 µg/mL
phenol	500 µg/mL
2,4,6-trichlorophenol	1500 µg/mL

in methanol

XY-0108-1 1 x 1 mL

CLP Base/Neutrals Mixture #1

13 Analytes

4-bromophenyl phenyl ether
 4-chlorophenyl phenyl ether
 bis(2-chloroethoxy)methane
 bis(2-chloroethyl) ether
 bis(2-chloroisopropyl) ether
 bis(2-ethylhexyl) phthalate
 butyl benzyl phthalate
 diethyl phthalate
 dimethyl phthalate
 di-n-butyl phthalate
 di-n-octyl phthalate
 N-nitrosodi-n-propylamine
 N-nitrosodiphenylamine

@ 2000 µg/mL in methylene chloride

US-130-1 1 x 1 mL

Toxic Substances Mixture

7 Analytes

benzyl alcohol
 4-chloroaniline
 dibenzofuran
 2-methylnaphthalene
 2-nitroaniline
 3-nitroaniline
 4-nitroaniline

@ 2000 µg/mL in methylene chloride

US-415-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 625 ADDITIONAL CALIBRATION STANDARDS

(continued)

Internal and Surrogate Standards for Method 625

1 x 1 mL Ampules

All @ 1000 µg/mL in acetone

4,4-dibromobiphenyl IST-134-1

All @ 200 µg/mL in methanol

1-fluoronaphthalene IST-182-1

All @ 1000 µg/mL in methanol

1-fluoronaphthalene IST-181-1

decafluorobiphenyl IST-153-1

2,2-difluorobiphenyl IST-161-1

2-fluoronaphthalene IST-191-1

2-fluorophenol IST-251-1

4-fluoroaniline IST-171-1

naphthalene-d₈ IST-201-1nitrobenzene-d₅ IST-211-1

pentafluorophenol IST-263-1

pyridine-d₅ IST-241-1

All @ 2000 µg/mL in methanol

pentafluorophenol IST-261-1

All @ 2500 µg/mL in methanol

decafluorotriphenylphosphine (DFTPP) IST-344-1

@ 25 µg/mL in methylene chloride

decafluorotriphenylphosphine (DFTPP) IST-342-1

@ 200 µg/mL in methylene chloride

aniline-d₅ IST-101-1anthracene-d₁₀ IST-111-1benz[a]anthracene-d₁₂ IST-121-1

4,4'-dibromooctafluorobiphenyl IST-141-1

4,4-dibromobiphenyl IST-133-1

2,2-difluorobiphenyl IST-162-1

2-fluoronaphthalene IST-192-1

2-fluorophenol IST-252-1

4-fluoroaniline IST-172-1

naphthalene-d₈ IST-202-1nitrobenzene-d₅ IST-212-1

pentafluorophenol IST-262-1

phenanthrene-d₁₀ IST-231-1phenol-d₅ IST-272-1

@ 250 µg/mL in methylene chloride

decafluorotriphenylphosphine (DFTPP) IST-340-1

All @ 1000 µg/mL in methylene chloride

aniline-d₅ IST-100-1anthracene-d₁₀ IST-110-1benz[a]anthracene-d₁₂ IST-120-1

4,4-dibromobiphenyl IST-130-1

4,4-dibromooctafluorobiphenyl IST-140-1

decafluorobiphenyl IST-150-1

2,2-difluorobiphenyl IST-160-1

4-fluoroaniline IST-170-1

1-fluoronaphthalene IST-180-1

2-fluoronaphthalene IST-190-1

naphthalene-d₈ IST-200-1nitrobenzene-d₅ IST-210-1

2,3,4,5,6-pentafluorobiphenyl IST-220-1

phenanthrene-d₁₀ IST-230-1

2-fluorophenol IST-250-1

pentafluorophenol IST-260-1

phenol-d₅ IST-270-1

@ 2500 µg/mL in methylene chloride

decafluorotriphenylphosphine (DFTPP) IST-343-1

@ 1000 µg/mL in methyl tert-butyl ether

4,4-dibromooctafluorobiphenyl PPS-175-1

decafluorobiphenyl IST-154-1

EPA METHOD 632

CARBAMATE AND UREA
PESTICIDES

Method 632 is used to measure carbamate and urea pesticides. Samples are extracted, then quantitated using HPLC.

To read the complete method, log onto our website at www.ultrasci.com.

Carbamate and Urea
Pesticides Mixture

19 Analytes

aminocarb	methomyl
barban	mexacarbate
carbaryl	monuron
carbofuran	neburon
chlorpropham	oxamyl
diuron	propham
fenuron	propoxur
fluometuron	siduron
linuron	swep
methiocarb	

@ 100 µg/mL in methanol

PPM-632A-1 1 x 1 mL

EPA METHOD 632.1

CARBAMATE AND
AMIDE PESTICIDES

Method 632.1 is used to measure carbamate and amide pesticides. Samples are extracted, then quantitated using HPLC.

To read the complete method, log onto our website at www.ultrasci.com.

Carbamate and Amide
Pesticides Mixture

2 Analytes

napropamide
propanil

@ 100 µg/mL in acetonitrile/acetone (9:1)

PPM-632B-1 1 x 1 mL



Find additional EPA Method 600
Series Standards online:

www.ultrasci.com/EPA600

EPA METHOD 633

ORGANONITROGEN
PESTICIDES

Method 633 is used to measure organonitrogen pesticides. Samples are extracted, then quantitated using a GC/NPD.

To read the complete method, log onto our website at www.ultrasci.com.

Organonitrogen Pesticides Mixture

7 Analytes

bromacil
deet
hexazinone
metribuzin
terbacil
triadimefon
tricyclazole

@ 100 µg/mL in acetone

NPM-633-1 1 x 1 mL

EPA NON-CONVENTIONAL PESTICIDES METHOD STANDARDS

(continued)

EPA Method	Compound	Concentration	Catalog #	Unit Size
629	cyanazine	@ 1000 µg/mL in methanol	EPA-1165-1	1 x 1 mL
630 & 630.1	carbon disulfide	@ 5000 µg/mL in methanol	EPA-1012-1	1 x 1 mL
	ziram	neat material	PST-1750-1	1 x 100 mg
631	carbendazim	@ 100 µg/mL in methanol	PST-1285M100A01	1 x 1 mL
	rotenone	@ 1000 µg/mL in methanol	EPA-1168-1	1 x 1 mL
636	bensulide	@ 1000 µg/mL in methanol	EPA-1169-1	1 x 1 mL
638	oryzalin	@ 1000 µg/mL in acetonitrile	EPA-1170-1	1 x 1 mL
639	bendiocarb	@ 1000 µg/mL in methanol	EPA-1171-1	1 x 1 mL
641	thiabendazole	@ 1000 µg/mL in methanol	EPA-1173-1	1 x 1 mL
643	bentazon	@ 1000 µg/mL in methanol	EPA-1174-1	1 x 1 mL
644	picloram	@ 1000 µg/mL in methanol	EPA-1175-1	1 x 1 mL

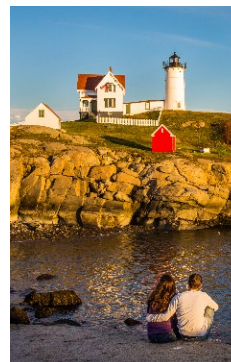
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EPA METHOD 680

PCBs by GC/MS

PCBs

Method 680 is used to measure PCBs and select pesticides in water, oil, or sediment. Samples are extracted, then quantitated using GC/MS.

To read the complete method, log onto our website at www.ultrasci.com.

EPA Method 680 Kit

Kit - contains four ampules:

1 x 1 mL of each of the following solutions

Concentration Mixture	(CB-681MN-1)
Retention Time Mixture	(CB-682MN-1)
Chrysene-d12 Solution	(ATS-120-1)
Phenanthrene-d10 Solution	(IST-230-1)

CBK-680A **Kit**

Internal and Surrogate Standards

chrysene-d12

@ 2000 µg/mL in Methylene Chloride

ATS-120-1 **1 x 1 mL**

250 µg/mL in toluene

ATS-122-1 **1 x 1 mL**

phenanthrene-d10

@ 1000 µg/mL in Methylene Chloride

IST-230-1 **1 x 1 mL**

Internal Standard Mixture

2 Analytes

chrysene-d12
phenanthrene-d10

@ 40 µg/mL in hexane

ISM-565-1 **1 x 1 mL**

@ 75 µg/mL in hexane/toluene (1:1)

ISM-566-1 **1 x 1 mL**

@ 750 µg/mL in hexane/methylene chloride

ISM-567-1 **1 x 1 mL**

Concentration Calibration Standard Mixture

9 Analytes

2-chlorobiphenyl (BZ # 1)	100 µg/mL
2,3-dichlorobiphenyl (BZ # 5)	100 µg/mL
2,4,5-trichlorobiphenyl (BZ # 29)	100 µg/mL
2,2',4,6-tetrachlorobiphenyl (BZ # 50)	200 µg/mL
2,2',3,4,5'-pentachlorobiphenyl (BZ # 87)	200 µg/mL
2,2',4,4',5,6'-hexachlorobiphenyl (BZ # 154)	200 µg/mL
2,2',3,4',5,6,6'-heptachlorobiphenyl (BZ # 188)	300 µg/mL
2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ # 200)	300 µg/mL
decachlorobiphenyl (BZ # 209)	500 µg/mL

in hexane/toluene (1:1)

CB-680-1 **1 x 1 mL**

Concentration Calibration Standard Mixture

9 Analytes

Congener	µg/mL
2-chlorobiphenyl	50
2,3-dichlorobiphenyl	50
2,4,5-trichlorobiphenyl	50
2,2',4,6-tetrachlorobiphenyl	100
2,2',3,4,5'-pentachlorobiphenyl	100
2,2',4,4',5,6'-hexachlorobiphenyl	100
2,2',3,4',5,6,6'-heptachlorobiphenyl	150
2,2',3,3',4,5',6,6'-octachlorobiphenyl	150
decachlorobiphenyl	250

in Hexane

CB-681MN-1 **1 x 1 mL**

Concentration Calibration Standard Mixture

9 Analytes

2-chlorobiphenyl (BZ # 1)
2,3-dichlorobiphenyl (BZ # 5)
2,4,5-trichlorobiphenyl (BZ # 29)
2,2',4,6-tetrachlorobiphenyl (BZ # 50)
2,2',3,4,5'-pentachlorobiphenyl (BZ # 87)
2,2',4,4',5,6'-hexachlorobiphenyl (BZ # 154)
2,2',3,4',5,6,6'-heptachlorobiphenyl (BZ # 188)
2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ # 200)
decachlorobiphenyl (BZ # 209)

@ 500 µg/mL in hexane/toluene (1:1)

CB-684-1 **1 x 1 mL**

Retention Time Calibration Standard Mixture

3 Analytes

Congener	µg/mL
3,3',4,4'-tetrachlorobiphenyl	100
2,2',4,6,6'-pentachlorobiphenyl	100
2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	200

in Hexane

CB-682MN-1 **1 x 1 mL**

Retention Time Calibration Standard Mixture

4 Analytes

3,3',4,4'-tetrachlorobiphenyl (BZ # 77)
2,2',4,6,6'-pentachlorobiphenyl (BZ # 104)
2,3,3',4,4',5,5'-heptachlorobiphenyl (BZ # 189)
2,2',3,3',5,5',6,6'-octachlorobiphenyl (BZ # 202)

@ 2.5 µg/mL in hexane

CB-685-1 **1 x 1 mL**

EPA METHOD 1311

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

The TCLP is designed to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphasic wastes.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	TCLP-500-1
	TCLP-511N-1
	TCLP-520N-1
	TCLP-530BN-1
	TCLP-540-1

TCLP Volatiles Mixture

11 Analytes

benzene
2-butanone (MEK)
carbon tetrachloride
chlorobenzene
chloroform
1,4-dichlorobenzene
1,2-dichloroethane
1,1-dichloroethene
tetrachloroethene
trichloroethene
vinyl chloride

@ 1000 µg/mL in Methanol

TCLP-500-1 1 x 1 mL

TCLP Herbicides Spiking Mixture

2 Analytes

2,4-D
2,4,5-TP (Silvex)

Herbicide Acids Mixture

@ 2000 µg/mL in Methanol

TCLP-540-1 1 x 1 mL

Methylated Herbicide Mixture

@ 2000 µg/mL in Methanol

TCLP-540M-1 1 x 1 mL

TCLP Base/Neutrals Mixture

7 Analytes

2,4-dinitrotoluene
hexachlorobenzene
hexachlorobutadiene
1,4-dichlorobenzene
hexachloroethane
nitrobenzene
pyridine

@ 1000 µg/mL in Acetone

TCLP-511N-1 1 x 1 mL

TCLP Acids Mixture

6 Analytes

o-cresol
m-cresol
p-cresol
pentachlorophenol
2,4,5-trichlorophenol
2,4,6-trichlorophenol

@ 1000 µg/mL in Methanol

TCLP-520N-1 1 x 1 mL

TCLP Pesticides Mixture

5 Analytes

γ-BHC (lindane)
heptachlor
heptachlor epoxide (B)
endrin
methoxychlor (1000 µg/mL)

@ 100 µg/mL in Methanol

TCLP-530BN-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 1311

(continued)

TCLP Semi-Volatiles Spiking Mix

13 Analytes

o-cresol
m-cresol
p-cresol
 1,4-dichlorobenzene
 2,4-dinitrotoluene
 hexachlorobenzene
 hexachlorobutadiene
 hexachloroethane
 nitrobenzene
 pentachlorophenol
 pyridine
 2,4,5-trichlorophenol
 2,4,6-trichlorophenol

@ 2000 µg/mL in Methylene Chloride

TCLP-512-1 1 x 1 mL**TCLP Pesticides Spiking Mixture**

7 Analytes

chlordane
 endrin
 heptachlor
 heptachlor epoxide (B)
 γ-BHC (*lindane*)
 methoxychlor
 toxaphene (4000 µg/mL)

@ 2000 µg/mL in Methanol

TCLP-531-1 1 x 1 mL**TCLP Pesticides Spiking Mixture**

5 Analytes

endrin
 heptachlor
 heptachlor epoxide (B)
 γ-BHC (*lindane*)
 methoxychlor

@ 2000 µg/mL in Methanol

TCLP-532-1 1 x 1 mL**TCLP Pesticides Spiking Mixture**

2 Analytes

chlordane 2000 µg/mL
 toxaphene 4000 µg/mL

in Methanol

TCLP-533-1 1 x 1 mL

EPA METHOD 1664, 1664A

OIL AND GREASE, AND
TOTAL PETROLEUM
HYDROCARBONS

Method 1664 is a gravimetric method allowing determination of *n*-hexane extractable material (HEM) in surface and saline waters, and in industrial and domestic aqueous wastes. Extractable materials that may be determined are relatively non-volatile hydrocarbons, vegetable oils, animal fats, waxes, soaps, greases, and related materials.

To read the complete method, log onto our website at www.ultrasci.com.

EPA Method 1664, 1664A Precision, Accuracy, and Recovery Standard

2 Analytes

n-hexadecane
 stearic acid

@ 4000 µg/mL in Acetone

RGO-101X 1 x 100 mL**EPA Method 1664, 1664A Precision, Accuracy, and Recovery Standard**

2 Analytes

n-hexadecane
 stearic acid

@ 2000 µg/mL in Acetone

RGO-102X 1 x 100 mL**Technical Note**

These standards often crystallize on standing. Always check for crystals before use. For best results, always equilibrate the standards in an ultrasonic bath to ensure complete dissolution.



Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**





EPA METHOD 8000 SERIES

Reference Materials for Monitoring Organic Pollutants in Ground Water

The 8000 series methods are used for monitoring organic pollutants in ground water as prescribed in the Resource Conservation and Recovery Act (see 40 CFR 264). These methods may be found in EPA publication SW-846, Test Methods for Evaluating Solid Waste.

ULTRA Scientific has prepared a series of reference standards for the 8000 series methods, as well as the necessary surrogate, internal, and calibration standards. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 0.5\%$. A Level II – ISO Guide 34 Reference Material Certificate of Analysis is available for each product.

Find additional EPA Method 8000 Series Standards online at www.ultrasci.com/EPA8000

EPA METHOD	PAGE	EPA METHOD	PAGE
● EPA METHOD 8010B	242	● EPA METHOD 8100	258
● EPA METHOD 8011	243	● EPA METHOD 8121	259
● EPA METHOD 8015C	243	● EPA METHOD 8141B	260
● EPA METHOD 8021C	244	● EPA METHOD 8150B, 8151A	262
● EPA METHOD 8020A	245	● EPA METHOD 8240B	264
● EPA METHOD 8021B	246	● EPA METHOD 8260B	266
● EPA METHOD 8030A	248	● EPA METHOD 8270D	270
● EPA METHOD 8031, 8032A, 8033	248	● EPA METHOD 8280B & 8290A	294
● EPA METHOD 8041A	249	● EPA METHOD 8310	295
● EPA METHOD 8061A	251	● EPA METHOD 8315A	296
● EPA METHOD 8070A	252	● EPA METHOD 8318A	296
● EPA METHOD 8080A	252	● EPA METHOD 8330A	297
● EPA METHOD 8081B	254	● EPA METHOD 8332	298
● EPA METHOD 8082A	256	● EPA METHOD 8410	298
● EPA METHOD 8091	257	● EPA METHOD 8440	298
● EPA METHOD 8095	257		

EPA METHOD 8010B

VOLATILE
HALOCARBONS

Method 8010B is used to determine volatile halogenated organic pollutants, using either purge and trap or direct injection, and an electrolytic conductivity (Hall) detector.

Method 8010B has been deleted from SW-846 (effective with Update III).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: HCM-801-1
HC-070-1
HC-491-1

Surrogate Standard: STM-401-1

TECHNICAL NOTE

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Therefore ULTRA packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

Recommended Method 8010B
Halogenated Volatiles Mixture ^{IX}

36 Analytes

allyl chloride
bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
chloromethane
1,2-dibromo-3-chloropropane
1,2-dibromoethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
dibromochloromethane
dibromomethane
dichlorodifluoromethane
methylene chloride
methyl iodide
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
tetrachloroethene
1,1,1-trichloroethane
1,1,2-trichloroethane
trans-1,2-dichloroethene
trans-1,4-dichloro-2-butene
trichloroethene
trichlorofluoromethane
1,2,3-trichloropropane
vinyl chloride

@ 100 µg/mL in methanol

HCM-801-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Recommended Method 8010B
2-Chloroethyl Vinyl Ether Standards

2-chloroethyl vinyl ether

@ 100 µg/mL in methanol

HC-070-1 1 x 1 mL

@ 5000 µg/mL in methanol

EPA-1016-1 1 x 1 mL

Recommended Method 8010B
Chloroprene Solution

chloroprene (no xylenes)

@ 100 µg/mL in methanol

HC-491-1 1 x 1 mL

VOC Gas Mixtures

6 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL

Recommended Method 8010B
Internal & Surrogate Standard Mix

3 Analytes

4-bromochlorobenzene
bromochloromethane
4-bromofluorobenzene

@ 1500 µg/mL in methanol

STM-401-1 1 x 1 mL

EPA METHOD 8011

DIBROMOETHANE AND
DIBROMOCHLOROPROPANE

Method 8011 is used to determine 1,2-dibromoethane and 1,2-dibromo-3-chloropropane, using microextraction, and capillary column GC with an ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: DWM-504N-1
HCM-812-1

Recommended
Method 8011 Mixtures ^{IX}

2 Analytes

1,2-dibromo-3-chloropropane
1,2-dibromoethane

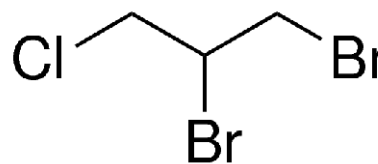
@ 200 µg/mL in methanol

DWM-504N-1 1 x 1 mL

@ 2000 µg/mL in methanol

HCM-812-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds



EPA METHOD 8015C

NON-HALOGENATED
ORGANICS

Method 8015C is used to determine volatile nonhalogenated organics, using either purge and trap or direct injection, and a flame ionization detector (FID).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: NVM-8015A-1
NVM-8015B-1

Internal Standard: STM-580-1

Recommended Method 8015C
Calibration Standard

18 Analytes

acetone
acetonitrile
allyl alcohol
1-butanol (n-butyl alcohol)
2-butanone (MEK)
diethyl ether
1,4-dioxane
ethanol
ethyl acetate
ethylene glycol
isobutyl alcohol (2-methyl-1-propanol)
isopropyl alcohol (2-propanol)
methanol
4-methyl-2-pentanone (MIBK)
2-pentanone
1-propanol (n-propyl alcohol)
propionitrile
tert-butyl alcohol (2-methyl-2-propanol)

@ 2000 µg/mL in water

NVM-8015A-1 1 x 1 mL

Recommended Method 8015C
Calibration Standard

4 Analytes

2-picoline
N-nitrosodi-n-butylamine
o-toluidine
pyridine

@ 2000 µg/mL in methanol

NVM-8015B-1 1 x 1 mL

Recommended Method 8015C
Internal Standard Mixture

3 Analytes

2-chloroacrylonitrile
hexafluoro-2-propanol
hexafluoro-2-methyl-2-propanol

@ 2000 µg/mL in water

STM-580-1 1 x 1 mL

GRO Aromatic Calibration Mix

5 Analytes

n-decane (C10)
n-heptane (C7)
n-hexane (C6)
n-nonane (C9)
n-octane (C8)

@ 2000 µg/mL in methanol

SAK-100-1 1 x 1 mL

EPA METHOD 8021C

DRO Mixture*10 Analytes*

n-decane (C10)
 n-docosane (C22)
 n-dodecane (C12)
 n-eicosane (C20)
 n-hexacosane (C26)
 n-hexadecane (C16)
 n-octacosane (C28)
 n-octadecane (C18)
 n-tetracosane (C24)
 n-tetradecane (C14)

@ 2000 µg/mL in methylene chloride

UST-200-1 1 x 1 mL

Non-Halogenated Volatiles Mixture ^{IX}*12 Analytes*

acetonitrile
 acrylamide
 2-butanone (MEK)
 diethyl ether
 1,4-dioxane
 ethyl alcohol
 ethyl methacrylate
 isobutyl alcohol
 methacrylonitrile
 methyl methacrylate
 4-methyl-2-pentanone (MIBK)
 propionitrile

@ 100 µg/mL in methanol

NVM-8015-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Non-Halogenated Volatiles Mixture ^{IX}*4 Analytes*

2-butanone (MEK)
 diethyl ether
 ethyl alcohol
 4-methyl-2-pentanone (MIBK)

@ 2000 µg/mL in methanol

NVM-8115-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



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EPA METHOD 8020A

AROMATIC VOLATILES

Method 8020A is used to determine volatile aromatic organic compounds, using either purge and trap or direct injection, and a PID.

Method 8020A has been deleted from SW-846 (effective with Update III).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: AMM-802-1

Internal and Surrogate Standard: STM-510-1

Recommended Method 8020A

Aromatic Volatiles Mixture^{IX}

11 Analytes

benzene
chlorobenzene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
ethylbenzene
o-xylene
m-xylene
p-xylene
styrene
toluene

@ 100 µg/mL in methanol

AMM-802-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Aromatic Volatiles Mixture^{IX}

10 Analytes

benzene
chlorobenzene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
ethylbenzene
o-xylene
m-xylene
p-xylene
toluene

@ 2000 µg/mL in methanol

AMM-812-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Methyl tert-Butyl Ether Solution

methyl tert-butyl ether (MTBE)

@ 2000 µg/mL in methanol

STS-440-1 1 x 1 mL

Recommended Method 8020A

Internal and Surrogate

Standard Mixture

5 Analytes

4-bromochlorobenzene
4-bromofluorobenzene
1,4-difluorobenzene
fluorobenzene
alpha,alpha,alpha-trifluorotoluene

@ 1500 µg/mL in methanol

STM-510-1 1 x 1 mL

PVOC Mixture

7 Analytes

benzene
ethylbenzene
methyl tert-butyl ether (MTBE)
o-xylene
m-xylene
p-xylene
toluene

@ 1000 µg/mL in methanol

UST-141-1 1 x 1 mL

Internal and Surrogate Standard

alpha,alpha,alpha-trifluorotoluene

@ 200 µg/mL in methanol

STS-221-1 1 x 1 mL

@ 2000 µg/mL in methanol

STS-220N-1 1 x 1 mL

Surrogate Standard Mixture

2 Analytes

4-bromofluorobenzene
alpha,alpha,alpha-trifluorotoluene

@ 2000 µg/mL in methanol

STM-410-1 1 x 1 mL

Surrogate Standard Mixture

3 Analytes

4-bromochlorobenzene
1,4-difluorobenzene
fluorobenzene

@ 2000 µg/mL in methanol

STM-420-1 1 x 1 mL

EPA METHOD 8021B

HALOGENATED AND AROMATIC VOLATILE ORGANICS

Method 8021B is used to determine aromatic and halogenated volatiles, using either purge and trap, headspace, vacuum distillation, or direct injection. Detection is carried out with a PID and ELCD in series.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	DWM-588-1 HCM-822A-1 HC-070-1 HC-491-1
Surrogate Standard:	STM-431-1
Internal Standard:	STM-240N-1

TECHNICAL NOTE

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Therefore ULTRA packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

EPA Method 8021B Kit

Kit – contains six ampules:

1 x 1 mL of each of the following standards

VOC Mixture	(DWM-588-1)
Halogenated Volatiles Mix	(HCM-822-1)
Chloroethyl Vinyl Ether Soln.	(HC-070-1)
Chloroprene Solution	(HC-491-1)
Surrogate Standard Mix	(STM-431-1)
Internal Standard Mix	(STM-240N-1)

AMK-8021

Kit

Recommended Method 8021B VOC Mixtures

60 Analytes

benzene	1,2-dichloropropane	m-xylene
bromobenzene	1,3-dichloropropane	p-xylene
bromochloromethane	2,2-dichloropropane	sec-butylbenzene
bromodichloromethane	1,1-dichloropropene	styrene
bromoform	cis-1,3-dichloropropene	tert-butylbenzene
bromomethane	trans-1,3-dichloropropene	1,1,1,2-tetrachloroethane
carbon tetrachloride	1,2-dibromo-3-chloropropane	1,1,2,2-tetrachloroethane
chlorobenzene	dibromochloromethane	tetrachloroethene
chloroethane	dibromomethane	toluene
chloroform	1,2-dibromoethane	1,2,3-trichlorobenzene
chloromethane	dichlorodifluoromethane	1,2,4-trichlorobenzene
2-chlorotoluene	ethylbenzene	1,1,1-trichloroethane
4-chlorotoluene	hexachlorobutadiene	1,1,2-trichloroethane
1,2-dichlorobenzene	isopropylbenzene	trichloroethene
1,3-dichlorobenzene	4-isopropyltoluene	1,2,3-trichloropropane
1,4-dichlorobenzene	methylene chloride	trichlorofluoromethane
1,1-dichloroethane	n-butylbenzene	1,2,4-trimethylbenzene
1,2-dichloroethane	n-propylbenzene	1,3,5-trimethylbenzene
1,1-dichloroethene	naphthalene	vinyl chloride
cis-1,2-dichloroethene	o-xylene	
trans-1,2-dichloroethene		

@ 200 µg/mL in methanol

DWM-580-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-588-1 1 x 1 mL

Recommended Method 8021B Halogenated Volatiles Mixture

6 Analytes

1,3-dichloro-2-propanol
2-chloroethanol
allyl chloride
benzyl chloride
bis(2-chloroisopropyl) ether
chloromethyl methyl ether

@ 2000 µg/mL in methanol

HCM-822A-1 1 x 1 mL

Recommended Method 8021B Additional Analyte Standards

2-chloroethyl vinyl ether

@ 100 µg/mL in methanol

HC-070-1 1 x 1 mL

@ 5000 µg/mL in methanol

EPA-1016-1 1 x 1 mL

(continued on next page)

**Recommended Method 8021B
Surrogate Standard Mixture**

2 Analytes

4-bromochlorobenzene
1,4-dichlorobutane

@ 1500 µg/mL in methanol

STM-431-1 1 x 1 mL**Recommended Method 8021B
Internal Standard Mixture**

2 Analytes

2-bromo-1-chloropropane
fluorobenzene

@ 2000 µg/mL in methanol

STM-240N-1 1 x 1 mL**VOC Mixture with MTBE**

55 Analytes

benzene
bromobenzene
bromochloromethane
bromodichloromethane
bromoform
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
tert-butyl methyl ether
carbon tetrachloride
chlorobenzene
chloroform
2-chlorotoluene
4-chlorotoluene
dibromochloromethane
1,2-dibromo-3-chloropropane
1,2-dibromoethane
dibromomethane

@ 2000 µg/mL in methanol

DWM-596-1 1 x 1 mL1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
1,3-dichloropropane
2,2-dichloropropane
1,1-dichloropropene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
hexachlorobutadiene
isopropylbenzene
4-isopropyltoluene
methylene chloride
naphthalene
n-propylbenzene
styrene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
tetrachloroethene
toluene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
1,2,3-trichloropropene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene**VOC Mixtures (No Gases)**

54 Analytes

benzene
bromobenzene
bromochloromethane
bromodichloromethane
bromoform
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
carbon tetrachloride
chlorobenzene
chloroform
2-chlorotoluene
4-chlorotoluene
dibromochloromethane
1,2-dibromo-3-chloropropane
1,2-dibromoethane
dibromomethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
1,3-dichloropropane
2,2-dichloropropane
1,1-dichloropropene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
hexachlorobutadiene
isopropylbenzene
4-isopropyltoluene
methylene chloride
naphthalene

@ 200 µg/mL in methanol

DWM-583-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-589N-1 1 x 1 mL**VOC Gas Mixtures**

6 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL**Find additional EPA Method 8000
Series Standards online:**www.ultrasci.com/EPA8000

EPA METHOD 8030A

ACROLEIN AND ACRYLONITRILE

Method 8030A is a purge and trap method for determining acrolein and acrylonitrile, using a flame ionization detector (FID).

Method 8030A has been deleted from SW-846 (effective with Update III).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: AMN-603-1
AMN-623-1

Recommended Method 8030A Acrolein-Acrylonitrile Mixtures^{IX}

2 Analytes (see tech note below)

acrolein
acrylonitrile

@ 100 µg/mL in methanol

AMN-603-1 1 x 1 mL

@ 2000 µg/mL in methanol

AMN-623-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Acrolein-Acrylonitrile Mixtures in Water^{IX}

2 Analytes (see tech note below)

acrolein
acrylonitrile

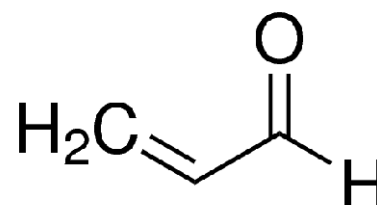
@ 1000 µg/mL in water

AMN-613-1 1 x 1 mL

@ 10,000 µg/mL in water

AMN-803-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds



TECHNICAL NOTE: ACROLEIN STANDARDS

Acrolein is known to undergo polymerization with time. ULTRA prepares the standards which contain acrolein every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. ULTRA strongly recommends that these standards be used as soon as possible after receipt.

EPA METHOD 8031, 8032A, 8033

Recommended Method Standards

EPA Method	Compound	Concentration	Catalog #	Unit Size
8031	acrylonitrile	1000 µg/mL in Methanol	AMN-813-1	1 x 1 mL
8032A	acrylamide	1000 µg/mL in Methanol	AMN-823-1	1 x 1 mL
	dimethyl phthalate	100 µg/mL in Methanol	PS-140-1	1 x 1 mL
8033	acetonitrile	100 µg/mL in Methanol	NV-110-1	1 x 1 mL

EPA METHOD 8041A

PHENOLS

Method 8041A is used to measure phenols. Samples are extracted, then concentrated in a Kuderna-Danish apparatus. Quantitation is by GC/FID, or the extract is derivatized and determined by GC with an ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	PHM-814-1 PHM-824-1
Surrogate Standard:	IST-620-1
Internal Standard:	ISM-610-1

Recommended Method 8041A
Phenols Mixture ^{IX}

9 Analytes

4-chloro-3-methylphenol
o-cresol
2,4-dichlorophenol
4,6-dinitro-2-methylphenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 2000 µg/mL in Isopropanol

PHM-814-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Recommended Method 8041A
Phenols Mixture ^{IX}

9 Analytes

2-chlorophenol
m-cresol
p-cresol
2,6-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
dinoseb
2,3,4,6-tetrachlorophenol
2,4,5-trichlorophenol

@ 2000 µg/mL in Isopropanol

PHM-824-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

TECHNICAL NOTE

Phenols are subject to absorption on the active sites of GC columns. The more acidic phenols, such as 2,4-dinitrophenol, will chromatograph poorly leading to poor quantitation.

Method 8041A Phenols Mixture

3 Analytes

2-cyclohexyl-4,6-dinitrophenol
2,3,4,5-tetrachlorophenol
2,3,5,6-tetrachlorophenol

@ 2000 µg/mL in isopropanol

PHM-844-1 1 x 1 mL

Recommended Method 8041A
Internal Standard Mixture

2 Analytes

2,5-dibromotoluene
2,2,5,5-tetrabromobiphenyl

@ 1000 µg/mL in isopropanol

ISM-610-1 1 x 1 mL

Recommended Method 8041A
Surrogate Standard

2,4-dibromophenol

@ 1000 µg/mL in isopropanol

IST-620-1 1 x 1 mL

Surrogate Standard Mixture

2 Analytes

2-fluorophenol
2,4,6-tribromophenol

@ 2000 µg/mL in isopropanol

ISM-380-1 1 x 1 mL

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02852



Phenols QC Reference Sample**21 Analytes**

2-sec-butyl-4,6-dinitrophenol (dinoseb)
 4-chloro-3-methylphenol
 2-chlorophenol
 o-cresol
 m-cresol
 p-cresol
 2-cyclohexyl-4,6-dinitrophenol
 2,4-dichlorophenol
 2,6-dichlorophenol
 2,4-dimethylphenol
 4,6-dinitro-2-methylphenol
 2,4-dinitrophenol
 2-nitrophenol
 4-nitrophenol
 pentachlorophenol
 phenol
 2,3,4,5-tetrachlorophenol
 2,3,4,6-tetrachlorophenol
 2,3,5,6-tetrachlorophenol
 2,4,5-trichlorophenol
 2,4,6-trichlorophenol

@ 100 µg/mL in isopropanol

PHM-834A-1 1 x 1 mL

Phenols Mixture^{IX}**17 Analytes**

4-chloro-3-methylphenol
 2-chlorophenol
 o-cresol
 m-cresol
 p-cresol
 2,4-dichlorophenol
 2,6-dichlorophenol
 2,4-dimethylphenol
 4,6-dinitro-2-methylphenol
 2,4-dinitrophenol
 2-nitrophenol
 4-nitrophenol
 pentachlorophenol
 phenol
 2,3,4,6-tetrachlorophenol
 2,4,5-trichlorophenol
 2,4,6-trichlorophenol

@ 100 µg/mL in methanol

PHM-804-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Internal and Surrogate Standards**2-fluorophenol**

@ 2000 µg/mL in methanol

IST-251-1 1 x 1 mL

pentafluorophenol

@ 2000 µg/mL in methanol

IST-261-1 1 x 1 mL

phenol-d5

@ 2000 µg/mL in methanol

IST-271-1 1 x 1 mL

2,4,6-tribromophenol

@ 2000 µg/mL in methanol

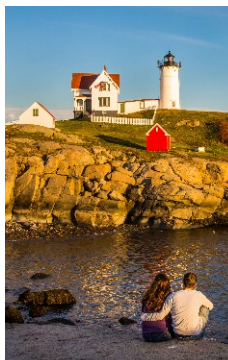
ATS-181-1 1 x 1 mL

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EPA METHOD 8061A

PHTHALATE ESTERS

Method 8061 is used to measure phthalates. Samples are extracted, then quantitated with capillary GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	PSM-806-1
Surrogate Standard:	ISM-390-1
Internal Standard:	IST-400-1

Recommended Method 8061A
Phthalates Mixtures^{IX}

6 Analytes

bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
di-n-butyl phthalate
diethyl phthalate
dimethyl phthalate
di-n-octyl phthalate

@ 100 µg/mL in methanol

PSM-606-1 1 x 1 mL

@ 1000 µg/mL in isooctane

PSM-806-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Phthalates Mixture

16 Analytes

bis(2-n-butoxyethyl) phthalate
bis(2-ethoxyethyl) phthalate
bis(2-ethylhexyl) phthalate
bis(2-methoxyethyl) phthalate
bis(4-methyl-2-pentyl) phthalate
butyl benzyl phthalate
dicyclohexyl phthalate
2-ethylhexyl hexyl phthalate
diamyl phthalate
diethyl phthalate
dihexyl phthalate
diisobutyl phthalate
dimethyl phthalate
dinonyl phthalate
di-n-octyl phthalate
di-n-butyl phthalate

@ 1000 µg/mL in isooctane

PSM-826-1 1 x 1 mL

Recommended Method 8061A
Surrogate Standard Mixture

3 Analytes

dibenzyl phthalate
diphenyl isophthalate
diphenyl phthalate

@ 500 µg/mL in acetone

ISM-390-1 1 x 1 mL

Recommended Method 8061A
Internal Standard

benzyl benzoate

@ 5000 µg/mL in hexane

IST-400-1 1 x 1 mL

Phthalate Esters QC Reference
Mix (PHE)

6 Analytes

bis(2-ethylhexyl) phthalate	50 µg/mL
butyl benzyl phthalate	10 µg/mL
dimethyl phthalate	25 µg/mL
di-n-butyl phthalate	25 µg/mL
diethyl phthalate	25 µg/mL
di-n-octyl phthalate	50 µg/mL

in acetone

EPA-2037N-1 1 x 1 mL

EPA Method 8061A Kit

Kit – contains three ampules:

1 x 1 mL of each of the following standards

Phthalates Mixture	(PSM-806-1)
Surrogate Standard Mix	(ISM-390-1)
Internal Standard	(IST-400-1)

PSK-8061 Kit

Volume discounts for
individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 8070A

NITROSAMINES

Method 8070A is used to measure nitrosamines. Samples are quantitated by GC/NPD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: NSM-807-1
IST-400-1

TECHNICAL NOTE

N-Nitrosodiphenylamine may undergo transnitrosation reactions in the presence of reactive amines during the solution concentration step.

N-Nitrosodiphenylamine may also decompose in the gas chromatographic inlet to diphenylamine.

^{IX} Contains Appendix IX Compounds

Recommended Method 8070A Nitrosamines Mixtures ^{IX}

3 Analytes

N-nitrosodimethylamine
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine

@ 2000 µg/mL in methanol

NSM-807-1 **1 x 1 mL**

^{IX} Contains Appendix IX Compounds

EPA METHOD 8080A

ORGANOCHLORINE PESTICIDES AND PCBs

Method 8080A is used to measure organochlorine pesticides and PCBs, using extraction followed by GC/ECD.

Method 8080A has been deleted from SW-846 (effective with Update III).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: PPM-808B-1
US-112B-1
Surrogate Standard: ISM-320-1

Recommended Method 8080A Organochlorine Pesticides Mix

17 Analytes

aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (lindane)
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide (B)
methoxychlor (@ 1000 µg/mL)

@ 250 µg/mL in hexane / toluene (1:1)

PPM-808B-1 **1 x 1 mL**

Recommended Method 8080A Organochlorine Pesticides Mix

17 Analytes

aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (lindane)
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide (B)
methoxychlor

@ 2000 µg/mL in acetone

US-112B **1 x 1 mL**

TECHNICAL NOTES

Chlordane, toxaphene, and the Aroclors are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

It has been shown that endrin and DDT decompose on splitless injectors. On-column injection may be warranted.

Recommended Method 8080A Chlordane, Toxaphene, and PCB Standards

<i>All @ 100 µg/mL in hexane</i>	1 x 1 mL Ampules
chlordane	PP-151-1
toxaphene	PP-271-1
Aroclor 1016	PP-281-1
Aroclor 1221	PP-291-1
Aroclor 1232	PP-301-1
Aroclor 1242	PP-311-1
Aroclor 1248	PP-341-1
Aroclor 1254	PP-351-1
Aroclor 1260	PP-361-1

Organochlorine Pesticides QC Mixture

<i>17 Analytes</i>	
aldrin	20 µg/mL
alpha-BHC	20 µg/mL
beta-BHC	20 µg/mL
delta-BHC	20 µg/mL
gamma-BHC (lindane)	20 µg/mL
4,4'-DDD	100 µg/mL
4,4'-DDE	20 µg/mL
4,4'-DDT	100 µg/mL
dieldrin	20 µg/mL
endosulfan I	20 µg/mL
endosulfan II	100 µg/mL
endosulfan sulfate	100 µg/mL
endrin	100 µg/mL
endrin aldehyde	20 µg/mL
heptachlor	20 µg/mL
heptachlor epoxide (B)	20 µg/mL
methoxychlor	20 µg/mL

*in methanol***PPM-608C-1** **1 x 1 mL****Organochlorine Pesticides Mixture***3 Analytes*

2,4'-DDD
2,4'-DDE
2,4'-DDT

*@ 250 µg/mL in isoctane***PPM-828-1** **1 x 1 mL****Organochlorine Pesticides Mixture***6 Analytes*

2,4'-DDD 4,4'-DDD
2,4'-DDE 4,4'-DDE
2,4'-DDT 4,4'-DDT

*@ 1000 µg/mL in acetone***PPM-838-1** **1 x 1 mL****Recommended Method 8080A Pesticides Surrogate Standard Spiking Solution***2 Analytes*

decachlorobiphenyl
2,4,5,6-tetrachloro-m-xylene

*@ 200 µg/mL in acetone***ISM-320-1** **1 x 1 mL****Pesticide Degradation Solution***2 Analytes*

4,4'-DDT 2 µg/mL
endrin 1 µg/mL

*in isoctane***ISM-450-1** **1 x 1 mL**

EPA METHOD 8081B

ORGANOCHLORINE
PESTICIDES

Method 8081B is used to measure organochlorine pesticides, using extraction followed by capillary GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	PPM-808C-1 PPM-808F-1
Surrogate Standard:	ISM-320-1
Internal Standards:	PPS-351-1 PPS-133-1

TECHNICAL NOTES

Chlordane, toxaphene, strobane, and the Halowaxes are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

It has been shown that endrin and DDT decompose on splitless injectors. On-column injection may be warranted.

Recommended Method 8081B
Organochlorine Pesticides Mixture

20 Analytes

aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (lindane)
alpha-chlordane
gamma-chlordane
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
endrin ketone
heptachlor
heptachlor epoxide (isomer B)
methoxychlor

@ 1000 µg/mL in hexane / toluene (1:1)

PPM-808C-1 **1 x 1 mL**

Recommended Method 8081B
Organochlorine Pesticides Mixture

6 Analytes

chlorobenzilate
diallate
1,2-dibromo-3-chloropropane
hexachlorobenzene
hexachlorocyclopentadiene
isodrin

@ 1000 µg/mL in hexane / toluene (1:1)

PPM-808F-1 **1 x 1 mL**

Recommended Method 8081B
Pesticides Surrogate Standard
Spiking Solution

2 Analytes

decachlorobiphenyl
2,4,5,6-tetrachloro-m-xylene

@ 200 µg/mL in acetone

ISM-320-1 **1 x 1 mL**

Recommended Method 8081B Internal Standards

1-bromo-2-nitrobenzene	pentachloronitrobenzene
@ 5000 µg/mL in acetone	@ 5000 µg/mL in acetone
PPS-351-1 1 x 1 mL	PPS-133-1 1 x 1 mL

EPA Method 8081B Kit

Kit – contains four ampules:

1 x 1 mL of each of the following standards

Pesticides Mixture	(PPM-808C-1)
Pesticides Mixture	(PPM-808F-1)
Surrogate Standard Mix	(ISM-320-1)
Internal Standard	(PPS-351-1)

PPK-8081

Volume discounts for
individual solutions

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Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 8081B

(continued)

**Method 8081B Additional
Compounds Organochlorine
Pesticides Mixture**

17 Analytes

alachlor
captafol
chloroneb
chloropropylate
chlorothalonil
DCPA (dacthal)
dichlone
dicofol (kelthane)
etridiazole (terrazole)
mirex
nitrofen
trans-nonachlor
pentachloronitrobenzene (PCNB)
permethrins (mixed isomers)
perthane
propachlor
trifluralin

@ 1000 µg/mL in hexane / toluene (1:1)

PPM-808G-1 1 x 1 mL**Organochlorine Pesticides
QC Mixture**

17 Analytes

aldrin	20 µg/mL
alpha-BHC	20 µg/mL
beta-BHC	20 µg/mL
delta-BHC	20 µg/mL
gamma-BHC (lindane)	20 µg/mL
4,4'-DDD	100 µg/mL
4,4'-DDE	20 µg/mL
4,4'-DDT	100 µg/mL
dieldrin	20 µg/mL
endosulfan I	20 µg/mL
endosulfan II	100 µg/mL
endosulfan sulfate	100 µg/mL
endrin	100 µg/mL
endrin aldehyde	20 µg/mL
heptachlor	20 µg/mL
heptachlor epoxide (B)	20 µg/mL
methoxychlor	20 µg/mL

in methanol

PPM-608C-1 1 x 1 mL**Organochlorine Pesticides Mixture**

6 Analytes

2,4'-DDD	4,4'-DDD
2,4'-DDE	4,4'-DDE
2,4'-DDT	4,4'-DDT

@ 1000 µg/mL in acetone

PPM-838-1 1 x 1 mL**Organochlorine Pesticides Mixture**

3 Analytes

2,4'-DDD
2,4'-DDE
2,4'-DDT

@ 250 µg/mL in isooctane

PPM-828-1 1 x 1 mL**Pesticides Matrix Spiking Solution**

6 Analytes

aldrin	2000 µg/mL
gamma-BHC (lindane)	2000 µg/mL
4,4'-DDT	5000 µg/mL
dieldrin	5000 µg/mL
endrin	5000 µg/mL
heptachlor	2000 µg/mL

in methanol

CLP-200N-1 1 x 1 mL**Individual Standards for Method 8081B**

All @ 100 µg/mL in hexane

	Catalog #	Unit Size
chlordane	PP-151-1	1 x 1 mL
toxaphene	PP-271-1	1 x 1 mL
Halowax 1000 (26% Cl)	HPCK-2F	1 x 2 mL
Halowax 1001 (50% Cl)	HPCK-2G	1 x 2 mL
Halowax 1013 (56% Cl)	HPCK-2E	1 x 2 mL
Halowax 1051 (70% Cl)	HPCK-2C	1 x 2 mL
Halowax 1099 (52% Cl)	HPCK-2D	1 x 2 mL

All @ 100 µg/mL in methanol

carbophenothion	PST-990M100A01	1 x 1 mL
dichloran	PST-190M100A01	1 x 1 mL

Method 8081B Surrogate Standard

4-chloro-3-nitrobenzotrifluoride

@ 1000 µg/mL in acetone

PPS-360-1 1 x 1 mL

EPA METHOD 8082A

POLYCHLORINATED
BIPHENYLS (PCBS)

Method 8082A is used to determine the concentrations of polychlorinated biphenyls (PCBs) as Aroclors, or as individual PCB congeners in extracts from solid and aqueous matrices. Open tubular capillary columns are employed with electron capture detectors (ECD) or electrolytic conductivity detectors (ELCD).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: PPM-8082-1

TECHNICAL NOTES

This method may be used to determine PCBs as either Aroclors or as individual congeners. Only 19 congeners have been tested, but the method may be appropriate for additional congeners.

Decachlorobiphenyl is used as an internal standard only when individual congeners are being tested. No internal standard is used for Aroclor determinations.

Decachlorobiphenyl is used as a surrogate standard for Aroclor determinations. Tetrachloro-m-xylene is used as a surrogate for individual congeners.

Aroclors are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

Method 8082A PCB
Congeners Mixture

19 Analytes

2-chlorobiphenyl
2,3-dichlorobiphenyl
2,2',3,3',4,4',5-heptachlorobiphenyl
2,2',3,4,4',5,5'-heptachlorobiphenyl
2,2',3,4,4',5,6-heptachlorobiphenyl
2,2',3,4',5,5',6-heptachlorobiphenyl
2,2',3,4,4',5-hexachlorobiphenyl
2,2',3,4,5,5'-hexachlorobiphenyl
2,2',3,5,5',6-hexachlorobiphenyl
2,2',4,4',5,5'-hexachlorobiphenyl
2,2',3,3',4,4',5,5,6-nonachlorobiphenyl
2,2',3,4,5'-pentachlorobiphenyl
2,2',4,5,5'-pentachlorobiphenyl
2,3,3',4',6-pentachlorobiphenyl
2,2',3,5'-tetrachlorobiphenyl
2,2',5,5'-tetrachlorobiphenyl
2,3',4,4'-tetrachlorobiphenyl
2,2',5-trichlorobiphenyl
2,4',5-trichlorobiphenyl

@ 100 µg/mL in isoctane

RPCM-8082-1 1 x 1 mL

Recommended Method 8082A
Calibration Stock Solution

2 Analytes

Aroclor 1016
Aroclor 1260

@ 1000 µg/mL in isoctane

PPM-8082-1 1 x 1 mL

Internal and Surrogate Standards

decachlorobiphenyl

@ 1000 µg/mL in toluene

PPS-150-1 1 x 1 mL

2,4,5,6-tetrachloro-m-xylene

@ 2000 µg/mL in acetone

IST-440-1 1 x 1 mL

Recommended Method 8082A PCB Standards

All @ 100 µg/mL in isoctane

1 x 1 mL Ampules

Aroclor 1016	PP-282-1
Aroclor 1221	PP-292-1
Aroclor 1232	PP-302-1
Aroclor 1242	PP-312-1
Aroclor 1248	PP-342-1
Aroclor 1254	PP-352-1
Aroclor 1260	PP-362-1
Aroclor 1262	PP-372-1
Aroclor 1268	PP-382-1

EPA METHOD 8091

NITROAROMATICS AND
CYCLIC KETONES

Method 8091 is used to measure nitroaromatics and cyclic ketones. Samples are extracted, then quantitated with GC/NPD and GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Method 8091
Composite Stock Solution ^{IX}

6 Analytes

1,4-dinitrobenzene
2,4-dinitrotoluene
2,6-dinitrotoluene
1,4-naphthoquinone
nitrobenzene
pentachloronitrobenzene

@ 40 µg/mL in isooctane

NAIM-809B-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

Recommended Method 8091
Surrogate Standard

1-chloro-3-nitrobenzene

@ 1000 µg/mL in acetone

IST-630-1 1 x 1 mL

Recommended Method 8091
Internal Standard

hexachlorobenzene

@ 1000 µg/mL in acetone

EPA-1125 1 x 1 mL

EPA METHOD 8095

EXPLOSIVES

Method 8095 is used to measure explosives, using extraction followed by capillary GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: NAIM-8095A-1
NAIM-8095B-1

Surrogate Standards: IST-701-1
IST-702-1

Recommended Method 8095
Surrogate Standards

All @ 250 µg/mL in Acetonitrile
1 x 1 mL
Ampules

3,4-dinitrotoluene IST-701-1

2-methyl-4-nitroaniline IST-702-1

Recommended Method 8095
Calibration Standard A

10 Analytes

1,3-dinitrobenzene
2,6-dinitrotoluene
2,4-dinitrotoluene
4-amino-2,6-dinitrotoluene
2-amino-4,6-dinitrotoluene
HMX
RDX
Tetryl
1,3,5-trinitrobenzene
2,4,6-trinitrotoluene

@ 1 µg/mL in acetonitrile

NAIM-8095A-1 1 x 1 mL

Recommended Method 8095
Calibration Standard B

6 Analytes

nitrobenzene 5 µg/mL
nitroglycerine 5 µg/mL
3-nitrotoluene 5 µg/mL
2-nitrotoluene 5 µg/mL
4-nitrotoluene 5 µg/mL
PETN 5 µg/mL

in acetonitrile

NAIM-8095B-1 1 x 1 mL

EPA METHOD 8100

POLYNUCLEAR
AROMATIC
HYDROCARBONS

Method 8100 is used to measure polynuclear aromatic hydrocarbons, using extraction followed by GC/FID. Either packed or capillary columns may be used.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: PM-810-1

Surrogate Standards: IST-180-1
ATS-140-1

Recommended Method 8100 PAH
Mixture ^{IX}

16 Analytes

acenaphthene	1000 µg/mL
acenaphthylene	1000 µg/mL
anthracene	1000 µg/mL
benz[a]anthracene	100 µg/mL
benzo[b]fluoranthene	100 µg/mL
benzo[k]fluoranthene	50 µg/mL
benzo[ghi]perylene	100 µg/mL
benzo[a]pyrene	100 µg/mL
chrysene	100 µg/mL
dibenz[a,h]anthracene	100 µg/mL
fluoranthene	100 µg/mL
fluorene	1000 µg/mL
indeno[1,2,3-cd]pyrene	100 µg/mL
naphthalene	1000 µg/mL
phenanthrene	1000 µg/mL
pyrene	100 µg/mL

in methylene chloride

PM-810-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

PAH QC Reference Mixture ^{IX}

16 Analytes

acenaphthene	100 µg/mL
acenaphthylene	100 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	10 µg/mL
benzo[b]fluoranthene	10 µg/mL
benzo[k]fluoranthene	5 µg/mL
benzo[ghi]perylene	10 µg/mL
benzo[a]pyrene	10 µg/mL
chrysene	10 µg/mL
dibenz[a,h]anthracene	10 µg/mL
fluoranthene	10 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	10 µg/mL
naphthalene	100 µg/mL
phenanthrene	100 µg/mL
pyrene	10 µg/mL

in acetonitrile

PM-613A-1 1 x 1 mL

^{IX} Contains Appendix IX Compounds

PAH Mixture

8 Analytes

dibenz[a,h]acridine
dibenz[a,j]acridine
7H-dibenzo[c,g]carbazole
benzo[j]fluoranthene
3-methylcholanthrene
dibenzo[a,e]pyrene
dibenzo[a,h]pyrene
dibenzo[a,i]pyrene

@ 1000 µg/mL in methylene chloride

PM-811-1 1 x 1 mL

Recommended Method 8100 Surrogate Standards

1-fluoronaphthalene

@ 1000 µg/mL in methylene chloride

IST-180-1 1 x 1 mL

2-fluorobiphenyl

@ 2000 µg/mL in methylene chloride

ATS-140-1 1 x 1 mL

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EPA METHOD 8121

CHLORINATED
HYDROCARBONS

Method 8121 are used to measure chlorinated hydrocarbons, using extraction followed by capillary column GC/ECD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard:	CHM-842A-1
Internal Standard:	IST-420-1
Surrogate Standard:	ISM-411-1

Recommended Method 8121
Chlorinated Hydrocarbons Mixture

22 Analytes

benzal chloride	100 µg/mL
benzotrithloride	100 µg/mL
benzyl chloride	100 µg/mL
alpha-BHC	100 µg/mL
beta-BHC	100 µg/mL
delta-BHC	100 µg/mL
gamma-BHC (lindane)	100 µg/mL
2-chloronaphthalene	2000 µg/mL
1,2-dichlorobenzene	1000 µg/mL
1,3-dichlorobenzene	1000 µg/mL
1,4-dichlorobenzene	1000 µg/mL
hexachlorobenzene	10 µg/mL
hexachlorobutadiene	10 µg/mL
hexachlorocyclopentadiene	10 µg/mL
hexachloroethane	10 µg/mL
pentachlorobenzene	10 µg/mL
1,2,3,4-tetrachlorobenzene	100 µg/mL
1,2,3,5-tetrachlorobenzene	100 µg/mL
1,2,4,5-tetrachlorobenzene	100 µg/mL
1,2,3-trichlorobenzene	100 µg/mL
1,2,4-trichlorobenzene	100 µg/mL
1,3,5-trichlorobenzene	100 µg/mL

in hexane

CHM-842A-1 1 x 1 mL

Recommended Method 8121
Surrogate Standard Mixture

3 Analytes

1,4-dichloronaphthalene	10 µg/mL
2,3,4,5,6-pentachlorotoluene	1 µg/mL
alpha,2,6-trichlorotoluene	1 µg/mL

in acetone

ISM-411-1 1 x 1 mL

Recommended Method 8121
Internal Standard

1,3,5-tribromobenzene

@ 50 µg/mL in acetone

IST-420-1 1 x 1 mL

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EPA METHOD 8141B

ORGANOPHOSPHORUS
PESTICIDES

Method 8141B is used to measure organo-phosphorous pesticides, using extraction. Quantitation is carried out on GC, using either a NPD, a FPD, or an ELCD.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	SPM-824-1
	SPM-834-1
	SPM-844A-1
	SPM-854-1
	SPM-864-1
	SPM-874-1
	SPM-884-1
Internal Standard:	PPS-350-1
Surrogate Standards:	ISM-570-1
	PPS-360-1

TECHNICAL NOTE:
ORGANOPHOSPHOROUS
PESTICIDE STANDARDS

Some of the organophosphorus pesticides in ULTRA's product number SPM-824 are unstable in solution. ULTRA prepares this standard every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. ULTRA strongly recommends that these standards be used as soon as possible after receipt.

Recommended Method 8141B
Organophosphorus
Pesticides Mixture

20 Analytes

aziphos methyl	fenthion
bolstar	merphos
chlorpyrifos	methyl parathion
coumaphos	mevinphos
demeton (total)	naled
diazinon	phorate
dichlorvos	ronnel
disulfoton	stirofos
ethoprop	tokuthion
fensulfothion	trichloronate

@ 200 µg/mL in hexane/acetone

SPM-824-1 1 x 1 mL

Recommended Method 8141B
Organophosphorus
Pesticides Mixture

10 Analytes

aziphos ethyl
carbophenothion
chlorfenvinphos
dioxathion
ethion
famphur
leptophos
phosmet
phosphamidon
terbuphos

@ 200 µg/mL in hexane/acetone

SPM-844A-1 1 x 1 mL

Recommended Method 8141B
Organophosphorus
Pesticides Mixture

7 Analytes

dimethoate
EPN
malathion
monocrotophos
parathion
sulfotepp
TEPP

@ 200 µg/mL in hexane/acetone (1:1)

SPM-834-1 1 x 1 mL

Recommended Method 8141B
Organophosphorus
Pesticides Mixture

9 Analytes

aspon
chlorpyrifos methyl
crotoxyphos
dichlofenthion
dicrotophos
fenitrothion
fonofos
thionazin
trichlorfon

@ 200 µg/mL in hexane/acetone

SPM-854-1 1 x 1 mL

EPA METHOD 8141B

(continued)

**Recommended Method 8141B
Industrial Chemicals Mixture**

2 Analytes

hexamethyl phosphoramide (HMPA)
tri-o-cresyl phosphate (TOCP)

@ 200 µg/mL in hexane/acetone

SPM-864-1 1 x 1 mL**Recommended Method 8141B
Triazine Herbicides Mixture**

2 Analytes

atrazine
simazine

@ 200 µg/mL in hexane/acetone

SPM-874-1 1 x 1 mL**EPA Method 8141B Kit****Kit – contains nine ampules:**

1 x 1 mL of each of the following standards

Pesticides Mixture	(SPM-824-1)
Pesticides Mixture	(SPM-834-1)
Pesticides Mixture	(SPM-844A-1)
Pesticides Mixture	(SPM-854-1)
Industrial Chemicals Mix	(SPM-864-1)
Triazine Herbicides Mix	(SPM-874-1)
Carbamates Mixture	(SPM-884-1)
Surrogate Standard Mix	(ISM-570-1)
Internal Standard	(PPS-350-1)

SPK-8141B**Kit****Recommended Method 8141B
Internal & Surrogate Standards**

1-bromo-2-nitrobenzene

@ 1000 µg/mL in acetone

PPS-350-1 1 x 1 mL

4-chloro-3-nitrobenzotrifluoride

@ 1000 µg/mL in acetone

PPS-360-1 1 x 1 mL**Recommended Method 8141B
Surrogate Standard**

2 Analytes

tributyl phosphate
triphenyl phosphate

@ 1000 µg/mL in acetone

ISM-570-1 1 x 1 mL**WWW.ULTRASCI.COM****Download and Print from Our Online Library**

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EPA METHOD 8150B, 8151A

CHLORINATED
HERBICIDES

Methods 8150B and 8151 are used to measure chlorinated herbicides, using extraction followed by derivatization. Quantitation is carried out on GC/ECD.

Method 8150B has been deleted from SW-846 (effective with Update III).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Method 8150B
Calibration Standard: HBM-8150A-1

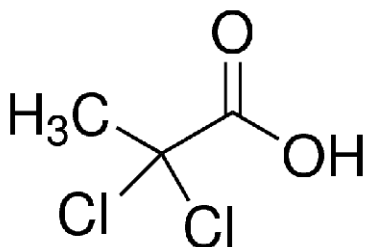
Internal Standards: PPS-171-1
PPS-173-1

Surrogate Standards: PPS-165-1
PPS-164X-1

Method 8151A
Calibration Standard: HBM-8151A-1

Internal Standard: PPS-171-1

Surrogate Standard: PPS-165-1

Recommended Method 8150B
Chlorinated Herbicides Mixtures

10 Analytes

2,4-D	100 µg/mL
dalapon	250 µg/mL
2,4-DB	100 µg/mL
dicamba	10 µg/mL
dichlorprop	100 µg/mL
dinoseb	50 µg/mL
MCPA	10,000 µg/mL
MCPP	10,000 µg/mL
silvex (2,4,5-TP)	10 µg/mL
2,4,5-T	10 µg/mL

Herbicide Acids Mixture

in methanol

HBM-8150A-1 1 x 1 mL

Methylated Herbicide Mixture

in methanol

HBM-8150M-1 1 x 1 mL

Recommended Method 8151A
Chlorinated Herbicides Mixtures

18 Analytes

acifluorfen
bentazon
chloramben
2,4-D
dalapon
2,4-DB
DCPA
dicamba
3,5-dichlorobenzoic acid
dichlorprop
dinoseb
MCPA (@ 10,000 µg/mL)
MCPP (@ 10,000 µg/mL)
4-nitrophenol
pentachlorophenol
picloram
silvex (2,4,5-TP)
2,4,5-T

Herbicide Acids Mixture

@ 100 µg/mL in methanol

HBM-8151A-1 1 x 1 mL

Methylated Herbicide Mixture

@ 100 µg/mL in methanol

HBM-8151M-1 1 x 1 mL

Chlorophenoxy Herbicides
Mixture (HER)

2 Analytes

2,4-D
silvex (2,4,5-TP)

@ 5 µg/mL in acetonitrile

EPA-2015N-1 1 x 1 mL

EPA METHOD 8150B, 8151A

(continued)

Chlorinated Herbicides Mixtures^{IX}

3 Analytes

2,4-D
silvex (2,4,5-TP)
2,4,5-T

Herbicide Acids Mixture

@ 100 µg/mL in methanol

HBM-815A-1 1 x 1 mL

Methylated Herbicide Mixture

@ 100 µg/mL in methanol

HBM-815M-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Methylated Herbicides Mixture**

8 Analytes

2,4-D methyl ester
dalapon methyl ester
2,4-DB methyl ester
dicamba methyl ester
dichlorprop methyl ester
dinoseb methyl ether
silvex methyl ester (2,4,5-TP)
2,4,5-T methyl ester

@ 20 µg/mL in hexane

HBM-8152M-1 1 x 1 mL**Chlorinated Herbicides Mixture^{IX}**

10 Analytes

2,4-D
dalapon
2,4-DB
dicamba
dichlorprop
dinoseb
MCPA
MCPP
silvex (2,4,5-TP)
2,4,5-T

@ 200 µg/mL in methanol

HBM-8153A-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Internal and Surrogate Standard Solutions**

4,4'-dibromooctafluorobiphenyl

@ 250 µg/mL in acetone

PPS-171-1 1 x 1 mL

2,4-dichlorophenylacetic acid (DCAA)

@ 100 µg/mL in acetone

PPS-165-1 1 x 1 mL

DCAA methyl ester

@ 100 µg/mL in acetone

PPS-166-1 1 x 1 mL**SHOOTERS™ – OPEN AND SHOOT SPIKING STANDARDS****No Dilution Required**

Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

**Recommended Method 8150B
Herbicides Surrogate Standard
Spiking Solution**

2,4-dichlorophenylacetic acid (DCAA)

@ 2 µg/mL in methanol

PPS-164X 1 x 25 mL**Recommended Method 8150B
Herbicides Internal Standard
Spiking Solution**

4,4'-dibromooctafluorobiphenyl (DBOB)

@ 1 µg/mL in methanol

PPS-173-1 1 x 1 mL

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EPA METHOD 8240B

VOLATILE
HALOCARBONS

Method 8240B is a GC/MS method for the determination of volatile organic compounds in a variety of solid waste matrices.

Method 8240B has been deleted from SW-846 (effective with Update III).

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	PMX-130-1 PMX-141A-1 DWM-584-1 HC-070-1 HC-491-1 NV-240B-1
Internal Standard:	STM-270N-1
Surrogate Standard:	STM-260N-1

TECHNICAL NOTES

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Therefore ULTRA packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

In solution, vinyl acetate reacts rapidly with methanol. To avoid this problem, ULTRA prepares vinyl acetate standards in acetonitrile. If a working standard is prepared by diluting this standard into methanol, use the working standard immediately.

Recommended Method 8240B
Volatiles Mixture ^{IX}

37 Analytes

acetone
benzene
bromodichloromethane
bromoform
2-butanone (MEK)
carbon disulfide
carbon tetrachloride
chlorobenzene
chloroform
dibromochloromethane
trans-1,4-dichloro-2-butene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
1,2-dichloropropane
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethanol
ethylbenzene
2-hexanone
iodomethane
4-methyl-2-pentanone (MIBK)
methylene chloride
styrene
1,1,1,2-tetrachloroethane
tetrachloroethene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
o-xylene
m-xylene
p-xylene

@ 200 µg/mL in methanol

PMX-130-1 1 x 1 mL^{IX} Contains Appendix IX CompoundsRecommended Method 8240B
Volatiles Mixture

29 Analytes

acetonitrile
allyl alcohol
allyl chloride
benzyl chloride
bis(2-chloroethyl) sulfide
2-chloroethanol
3-chloropropionitrile
1,2-dibromo-3-chloropropane
1,2-dibromoethane
dibromomethane
1,3-dichloro-2-propanol
1,2:3,4-diepoxybutane
1,4-dioxane
epichlorohydrin
ethyl methacrylate
2-hydroxypropionitrile
isobutyl alcohol
malononitrile
methacrylonitrile
methyl methacrylate
pentachloroethane
2-picoline
propargyl alcohol
beta-propiolactone
propionitrile
n-propylamine
pyridine
1,1,1,2-tetrachloroethane
1,2,3-trichloropropane

@ 200 µg/mL in methanol

PMX-141A-1 1 x 1 mLNon-Halogenated
Volatiles Mixture ^{IX}

3 Analytes

acetone
carbon disulfide
2-hexanone

@ 100 µg/mL in methanol

NVM-8241-1 1 x 1 mL^{IX} Contains Appendix IX Compounds

EPA METHOD 8240B

(continued)

**Recommended Method 8240B
VOC Gas Mixtures^{IX}**

6 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8240B
Surrogate Standard Mixtures**

3 Analytes

4-bromofluorobenzene
1,2-dichloroethane-d4
toluene-d8

@ 2500 µg/mL in methanol

STM-262-1 1 x 1 mL

@ 1000 µg/mL in methanol

STM-260N-1 1 x 1 mL**Recommended Method 8240B
Internal Standard Mixtures**

3 Analytes

bromochloromethane
chlorobenzene-d5
1,4-difluorobenzene

@ 2500 µg/mL in methanol

STM-272-1 1 x 1 mL

@ 1000 µg/mL in methanol

STM-270N-1 1 x 1 mL**Volatiles Calibration Check
Compounds Mixture**

6 Analytes

chloroform
1,1-dichloroethene
1,2-dichloropropane
ethylbenzene
toluene
vinyl chloride

@ 2000 µg/mL in methanol

CLP-110-1 1 x 1 mL**Recommended Method 8240B Individual Standards**

All @ 100 µg/mL in methanol

1 x 1 mL Ampules

2-chloroethyl vinyl ether HC-070-1

chloroprene (no xylenes) HC-491-1

@ 100 µg/mL in acetonitrile

vinyl acetate NV-240B-1

**Volatiles System Performance
Check Mixture**

5 Analytes

bromoform
chlorobenzene
chloromethane
1,1-dichloroethane
1,1,2,2-tetrachloroethane

@ 2000 µg/mL in methanol

CLP-120-1 1 x 1 mL**Volatiles Matrix Spiking Solution**

5 Analytes

benzene
chlorobenzene
1,1-dichloroethene
toluene
trichloroethene

@ 2500 µg/mL in methanol

CLP-102-1 1 x 1 mL

@ 1000 µg/mL in methanol

CLP-100N-1 1 x 1 mL**Volatile GC/MS Calibration
Standard (BFB)**

4-bromofluorobenzene (BFB)

@ 25 µg/mL in methanol

STS-111-1 1 x 1 mL

@ 2000 µg/mL in methanol

STS-110N-1 1 x 1 mL

@ 2500 µg/mL in methanol

STS-112-1 1 x 1 mL

EPA METHOD 8260B

VOLATILE ORGANIC COMPOUNDS

Method 8260B is a capillary column GC/MS method for volatile organics, using purge and trap or direct injection.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	DWM-588-1 PMX-144-1 PMX-145-1 PMX-146-1 NVM-826-1 AMN-623-1 HC-070-1 HC-491-1 NV-240B-1 EPA-1244-1
Internal Standard:	STM-520-1
Surrogate Standard:	STM-530-1

TECHNICAL NOTES

2-Chloroethyl vinyl ether is stable in solution by itself, but breaks down in the presence of other halocarbons. Therefore ULTRA packages this analyte as a single component solution. If you prepare a working standard that contains 2-chloroethyl vinyl ether mixed with other halocarbons, be sure to monitor the stability of this analyte.

In solution, vinyl acetate reacts rapidly with methanol. To avoid this problem, ULTRA prepares vinyl acetate standards in acetonitrile. If a working standard is prepared by diluting this standard into methanol, use the working standard immediately.

Acrolein is known to undergo polymerization with time. ULTRA prepares the standards which contain acrolein every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. ULTRA strongly recommends that these standards be used as soon as possible after receipt.

Recommended Method 8260B VOC Mixtures

60 Analytes

benzene	1,2-dichlorobenzene	n-propylbenzene
bromobenzene	1,3-dichlorobenzene	styrene
bromochloromethane	1,4-dichlorobenzene	1,1,1,2-tetrachloroethane
bromodichloromethane	dichlorodifluoromethane	1,1,2,2-tetrachloroethane
bromoform	1,1-dichloroethane	tetrachloroethene
bromomethane	1,2-dichloroethane	toluene
n-butylbenzene	1,1-dichloroethene	1,2,3-trichlorobenzene
sec-butylbenzene	cis-1,2-dichloroethene	1,2,4-trichlorobenzene
tert-butylbenzene	trans-1,2-dichloroethene	1,1,1-trichloroethane
carbon tetrachloride	1,2-dichloropropane	1,1,2-trichloroethane
chlorobenzene	1,3-dichloropropane	trichloroethene
chloroethane	2,2-dichloropropane	trichlorofluoromethane
chloroform	1,1-dichloropropene	1,2,3-trichloropropane
chloromethane	cis-1,3-dichloropropene	1,2,4-trimethylbenzene
2-chlorotoluene	trans-1,3-dichloropropene	1,3,5-trimethylbenzene
4-chlorotoluene	ethylbenzene	vinyl chloride
dibromochloromethane	hexachlorobutadiene	o-xylene
1,2-dibromo-3-chloropropane	isopropylbenzene	m-xylene
1,2-dibromoethane	4-isopropyltoluene	p-xylene
dibromomethane	methylene chloride	
	naphthalene	

@ 200 µg/mL in methanol

DWM-580-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-588-1 1 x 1 mL

Recommended Method 8260B Surrogate Standard Mixture

4 Analytes

4-bromofluorobenzene
dibromofluoromethane
1,2-dichloroethane-d4
toluene-d8

@ 2500 µg/mL in methanol

STM-530-1 1 x 1 mL

Recommended Method 8260B Internal Standard Mixture

3 Analytes

chlorobenzene-d5
1,4-dichlorobenzene-d4
fluorobenzene

@ 2500 µg/mL in methanol

STM-520-1 1 x 1 mL

EPA METHOD 8260B

(continued)

**Recommended Method 8260B
Volatiles Mixture**

17 Analytes

acetonitrile
allyl alcohol
carbon disulfide
2-chloroethanol
3-chloropropionitrile
crotonaldehyde
1,3-dichloro-2-propanol
1,2:3,4-diepoxybutane
epichlorohydrin
ethyl methacrylate
2-hydroxypropionitrile
malononitrile
methacrylonitrile
methyl methacrylate
propargyl alcohol
beta-propiolactone
propionitrile

@ 2000 µg/mL in methanol

PMX-144-1**1 x 1 mL****Recommended Method 8260B
Volatiles Mixture**

8 Analytes

bis(2-chloroethyl)sulfide
hexachloroethane
nitrobenzene
N-nitrosodi-n-butylamine
pentachloroethane
2-picoline
pyridine
o-toluidine

@ 2000 µg/mL in methanol

PMX-145-1**1 x 1 mL****Recommended Method 8260B
Volatiles Mixture**

7 Analytes

allyl chloride
benzyl chloride
cis-1,4-dichloro-2-butene
trans-1,4-dichloro-2-butene
methyl iodide (iodomethane)
2-nitropropane
n-propylamine

@ 2000 µg/mL in methanol

PMX-146-1**1 x 1 mL****Recommended Method 8260B Individual Standards**

All @ 100 µg/mL in methanol

1 x 1 mL Ampules

2-chloroethyl vinyl ether

HC-070-1

chloroprene (no xylenes)

HC-491-1

@ 100 µg/mL in acetonitrile

vinyl acetate

NV-240B-1

@ 1000 µg/mL in methanol

chloral hydrate

EPA-1244-1

**Recommended Method 8260B
Volatiles Mixture**

15 Analytes

acetone
2-butanone (MEK)
n-butyl alcohol (n-butanol)
tert-butyl alcohol (tert-butanol)
diethyl ether
1,4-dioxane
ethyl acetate
ethyl alcohol (ethanol)
2-hexanone
isobutyl alcohol
isopropyl alcohol (2-propanol)
methyl alcohol (methanol)
4-methyl-2-pentanone (MIBK)
n-propyl alcohol (1-propanol)
2-pentanone

@ 2000 µg/mL in water

NVM-826-1**1 x 1 mL****Recommended Method 8260B
Acrolein-Acrylonitrile Mixtures^{IX}**

2 Analytes

acrolein (see tech note opposite)
acrylonitrile

@ 100 µg/mL in methanol

AMN-603-1**1 x 1 mL**

@ 2000 µg/mL in methanol

AMN-623-1**1 x 1 mL**^{IX} Contains Appendix IX Compounds**EPA Method 8260B Kit****Kit – contains twelve ampules:**

1 x 1 mL of each of the following standards

VOC Mixture	(DWM-588-1)
Volatiles Mixture	(PMX-144-1)
Volatiles Mixture	(PMX-145-1)
Volatiles Mixture	(PMX-146-1)
Volatiles Mixture	(NVM-826-1)
Acrolein/Acrylonitrile Mix	(AMN-623-1)
2-Chloroethyl Vinyl Ether	(HC-070-1)
Chloroprene	(HC-491-1)
Chloral Hydrate	(EPA-1244)
Vinyl Acetate	(NV-240B)
Surrogate Standard Mix	(STM-530-1)
Internal Standard	(STM-520-1)

DWK-8260**Kit**

EPA METHOD 8260B

(continued)

VOC Mixtures (No Gases)

54 Analytes

benzene	1,3-dichlorobenzene	n-propylbenzene
bromobenzene	1,4-dichlorobenzene	styrene
bromochloromethane	1,1-dichloroethane	1,1,1,2-tetrachloroethane
bromodichloromethane	1,2-dichloroethane	1,1,2,2-tetrachloroethane
bromoform	1,1-dichloroethene	tetrachloroethene
n-butylbenzene	cis-1,2-dichloroethene	toluene
sec-butylbenzene	trans-1,2-dichloroethene	1,2,3-trichlorobenzene
tert-butylbenzene	1,2-dichloropropane	1,2,4-trichlorobenzene
carbon tetrachloride	1,3-dichloropropane	1,1,1-trichloroethane
chlorobenzene	2,2-dichloropropane	1,1,2-trichloroethane
chloroform	1,1-dichloropropene	trichloroethene
2-chlorotoluene	cis-1,3-dichloropropene	1,2,3-trichloropropane
4-chlorotoluene	trans-1,3-dichloropropene	1,2,4-trimethylbenzene
dibromochloromethane	ethylbenzene	1,3,5-trimethylbenzene
1,2-dibromo-3-chloropropane	hexachlorobutadiene	o-xylene
1,2-dibromoethane	isopropylbenzene	m-xylene
dibromomethane	4-isopropyltoluene	p-xylene
1,2-dichlorobenzene	methylene chloride	
	naphthalene	

@ 200 µg/mL in methanol

DWM-583-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-589N-1 1 x 1 mL

Volatile GC/MS Calibration Standard (BFB)

4-bromofluorobenzene (BFB)	
@ 25 µg/mL in methanol	
STS-111-1	1 x 1 mL
@ 2000 µg/mL in methanol	
STS-110N-1	1 x 1 mL
@ 2500 µg/mL in methanol	
STS-112-1	1 x 1 mL

Internal & Surrogate Standard Mixture

7 Analytes	
4-bromofluorobenzene	
chlorobenzene-d5	
1,4-dichlorobenzene-d4	
dibromofluoromethane	
1,2-dichloroethane-d4	
fluorobenzene	
toluene-d8	
@ 2500 µg/mL in methanol	
STM-540-1	1 x 1 mL
@ 5000 µg/mL in methanol	
STM-541-1	1 x 1 mL

Volatiles Matrix Spiking Solution

5 Analytes

benzene	
chlorobenzene	
1,1-dichloroethene	
toluene	
trichloroethene	
@ 1000 µg/mL in methanol	
CLP-100N-1	1 x 1 mL
@ 2500 µg/mL in methanol	
CLP-102-1	1 x 1 mL

Volatiles Calibration Check Compounds Mixture

6 Analytes

chloroform	
1,1-dichloroethene	
1,2-dichloropropane	
ethylbenzene	
toluene	
vinyl chloride	
@ 2000 µg/mL in methanol	
CLP-110-1	1 x 1 mL

Volatiles System Performance Check Mixture

5 Analytes	
bromoform	
chlorobenzene	
chloromethane	
1,1-dichloroethane	
1,1,2,2-tetrachloroethane	
@ 2000 µg/mL in methanol	
CLP-120-1	1 x 1 mL

OBSOLETE STANDARDS FOR METHOD 8260

The mixtures on this page were designed for the original revision of EPA Method 8260, which has been superseded by Method 8260B.

Method 8260 VOC Mixtures (No Gases, No Bromochloromethane)

53 Analytes

benzene	1,3-dichlorobenzene	naphthalene
bromobenzene	1,4-dichlorobenzene	n-propylbenzene
bromodichloromethane	1,1-dichloroethane	styrene
bromoform	1,2-dichloroethane	1,1,1,2-tetrachloroethane
n-butylbenzene	1,1-dichloroethene	1,1,2,2-tetrachloroethane
sec-butylbenzene	cis-1,2-dichloroethene	tetrachloroethene
tert-butylbenzene	trans-1,2-dichloroethene	toluene
carbon tetrachloride	1,2-dichloropropane	1,2,3-trichlorobenzene
chlorobenzene	1,3-dichloropropane	1,2,4-trichlorobenzene
chloroform	2,2-dichloropropane	1,1,1-trichloroethane
2-chlorotoluene	1,1-dichloropropene	1,1,2-trichloroethane
4-chlorotoluene	cis-1,3-dichloropropene	trichloroethene
dibromochloromethane	trans-1,3-dichloropropene	1,2,3-trichloropropane
1,2-dibromo-3-chloropropane	ethylbenzene	1,2,4-trimethylbenzene
1,2-dibromoethane	hexachlorobutadiene	1,3,5-trimethylbenzene
dibromomethane	isopropylbenzene	o-xylene
1,2-dichlorobenzene	4-isopropyltoluene	m-xylene
	methylene chloride	p-xylene

@ 200 µg/mL in methanol

DWM-826-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-826A-1 1 x 1 mL

VOC Gas Mixtures

6 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

DWM-584-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-544-1 1 x 1 mL

Surrogate Standard Mixture

3 Analytes

4-bromofluorobenzene
dibromofluoromethane
toluene-d8

@ 2000 µg/mL in methanol

STM-330N-1 1 x 1 mL

Internal Standard Mixture

4 Analytes

chlorobenzene-d5
1,4-difluorobenzene
1,4-dichlorobenzene-d4
pentafluorobenzene

@ 2000 µg/mL in methanol

STM-341N-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EPA METHOD 8270D

SEMI-VOLATILE
ORGANIC COMPOUNDS
AND APPENDIX IX
SEMI-VOLATILES

Method 8270D is a capillary column GC/MS method for semi-volatile organics, using a capillary column.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards:	US-121K
Internal Standard:	US-108N-1
Surrogate Standards:	ISM-280N-1 ISM-290N-1 ISM-333X

Recommended Calibration Standards Kit for Appendix IX Compounds by Method 8270D^{ix}**Kit – contains fifteen ampules:**

1 x 1 mL of each of the following standards

Ethers and Phthalates Mixture	(US-110-1)
Chlorinated Hydrocarbons Mix	(US-111-1)
Nitrosamines Mixture	(US-113N-1)
Base/Neutrals Mixture #3	(US-114-1)
Base/Neutrals Mixture #4	(US-115-1)
Toxic Substances Mixture #2	(US-104N-1)
PAH Mixture #1	(US-106N-1)
PAH Mixture #2	(US-116N-1)
Phenols Mixture #1	(US-107N-1)
Phenols Mixture #2	(US-117N-1)
Pyridines Mixture	(US-120AN-1)
Organochlorine Pesticides Mixture	(US-112B-1)
Organophosphorus Pesticides Mixture	(US-119-1)
Pesticides Mixture	(US-118-1)
Internal Standards Mixture	(US-108N-1)

US-121K**Kit**^{ix} Contains Appendix IX Compounds**Recommended Complete Method 8270D Standards Kit^{ix}****Kit – contains seventeen ampules:**

Calibration Standards Kit for Method 8270D (shown above)	(US-121K)
plus	
1 x 1 mL of each of the following standards	
Base/Neutral Surrogate Mix	(ISM-280N-1)
Acids Surrogate Mix	(ISM-290N-1)

SVK-8270**Kit****Volume discounts for individual solutions**

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**

Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



CONVENIENT OMNIPREP™ MIXTURES

OMNIPrep™ Semi-Volatiles Mix 1^{ix}

64 Analytes

acenaphthene	2,4-dinitrophenol
acenaphthylene	2,4-dinitrotoluene
anthracene	2,6-dinitrotoluene
azobenzene	di-n-octyl phthalate
benz[a]anthracene	fluoranthene
benzo[b]fluoranthene	fluorene
benzo[k]fluoranthene	hexachlorobenzene
benzo[ghi]perylene	hexachlorobutadiene
benzo[a]pyrene	hexachlorocyclopentadiene
bis(2-chloroethoxy)methane	hexachloroethane
bis(2-chloroethyl) ether	indeno[1,2,3-cd]pyrene
bis(2-ethylhexyl) phthalate	isophorone
bis(2-chloroisopropyl) ether	2-methyl-4,6-dinitrophenol
4-bromophenyl phenyl ether	2-methylnaphthalene
butylbenzyl phthalate	2-methylphenol (o-cresol)
carbazole	4-methylphenol (p-cresol)
4-chloroaniline	naphthalene
4-chloro-3-methylphenol	2-nitroaniline
2-chloronaphthalene	3-nitroaniline
2-chlorophenol	4-nitroaniline
4-chlorophenyl phenyl ether	nitrobenzene
chrysene	2-nitrophenol
dibenz[a,h]anthracene	4-nitrophenol
dibenzofuran	N-nitrosodimethylamine
di-n-butyl phthalate	N-nitrosodi-n-propylamine
1,2-dichlorobenzene	pentachlorophenol
1,3-dichlorobenzene	phenanthrene
1,4-dichlorobenzene	phenol
2,4-dichlorophenol	pyrene
diethyl phthalate	1,2,4-trichlorobenzene
2,4-dimethylphenol	2,4,5-trichlorophenol
dimethyl phthalate	2,4,6-trichlorophenol

@ 1000 µg/mL in methylene chloride/benzene (3:1)

SVM-8270-1 1 x 1 mL

^{ix} Contains Appendix IX Compounds

OMNIPrep™ Semi-Volatiles Mix 2^{ix}

35 Analytes

acetophenone
2-acetylaminofluorene
4-aminobiphenyl
aniline
benzyl alcohol
2,6-dichlorophenol
p-(dimethylamino)azobenzene
7,12-dimethylbenz[a]anthracene
m-dinitrobenzene
dinoseb (DNBP)
diphenylamine
ethyl methanesulfonate
hexachloropropene
isosafrole
3-methylcholanthrene
methyl methanesulfonate
3-methylphenol (m-cresol)
1-naphthylamine
2-naphthylamine
N-nitrosodi-n-butylamine
N-nitrosodiethylamine
N-nitrosomethylethylamine
N-nitrosomorpholine
N-nitrosopiperidine
N-nitrosopyrrolidine
5-nitro-o-toluidine
pentachlorobenzene
pentachloroethane
pentachloronitrobenzene
phenacetin
safrole
1,2,4,5-tetrachlorobenzene
2,3,4,6-tetrachlorophenol
o-toluidine
1,3,5-trinitrobenzene

@ 1000 µg/mL in methylene chloride

SVM-8271-1 1 x 1 mL

^{ix} Contains Appendix IX Compounds

ORDERING IS EASY

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APPENDIX IX CALIBRATION MIXTURES FOR EPA METHOD 8270D

**Recommended Method 8270D
Toxic Substances Mix #2^{IX}**

8 Analytes

aniline
benzyl alcohol
4-chloroaniline
dibenzofuran
2-methylnaphthalene
2-nitroaniline
3-nitroaniline
4-nitroaniline

@ 2000 µg/mL in methylene chloride

US-104N-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
PAH Mixture^{IX}**

16 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene
indeno[1,2,3-cd]pyrene
naphthalene
phenanthrene
pyrene

@ 2000 µg/mL in

methylene chloride/benzene (1:1)

US-106N-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Phenols Mixture^{IX}**

11 Analytes

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-107N-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Ethers and Phthalates Mixture^{IX}**

11 Analytes

bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-ethylhexyl) phthalate
bis(2-chloroisopropyl) ether
4-bromophenyl phenyl ether
butyl benzyl phthalate
4-chlorophenyl phenyl ether
diethyl phthalate
dimethyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate

@ 2000 µg/mL in methylene chloride

US-110-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Chlorinated Hydrocarbons Mix^{IX}**

13 Analytes

2-chloronaphthalene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
hexachloropropene
pentachlorobenzene
pentachloroethane
1,2,4,5-tetrachlorobenzene
1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride

US-111-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Organochlorine Pesticides Mix^{IX}**

17 Analytes

aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
heptachlor
heptachlor epoxide (B)
methoxychlor

@ 2000 µg/mL in acetone

US-112B-1 1 x 1 mL

@ 2000 µg/mL in hexane/toluene (1:1)

US-112A-1 1 x 1 mL^{IX} Contains Appendix IX Compounds

APPENDIX IX CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

**Recommended Method 8270D
Nitrosamines Mixture ^{IX}**

9 Analytes

N-nitrosodi-n-butylamine
 N-nitrosodiethylamine
 N-nitrosodimethylamine
 N-nitrosodiphenylamine
 N-nitrosodi-n-propylamine
 N-nitrosomethylethylamine
 N-nitrosomorpholine
 N-nitrosopiperidine
 N-nitrosopyrrolidine

@ 2000 µg/mL in methylene chloride

US-113N-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Base/Neutrals Mixture #3 ^{IX}**

13 Analytes

2-acetylaminofluorene
 4-aminobiphenyl
 3,3-dichlorobenzidine
 p-(dimethylamino)azobenzene
 3,3-dimethylbenzidine
 alpha,alpha-dimethylphenethylamine
 diphenylamine
 1-naphthylamine
 2-naphthylamine
 5-nitro-o-toluidine
 phenacetin
 p-phenylenediamine
 o-toluidine

@ 2000 µg/mL in methylene chloride

US-114-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Base/Neutrals Mixture #4 ^{IX}**

13 Analytes

acetophenone
 m-dinitrobenzene
 2,4-dinitrotoluene
 2,6-dinitrotoluene
 ethyl methanesulfonate
 isophorone
 isosafrole
 methyl methanesulfonate
 1,4-naphthoquinone
 nitrobenzene
 pentachloronitrobenzene
 safrole
 1,3,5-trinitrobenzene

@ 2000 µg/mL in methylene chloride

US-115-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
PAH Mixture #2 ^{IX}**

2 Analytes

7,12-dimethylbenz[a]anthracene
 3-methylcholanthrene

@ 2000 µg/mL in

methylene chloride/benzene (1:1)

US-116N-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Phenols Mixture #2 ^{IX}**

8 Analytes

o-cresol
 m-cresol
 p-cresol
 2,6-dichlorophenol
 dinoseb (DNBP)
 hexachlorophene
 2,3,4,6-tetrachlorophenol
 2,4,5-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-117N-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Pesticides Mixture ^{IX}**

6 Analytes

aramite isodrin
 chlorobenzilate kepone
 diallate pronamide

@ 2000 µg/mL in methylene chloride

US-118-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Organophosphorus
Pesticides Mixture ^{IX}**

9 Analytes

dimethoate methyl parathion
 disulfoton parathion
 famphur phorate
 thionazin sulfotepp
 O,O,O-triethyl phosphorothioate

@ 2000 µg/mL in methylene chloride

US-119-1 1 x 1 mL

@ 2000 µg/mL in hexane/toluene (1:1)

US-119A-1 1 x 1 mL^{IX} Contains Appendix IX Compounds**Recommended Method 8270D
Pyridines Mixture ^{IX}**

4 Analytes

methapyrilene
 4-nitroquinoline-1-oxide
 2-picoline
 pyridine

@ 2000 µg/mL in acetone

US-120AN-1 1 x 1 mL^{IX} Contains Appendix IX Compounds

APPENDIX IX CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Semi-Volatile Mixture #1

15 Analytes

aniline
benzyl alcohol
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether
2-chlorophenol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
hexachloroethane
2-methylphenol (o-cresol)
4-methylphenol (p-cresol)
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
phenol
2-picoline

@ 2000 µg/mL in methylene chloride

SVM-120A-1 1 x 1 mL**Semi-Volatile Mixture #3**

18 Analytes

acetophenone
benzoic acid
bis(2-chloroethoxy)methane
4-chloroaniline
4-chloro-3-methylphenol
2,4-dichlorophenol
2,6-dichlorophenol
alpha,alpha-dimethylphenethylamine
2,4-dimethylphenol
hexachlorobutadiene
isophorone
2-methylnaphthalene
naphthalene
nitrobenzene
2-nitrophenol
N-nitrosodi-n-butylamine
N-nitrosopiperidine
1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride

SVM-122-1 1 x 1 mL**Semi-Volatile Mixture #5**

24 Analytes

acenaphthene
acenaphthylene
1-chloronaphthalene
2-chloronaphthalene
4-chlorophenyl phenyl ether
dibenzofuran
diethyl phthalate
dimethyl phthalate
2,4-dinitrophenol
2,4-dinitrotoluene
2,6-dinitrotoluene
fluorene
hexachlorocyclopentadiene
1-naphthylamine
2-naphthylamine
2-nitroaniline
3-nitroaniline
4-nitroaniline
4-nitrophenol
pentachlorobenzene
1,2,4,5-tetrachlorobenzene
2,3,4,6-tetrachlorophenol
2,4,6-trichlorophenol
2,4,5-trichlorophenol

@ 2000 µg/mL in methylene chloride

SVM-124-1 1 x 1 mL**Semi-Volatile Mixture #2**

8 Analytes

benzidine
benz[a]anthracene
bis(2-ethylhexyl) phthalate
butyl benzyl phthalate
chrysene
3,3-dichlorobenzidine
p-dimethylaminoazobenzene
pyrene

@ 2000 µg/mL in methylene chloride

SVM-121-1 1 x 1 mL**Semi-Volatile Mixture #4**

10 Analytes

benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
dibenz[a,j]acridine
dibenz[a,h]anthracene
7,12-dimethylbenz[a]anthracene
di-n-octylphthalate
indeno[1,2,3-cd]pyrene
3-methylcholanthrene

@ 2000 µg/mL in methylene chloride

SVM-123-1 1 x 1 mL**Semi-Volatile Mixture #6**

9 Analytes

4-aminobiphenyl
anthracene
4-bromophenyl phenyl ether
di-n-butyl phthalate
4,6-dinitro-2-methylphenol
fluoranthene
hexachlorobenzene
pentachlorophenol
phenanthrene

@ 2000 µg/mL in methylene chloride

SVM-125-1 1 x 1 mL

APPENDIX IX CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Semi-Volatile Mixture #7

15 Analytes

aramite
chlorobenzilate
diallate
2,4-D
dimethoate
dinoseb
disulfoton
famphur
kepone
methyl parathion
parathion
phorate
silvex (2,4,5-TP)
sulfotepp
thionazin

@ 2000 µg/mL in methylene chloride

SVM-126-1 1 x 1 mL**Semi-Volatile Mixture #10**

10 Analytes

2-acetylaminofluorene
m-dinitrobenzene
hexachlorophene
hexachloropropene
isodrin
isosafrole
O,O,O-triethyl phosphorothioate
methapyrilene
1,4-naphthoquinone
safrole

@ 2000 µg/mL in methylene chloride

SVM-129-1 1 x 1 mL**Semi-Volatile Mixture #12**

19 Analytes

acetophenone
4-aminobiphenyl
1-chloronaphthalene
dibenz[a,j]acridine
p-dimethylaminoazobenzene
7,12-dimethylbenz[a]anthracene
alpha,alpha-dimethylphenethylamine
diphenylamine
3-methylcholanthrene
1-naphthylamine
2-naphthylamine
N-nitrosodi-n-butylamine
N-nitrosopiperidine
pentachlorobenzene
pentachloronitrobenzene
phenacetin
2-picoline
pronamide
1,2,4,5-tetrachlorobenzene

@ 2000 µg/mL in methylene chloride

SVM-140-1 1 x 1 mL**Semi-Volatile Mixture #8**

9 Analytes

3,3-dimethylbenzidine
4-nitroquinoline-1-oxide
N-nitrosodiethylamine
N-nitrosomethylethylamine
N-nitrosomorpholine
N-nitrosopyrrolidine
5-nitro-o-toluidine
p-phenylenediamine
o-toluidine

@ 2000 µg/mL in methylene chloride

SVM-127-1 1 x 1 mL**Semi-Volatile Mixture #11**

3 Analytes

ethyl methanesulfonate
methyl methanesulfonate
1,3,5-trinitrobenzene

@ 2000 µg/mL in methylene chloride

SVM-131-1 1 x 1 mL**Method 8270D Calibration Standards Kit****Kit – contains eleven ampules:**

1 x 1 mL of each of the following standards

Semi-Volatile Mix #1	(SVM-120A-1)
Semi-Volatile Mix #2	(SVM-121-1)
Semi-Volatile Mix #3	(SVM-122-1)
Semi-Volatile Mix #4	(SVM-123-1)
Semi-Volatile Mix #5	(SVM-124-1)
Semi-Volatile Mix #6	(SVM-125-1)
Semi-Volatile Mix #7	(SVM-126-1)
Semi-Volatile Mix #8	(SVM-127-1)
Semi-Volatile Mix #9	(SVM-128-1)
Semi-Volatile Mix #10	(SVM-129-1)
Semi-Volatile Mix #11	(SVM-131-1)

SVK-8271**Kit****Semi-Volatile Mixture #9**

6 Analytes

diphenylamine
1,2-diphenylhydrazine
N-nitrosodiphenylamine
pentachloronitrobenzene
phenacetin
pronamide

@ 2000 µg/mL in methylene chloride

SVM-128-1 1 x 1 mL

SEMI-VOLATILE INTERNAL, SURROGATES, AND ANCILLARY MIXTURES FOR METHOD 8270D

Internal Standard Mixtures

6 Analytes

acenaphthene-d10
 chrysene-d12
 1,4-dichlorobenzene-d4
 naphthalene-d8
 perylene-d12
 phenanthrene-d10

@ 2000 µg/mL in methylene chloride

ISM-560-1 1 x 1 mL

@ 4000 µg/mL in methylene chloride

US-108N-1 1 x 1 mL**Base/Neutrals Surrogate Mixture**

3 Analytes

2-fluorobiphenyl
 nitrobenzene-d5
 p-terphenyl-d14

@ 1000 µg/mL in methylene chloride

ISM-280N-1 1 x 1 mL

@ 5000 µg/mL in methylene chloride

US-216-1 1 x 1 mL

@ 5000 µg/mL in methylene chloride

US-216-5ML 1 x 5 mL

@ 5000 µg/mL in methylene chloride

US-216-10ML 1 x 10 mL**Acids Surrogate Standard Mixture**

3 Analytes

2-fluorophenol
 phenol-d5
 2,4,6-tribromophenol

@ 2000 µg/mL in methanol

ISM-290N-1 1 x 1 mL

@ 10,000 µg/mL in methanol

US-215-1 1 x 1 mL

@ 10000 µg/mL in methanol

US-215-5ML 1 x 5 mL

@ 10000 µg/mL in methanol

US-215-10ML 1 x 10 mL**Internal Standard Mixture**

2 Analytes

1-fluoronaphthalene
 p-terphenyl-d14

@ 2000 µg/mL in methylene chloride

ISM-430-1 1 x 1 mL**Base/Neutrals Surrogate Mixture - High**

4 Analytes

2-fluorobiphenyl
 nitrobenzene-d5
 pyrene-d10
 p-terphenyl-d14

@ 5000 µg/mL in methylene chloride

US-218-1 1 x 1 mL

@ 5000 µg/mL in methylene chloride

US-218-5ML 1 x 5 mL

@ 1000 µg/mL in methylene chloride

US-219-1 1 x 1 mL**Base/Neutrals Matrix Spiking Solution**

6 Analytes

acenaphthene
 1,4-dichlorobenzene
 2,4-dinitrotoluene
 N-nitrosodi-n-propylamine
 pyrene
 1,2,4-trichlorobenzene

@ 1000 µg/mL in acetone

CLP-301-1 1 x 1 mL

@ 1000 µg/mL in methylene chloride

CLP-300N-1 1 x 1 mL

@ 500 µg/mL in methanol

CLP-302-1 1 x 1 mL

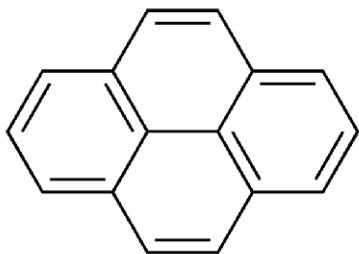
@ 1000 µg/mL in methanol

CLP-303-1 1 x 1 mL

@ 5000 µg/mL in methanol

US-220-1 1 x 1 mL

@ 5000 µg/mL in methanol

US-220-5ML 1 x 5 mL

SEMI-VOLATILE INTERNAL, SURROGATES, AND ANCILLARY MIXTURES FOR METHOD 8270D

(continued)

**Base/Neutrals Calibration
Check Mixtures**

7 Analytes

acenaphthene
benzo[a]pyrene
1,4-dichlorobenzene
di-n-octyl phthalate
fluoranthene
hexachlorobutadiene
N-nitrosodiphenylamine

@ 1000 µg/mL in methylene chloride

CLP-310-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

CLP-311-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

CLP-312-1 1 x 1 mL**System Performance Check Mixture**

4 Analytes

2,4-dinitrophenol
hexachlorocyclopentadiene
4-nitrophenol
N-nitrosodi-n-propylamine

@ 1000 µg/mL in methylene chloride

CLP-320-1 1 x 1 mL

@ 200 µg/mL in methylene chloride

CLP-322-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

CLP-323-1 1 x 1 mL**Acids Matrix Spiking Solution**

5 Analytes

4-chloro-3-methylphenol
2-chlorophenol
4-nitrophenol
pentachlorophenol
phenol

@ 1500 µg/mL in methanol

CLP-401-1 1 x 1 mL

@ 2000 µg/mL in methanol

CLP-400N-1 1 x 1 mL

@ 1000 µg/mL in methanol

CLP-402-1 1 x 1 mL

@ 10,000 µg/mL in methanol

US-221-1 1 x 1 mL

@ 5000 µg/mL in methanol

US-221-5ML 1 x 5 mL**Acids Calibration Check Mixtures**

6 Analytes

4-chloro-3-methylphenol
2,4-dichlorophenol
2-nitrophenol
phenol
pentachlorophenol
2,4,6-trichlorophenol

@ 2000 µg/mL in methanol

CLP-410-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

CLP-411-1 1 x 1 mL**Semi-Volatiles Internal
Standard Mixture**

7 Analytes

acenaphthene-d10
chrysene-d12
1,4-dichlorobenzene-d4
1,4-dioxane-d8
naphthalene-d8
perylene-d12
phenanthrene-d10

@ 2000 µg/mL in methylene chloride

ISM-563-1 1 x 1 mL

@ 4000 µg/mL in methylene chloride

ISM-564-1 1 x 1 mL**ORDERING IS EASY****Online**

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Recommended Method 8270D Semi-Volatiles Surrogate Standard Spiking Solution

6 Analytes

2-fluorobiphenyl	100 µg/mL
2-fluorophenol	200 µg/mL
nitrobenzene-d5	100 µg/mL
phenol-d5	200 µg/mL
p-terphenyl-d14	100 µg/mL
2,4,6-tribromophenol	200 µg/mL

in methanol

ISM-333X	100 mL
ISM-333X-25	25 mL

Recommended Method 8270D Semi-Volatiles Matrix Spiking Solution

11 Analytes

acenaphthene	100 µg/mL
4-chloro-3-methylphenol	200 µg/mL
2-chlorophenol	200 µg/mL
1,4-dichlorobenzene	100 µg/mL
2,4-dinitrotoluene	100 µg/mL
N-nitrosodi-n-propylamine	100 µg/mL
pyrene	100 µg/mL
1,2,4-trichlorobenzene	100 µg/mL
4-nitrophenol	200 µg/mL
pentachlorophenol	200 µg/mL
phenol	200 µg/mL

in methanol

CLP-351X	1 x 25 mL
-----------------	------------------

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Semi-Volatiles Surrogate Standard Mixture with Indicator

6 Analytes

2-fluorobiphenyl	100 µg/mL
2-fluorophenol	200 µg/mL
nitrobenzene-d5	100 µg/mL
phenol-d5	200 µg/mL
p-terphenyl-d14	100 µg/mL
2,4,6-tribromophenol	200 µg/mL

pH indicator red - yellow pH 3.2 - 4.4

in methanol

ISM-333XC	100 mL
ISM-333XC-25	25 mL

Semi-Volatiles Surrogate Standard Mixture

6 Analytes

2-fluorobiphenyl
2-fluorophenol
nitrobenzene-d5
phenol-d5
p-terphenyl-d14
2,4,6-tribromophenol

@ 4000 µg/mL in methylene chloride

ISM-331-1	1 x 1 mL
------------------	-----------------

Semi-Volatiles Surrogate Standard Mixture

6 Analytes

2-fluorobiphenyl	1000 µg/mL
2-fluorophenol	2000 µg/mL
nitrobenzene-d5	1000 µg/mL
phenol-d5	2000 µg/mL
p-terphenyl-d14	1000 µg/mL
2,4,6-tribromophenol	2000 µg/mL

in acetone

ISM-332-1	1 x 1 mL
------------------	-----------------

PESTICIDE SURROGATE AND MATRIX SPIKE STANDARDS FOR EPA METHOD 8270D

Pesticides Surrogate Standard Mix

2 Analytes

dibutyl chlorendate
2,4,5,6-tetrachloro-m-xylene

@ 2000 µg/mL in hexane/toluene (1:1)

ISM-300-1 1 x 1 mL**Recommended Method 8080A
Pesticides Surrogate Standard
Spiking Solution**

2 Analytes

decachlorobiphenyl
2,4,5,6-tetrachloro-m-xylene

@ 200 µg/mL in acetone

ISM-320-1 1 x 1 mL**Pesticides Surrogate Standards**

dibutyl chlorendate

@ 2000 µg/mL in methanol

STS-280N-1 1 x 1 mL

2,4,5,6-tetrachloro-m-xylene

@ 2000 µg/mL in acetone

IST-440-1 1 x 1 mL

decafluorotriphenylphosphine (DFTPP)

@ 2500 µg/mL in methanol

IST-344-1 1 x 1 mL

@ 25 µg/mL in methylene chloride

IST-342-1 1 x 1 mL

@ 250 µg/mL in methylene chloride

IST-340-1 1 x 1 mL

@ 2500 µg/mL in methylene chloride

IST-343-1 1 x 1 mL**Pesticide Degradation Solution**

2 Analytes

4,4'-DDT 2 µg/mL
endrin 1 µg/mL

in isooctane

ISM-450-1 1 x 1 mL**Pesticides Matrix Spiking Solution**

6 Analytes

aldrin 2000 µg/mL
γ-BHC (lindane) 2000 µg/mL
4,4'-DDT 5000 µg/mL
dieldrin 5000 µg/mL
endrin 5000 µg/mL
heptachlor 2000 µg/mL

in methanol

CLP-200N-1 1 x 1 mL**Pesticides Matrix Spiking Solution**

6 Analytes

aldrin 100 µg/mL
4,4-DDT 250 µg/mL
dieldrin 250 µg/mL
endrin 250 µg/mL
heptachlor 100 µg/mL
lindane 100 µg/mL

in acetone

CLP-202-1 1 x 1 mL

SHOOTERS™ – OPEN AND SHOOT SPIKING STANDARDS

No Dilution Required

Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

**Pesticides Surrogate Standards
Spiking Solution**

2 Analytes

decachlorobiphenyl
2,4,5,6-tetrachloro-m-xylene

@ 0.2 µg/mL in acetone

ISM-321X 1 x 100 mL

GC/MS CALIBRATION AND TUNING STANDARDS FOR EPA METHOD 8270D

**Extractables GC/MS
Calibration Standard**

decafluorotriphenylphosphine (DFTPP)	
@ 25 µg/mL in methylene chloride	
IST-342-1	1 x 1 mL
@ 100 µg/mL in methylene chloride	
IST-341-1	1 x 1 mL
@ 250 µg/mL in methylene chloride	
IST-340-1	1 x 1 mL
@ 1000 µg/mL in acetone	
47995N-1	1 x 1 mL
@ 2500 µg/mL in methylene chloride	
IST-343-1	1 x 1 mL
@ 2500 µg/mL in methanol	
IST-344-1	1 x 1 mL

**Semi-Volatiles GC/MS
Tuning Standard**

4 Analytes	
benzidine	
4,4-DDT	
decafluorotriphenylphosphine (DFTPP)	
pentachlorophenol	
@ 1000 µg/mL in methylene chloride	
GCM-150-1	1 x 1 mL
@ 500 µg/mL in methylene chloride	
GCM-153-1	1 x 1 mL
@ 2500 µg/mL in methylene chloride	
GCM-154-1	1 x 1 mL

Benzidine Solution

benzidine	
@ 500 µg/mL in methylene chloride	
GCS-112-1	1 x 1 mL

Pentachlorophenol Solution

pentachlorophenol	
@ 250 µg/mL in methylene chloride	
GCS-122-1	1 x 1 mL

**Semi-Volatiles GC/MS Calibration &
Tuning Standard**

2 Analytes	
benzidine 500 µg/mL	
decafluorotriphenylphosphine 250 µg/mL	
in methylene chloride	
GCM-151-1	1 x 1 mL

**GC/MS Calibration & Tuning
Standard**

2 Analytes	
decafluorotriphenylphosphine	
pentachlorophenol	
@ 250 µg/mL in methylene chloride	
GCM-152-1	1 x 1 mL

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ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

Base/Neutral & Acid Calibration Mega Mixture

75 Analytes

acenaphthene	1,2-dichlorobenzene	1-methylnaphthalene
acenaphthylene	1,3-dichlorobenzene	2-methylnaphthalene
aniline	1,4-dichlorobenzene	2-methylphenol
anthracene	2,4-dichlorophenol	3-methylphenol
azobenzene	diethyl phthalate	4-methylphenol
benz[a]anthracene	dimethyl phthalate	naphthalene
benzo[a]pyrene	2,4-dimethylphenol	2-nitroaniline
benzo[b]fluoranthene	1,2-dinitrobenzene	3-nitroaniline
bis(2-ethylhexyl) phthalate	1,3-dinitrobenzene	4-nitroaniline
benzo[ghi]perylene	1,4-dinitrobenzene	nitrobenzene
benzo[k]fluoranthene	2,4-dinitrophenol	2-nitrophenol
benzyl alcohol	2,4-dinitrotoluene	4-nitrophenol
4-bromophenyl phenyl ether	2,6-dinitrotoluene	N-nitrosodimethylamine
butyl benzyl phthalate	4,6-dinitro-2-methylphenol	N-nitrosodi-n-propylamine
carbazole	diphenylamine	pentachlorophenol
4-chloroaniline	di-n-butyl phthalate	phenanthrene
bis(2-chloroethoxy)methane	di-n-octyl phthalate	phenol
bis(2-chloroethyl) ether	bis(2-ethylhexyl) adipate	pyrene
bis(2-chloroisopropyl) ether	fluoranthene	pyridine
2-chloronaphthalene	fluorene	2,3,4,6-tetrachlorophenol
2-chlorophenol	hexachlorobenzene	2,3,5,6-tetrachlorophenol
4-chlorophenyl phenyl ether	hexachlorobutadiene	1,2,4-trichlorobenzene
4-chloro-3-methylphenol	hexachloroethane	2,4,5-trichlorophenol
chrysene dibenzofuran	indeno[1,2,3-cd]pyrene	hexachlorocyclopentadiene
dibenz[a,h]anthracene	isophorone	2,4,6-trichlorophenol

@ 1000 µg/mL in methylene chloride

US-201-1

1 x 1 mL

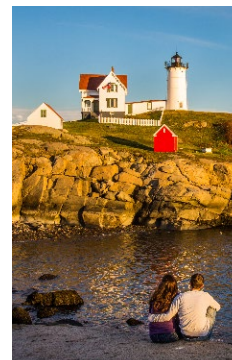
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ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Base/Neutral & Acid Combination Calibration Mixture

49 Analytes

acenaphthene	dimethyl phthalate
acenaphthylene	2,4-dinitrotoluene
anthracene	2,6-dinitrotoluene
benz[a]anthracene	di-n-butyl phthalate
benzo[a]pyrene	di-n-octyl phthalate
benzo[b]fluoranthene	fluoranthene
benzo[ghi]perylene	fluorene
benzo[k]fluoranthene	hexachlorobenzene
benzyl alcohol	hexachlorobutadiene
bis(2-chloroethoxy) methane	hexachlorocyclopentadiene
bis(2-chloroethyl) ether	hexachloroethane
bis(2-chloroisopropyl) ether	indeno[1,2,3-cd]pyrene
bis(2-ethylhexyl) phthalate	isophorone
4-bromophenyl phenyl ether	2-methylnaphthalene
butyl benzyl phthalate	2-nitroaniline
4-chloroaniline	3-nitroaniline
2-chloronaphthalene	4-nitroaniline
4-chlorophenyl phenyl ether	naphthalene
chrysene	nitrobenzene
dibenz[a,h]anthracene	N-nitrosodiphenylamine
dibenzofuran	N-nitrosodi-n-propylamine
1,2-dichlorobenzene	phenanthrene
1,3-dichlorobenzene	pyrene
1,4-dichlorobenzene	1,2,4-trichlorobenzene
diethyl phthalate	

@ 2000 µg/mL in methylene chloride/benzene (1:1)

US-202-1 1 x 1 mL

Calibration Mixture

23 Analytes

aramite (total)
bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether
4-bromophenyl phenyl ether
chlorobenzilate
2-chloronaphthalene
4-chlorophenyl phenyl ether
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,3-dinitrobenzene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
hexachloropropene
isodrin
kepone
pentachlorobenzene
pentachloronitrobenzene
1,2,4,5-tetrachlorobenzene
1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride

US-203-1**1 x 1 mL**

ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Calibration Mixture

22 Analytes

acetophenone
 azobenzene
 benzyl alcohol
 bis(2-ethylhexyl) phthalate
 butyl benzyl phthalate
 dibenzofuran
 diethyl phthalate
 dimethyl phthalate
 2,4-dinitrotoluene
 2,6-dinitrotoluene
 di-n-butyl phthalate
 di-n-octyl phthalate
 ethyl methanesulfonate
 isophorone
 isosafrole
 methyl methanesulfonate
 1,4-naphthoquinone
 nitrobenzene
 4-nitroquinoline-1-oxide
 phenacetin
 safrole
 1,3,5-trinitrobenzene

@ 2000 µg/mL in methylene chloride

US-204-1 1 x 1 mL**Pesticides Mixture**

10 Analytes

diallate (total)
 dimethoate
 disulfoton
 famphur
 methyl parathion
 O,O,O-triethyl phosphorothioate
 parathion (ethyl)
 phorate
 propyzamide
 thionazin

@ 2000 µg/mL in methylene chloride

US-208-1 1 x 1 mL**Calibration Mixture**

7 Analytes

acetophenone
 4-aminobiphenyl
 1-chloronaphthalene (tech)
 7,12-dimethylbenz[a]anthracene
 pentachlorobenzene
 pentachloronitrobenzene
 1,2,4,5-tetrachlorobenzene

@ 2000 µg/mL in methylene chloride

US-205-1 1 x 1 mL**Calibration Mixture**

9 Analytes

aniline
 benzyl alcohol
 4-chloroaniline
 dibenzofuran
 2-methylnaphthalene
 2-nitroaniline
 3-nitroaniline
 4-nitroaniline
 pyridine

@ 2000 µg/mL in methylene chloride

US-207-1 1 x 1 mL**Phenols Mixture**

13 Analytes

2-chlorophenol
 4-chloro-3-methylphenol
 2,4-dichlorophenol
 2,6-dichlorophenol
 2,4-dimethylphenol
 4,6-dinitro-2-methylphenol
 2,4-dinitrophenol
 2-nitrophenol
 4-nitrophenol
 pentachlorophenol
 phenol
 2,3,4,6-tetrachlorophenol
 2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-209-1 1 x 1 mL**Base/Neutral Calibration Mixture**

4 Analytes

hexachlorophene
 hexachloropropene
 isodrin
 pyridine

@ 2000 µg/mL in acetone

US-206-1 1 x 1 mL**Phenols Mixture**

19 Analytes

benzoic acid
 2-chlorophenol
 4-chloro-3-methylphenol
 2,4-dichlorophenol
 2,6-dichlorophenol
 2,4-dimethylphenol
 2,4-dinitrophenol
 4,6-dinitro-2-methylphenol
 dinoseb
 2-methylphenol
 3-methylphenol
 4-methylphenol
 2-nitrophenol
 4-nitrophenol
 pentachlorophenol
 phenol
 2,3,4,6-tetrachlorophenol
 2,4,5-trichlorophenol
 2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-210-1 1 x 1 mL

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ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Semi-Volatiles Mixture

6 Analytes

azobenzene
 diphenylamine
 N-nitrosodiphenylamine
 pentachloronitrobenzene
 phenacetin
 pronamide

@ 2000 µg/mL in methylene chloride

US-211-1 1 x 1 mL**Carbamate Mixture**

2 Analytes

carbaryl
 carbofuran

@ 1000 µg/mL in methylene chloride

US-212-1 1 x 1 mL**Chlorinated Hydrocarbons Mixture**

11 Analytes

aniline
 benzidine
 4-chloroaniline
 3,3-dichlorobenzidine
 diphenylamine
 2-nitroaniline
 3-nitroaniline
 4-nitroaniline
 N-nitrosodimethylamine
 N-nitrosodi-n-propylamine
 pyridine

@ 2000 µg/mL in methylene chloride/
methanol (85:15)**US-213-1** 1 x 1 mL**Acids Mixture**

19 Analytes

benzoic acid
 2-chlorophenol
 4-chloro-3-methylphenol
 o-cresol
 2,4-dichlorophenol
 2,6-dichlorophenol
 2,4-dimethylphenol
 2,4-dinitrophenol
 4,6-dinitro-2-methylphenol
 ethyl methanesulfonate
 2-nitrophenol
 4-nitrophenol
 methyl methanesulfonate
 pentachlorophenol
 phenol
 p-cresol
 2,3,4,6-tetrachlorophenol
 2,4,5-trichlorophenol
 2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-214-1 1 x 1 mL**Aroclor Mixture**

4 Analytes

Aroclor 1016
 Aroclor 1232
 Aroclor 1248
 Aroclor 1260

@ 200 µg/mL in methylene chloride

US-226-1 1 x 1 mL

@ 200 µg/mL in hexane

US-228-1 1 x 1 mL**Appendix IX Mixture^{IX}**

17 Analytes

2-acetylaminofluorene
 4-aminobiphenyl
 p-(dimethylamino)azobenzene
 3,3-dimethylbenzidine
 a,a-dimethylphenethylamine
 1-naphthylamine
 2-naphthylamine
 N-nitrosodiethylamine
 N-nitrosomethylethylamine
 N-nitrosomorpholine
 N-nitrosopiperidine
 N-nitrosopyrrolidine
 N-nitrosodi-n-butylamine
 5-nitro-o-toluidine
 2-picoline
 p-phenylenediamine
 o-toluidine

@ 2000 µg/mL in methylene chloride

US-224-1 1 x 1 mL^{IX} Contains Appendix IX Compounds

ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Aroclor Mixture

3 Analytes

Aroclor 1221
Aroclor 1242
Aroclor 1254

@ 200 µg/mL in hexane

US-227-1**1 x 1 mL****Benzidines Mixture**

3 Analytes

benzidine
3,3-dichlorobenzidine
3,3-dimethylbenzidine

@ 2000 µg/mL in methylene chloride

US-225-1**1 x 1 mL****Skinner List Acids Mixture**

7 Analytes

o-cresol
m-cresol
p-cresol
2,4-dimethylphenol
2,4-dinitrophenol
phenol
thiophenol

@ 2000 µg/mL in methanol

SLM-401-1**1 x 1 mL****Semi-Volatiles Mixture**

17 Analytes

aniline
benzyl alcohol
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether
2-chlorophenol
o-cresol
p-cresol
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
ethyl methanesulfonate
hexachloroethane
methyl methanesulfonate
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
2-picoline
phenol

@ 2000 µg/mL in methylene chloride

SVM-160-1**1 x 1 mL****Benzidines Mixture**

2 Analytes

3,3'-dichlorobenzidine
benzidine

@ 2000 µg/mL in methylene chloride

US-290-1**1 x 1 mL****ORDERING IS EASY****Online**

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ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Nitroaromatics and Quinones Mixture

8 Analytes

p-benzoquinone
1,2-dinitrobenzene
1,3-dinitrobenzene
1,4-dinitrobenzene
hydroquinone
1,4-naphthoquinone
4-nitrobiphenyl
5-nitroacenaphthene

@ 2000 µg/mL in acetone

NAIM-100-1 1 x 1 mL**Phenol Mixture**

3 Analytes

diethyl stilbesterol
mestranol
resorcinol

@ 2000 µg/mL in methylene chloride

PHM-100-1 1 x 1 mL**Insecticides Mixture**

12 Analytes

carbophenothion
EPN
ethion
fensulfothion
fenthion
leptophos
malathion
coumaphos
parathion (ethyl)
phosalone
phosmet
terbufos

@ 1000 µg/mL in hexane/acetone (4:1)

PPM-100-1 1 x 1 mL**Pesticides Mixture**

4 Analytes

chlorobenzilate
diallate (total)
dinoseb
kepone

@ 2000 µg/mL in toluene

PPM-105-1 1 x 1 mL**Pesticides Mixture**

10 Analytes

anilazine
azinphos-methyl
barban
demeton (total, mixed isomers)
dichlone
dioxathion
mirex
sulfoxide
vegadex
trifluralin

@ 1000 µg/mL in methylene chloride

PPM-110-1 1 x 1 mL**Pesticides Mixture**

7 Analytes

2-cyclohexyl-4,6-dinitrophenol
bromoxynil
captafol
captan
dinocap
fluchloralin
nitrofen

@ 1000 µg/mL in methylene chloride

PPM-115-1 1 x 1 mL**ORDERING IS EASY****Online**

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ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Pesticides Mixture

12 Analytes

carbophenothion
 coumaphos
 EPN
 ethion
 fensulfothion
 fenthion
 leptophos
 malathion
 phosalone
 phosmet
 terbufos
 tetrachlorvinphos

@ 1000 µg/mL in methylene chloride

PPM-120-1 1 x 1 mL**Organophosphate Insecticides Mixture**

9 Analytes

chlorfenvinphos
 crotoxyphos
 dichlorvos
 dicrotophos
 mevinphos
 monocrotophos
 naled
 phosphamidon
 TEPP

@ 1000 µg/mL in methylene chloride

PPM-125-1 1 x 1 mL**Pesticides Mixture**

10 Analytes

chlorfenvinphos
 crotoxyphos
 dichlorvos
 dicrotophos
 mevinphos
 monocrotophos
 naled
 phosphamidon
 simazine
 TEPP

@ 1000 µg/mL in ethyl acetate

PPM-145-1 1 x 1 mL**Pesticides Mixture**

9 Analytes

anilazine
 azinphos-methyl
 barban
 demeton (total, mixed isomers)
 dichlone
 dioxathion
 mirex
 trifluralin
 vegadex

@ 1000 µg/mL in ethyl acetate

PPM-150-1 1 x 1 mL**Pesticides Mixture**

6 Analytes

bromoxynil
 captafol
 captan
 dinocap
 fluchloralin
 nitrofen

@ 1000 µg/mL in methylene chloride

PPM-155-1 1 x 1 mL**Appendix IX Pesticides and Herbicides Mixture**

24 Analytes

azinphos-methyl
 captafol
 captan
 carbaryl
 carbofuran
 coumaphos
 crotoxyphos
 demeton (total, mixed isomers)
 dicrotophos
 dioxathion
 EPN
 ethion
 fensulfothion
 fenthion
 malathion
 mevinphos
 mexacarbate
 monocrotophos
 phosalone
 phosmet
 phosphamidon
 schradan
 terbufos
 vegadex

@ 2000 µg/mL in acetone

PPM-650-1 1 x 1 mL^{ix} Contains Appendix IX Compounds**Volume discounts for individual solutions**

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 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Matrix Spike Mixture

74 Analytes

acenaphthene	chrysene	2,4-dinitrotoluene	3-nitroaniline
acenaphthylene	4-chloroaniline	4,6-dinitro-2-methylphenol	4-nitroaniline
aniline	2-chloronaphthalene	diphenylamine	2-nitrophenol
anthracene	2-chlorophenol	di-n-butyl phthalate	4-nitrophenol
azobenzene	4-chlorophenyl phenyl ether	di-n-octyl phthalate	naphthalene
benz[a]anthracene	4-chloro-3-methylphenol	fluoranthene	nitrobenzene
benzo[a]pyrene	dibenzofuran	fluorene	N-nitrosodimethylamine
benzo[b]fluoranthene	dibenz[a,h]anthracene	hexachlorobenzene	N-nitrosodi-n-propylamine
benzo[ghi]perylene	1,2-dichlorobenzene	hexachlorobutadiene	pentachlorophenol
benzo[k]fluoranthene	1,3-dichlorobenzene	hexachlorocyclopentadiene	phenol
benzyl alcohol	1,4-dichlorobenzene	hexachloroethane	pyrene
bis(2-chloroethoxy)methane	2,4-dichlorophenol	indeno[1,2,3-cd]pyrene	pyridine
bis(2-chloroethyl) ether	diethyl phthalate	isophorone	1,2,4-trichlorobenzene
bis(2-chloroisopropyl) ether	2,4-dimethylphenol	1-methylnaphthalene	2,3,4,6-tetrachlorophenol
bis(2-ethylhexyl) adipate	dimethyl phthalate	2-methylnaphthalene	2,3,5,6-tetrachlorophenol
bis(2-ethylhexyl) phthalate	1,2-dinitrobenzene	2-methylphenol	2,4,5-trichlorophenol
4-bromophenyl phenyl ether	1,3-dinitrobenzene	3-methylphenol	2,4,6-trichlorophenol
butyl benzyl phthalate	1,4-dinitrobenzene	4-methylphenol	
carbazole	2,4-dinitrophenol	2-nitroaniline	

@ 1000 µg/mL in methanol/methylene chloride (4:1)

SMA-335-1 1 x 1 mL

@ 1000 µg/mL in methanol/methylene chloride (4:1)

SMA-335-10ML 1 x 10 mL

Base/Neutral & Acid Calibration Mega Mixture

48 Analytes

acenaphthene	bis(2-ethylhexyl) phthalate	diethyl phthalate	indeno[1,2,3-cd]pyrene
acenaphthylene	4-bromophenyl phenyl ether	dimethyl phthalate	isophorone
anthracene	butyl benzyl phthalate	2,4-dinitrotoluene	2-methylnaphthalene
benz[a]anthracene	4-chloroaniline	2,6-dinitrotoluene	naphthalene
benzo[a]pyrene	2-chloronaphthalene	di-n-butyl phthalate	2-nitroaniline
benzo[b]fluoranthene	4-chlorophenyl phenyl ether	di-n-octyl phthalate	3-nitroaniline
benzo[ghi]perylene	chrysene	fluoranthene	4-nitroaniline
benzo[k]fluoranthene	dibenz[a,h]anthracene	fluorene	nitrobenzene
benzyl alcohol	dibenzofuran	hexachlorobenzene	N-nitrosodi-n-propylamine
bis(2-chloroethoxy)methane	1,2-dichlorobenzene	hexachlorobutadiene	phenanthrene
bis(2-chloroethyl) ether	1,3-dichlorobenzene	hexachlorocyclopentadiene	pyrene
bis(2-chloroisopropyl) ether	1,4-dichlorobenzene	hexachloroethane	1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride/benzene (1:1)

US-201A-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride/benzene (1:1)

US-201A-5ML 1 x 5 mL

ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Calibration Mixture

5 Analytes

hydroquinone
maleic anhydride
phthalic anhydride
p-benzoquinone
trimethyl phosphate

@ 2000 µg/mL in tetrahydrofuran (THF)

US-233-1 1 x 1 mL**Calibration Mixture**

6 Analytes

m-cresol
o-cresol
resorcinol
thiophenol
tris(2,3-dibromopropyl)phosphate
tri-p-cresyl phosphate

@ 2000 µg/mL in methylene chloride

US-231-1 1 x 1 mL**Calibration Mixture**

7 Analytes

benzoic acid
1-chloronaphthalene (tech)
dibenz[a,j]acridine
resorcinol
thiophenol
tris(2,3-dibromopropyl)phosphate
tri-p-cresyl phosphate

@ 2000 µg/mL in methylene chloride

US-232-1 1 x 1 mL**Calibration Mixture**

3 Analytes

isosafrrole
phthalic anhydride
safrrole

@ 2000 µg/mL in acetone

US-230-1 1 x 1 mL**Appendix IX Mixture ^{ix}**

2 Analytes

pyridine
1,3,5-trinitrobenzene

@ 2000 µg/mL in methanol

US-240-1 1 x 1 mL^{ix} Contains Appendix IX Compounds**Appendix IX Mixture ^{ix}**

32 Analytes

2-acetylaminofluorene
4-aminobiphenyl
aniline
1-chloronaphthalene (tech)
dibenz[a,j]acridine
3,3-dimethylbenzidine
7,12-dimethylbenz[a]anthracene
1,4-dinitrobenzene
diphenylamine
ethyl methanesulfonate
3-methylcholanthrene
methyl methanesulfonate
m-dinitrobenzene
1-naphthylamine
2-naphthylamine
N-nitrosodiethylamine
N-nitrosodimethylamine
N-nitrosodi-n-butylamine
N-nitrosomethylethylamine
N-nitrosomorpholine
N-nitrosopiperidine
N-nitrosopyrrolidine
4-nitroquinoline-1-oxide
5-nitro-o-toluidine
o-toluidine
pentachloronitrobenzene
phenacetin
2-picoline
pronamide
pyridine thionazin
p-(dimethylamino)azobenzene
p-phenylenediamine

@ 2000 µg/mL in methylene chloride/
acetone/benzene (1:1:1)**US-241-1** 1 x 1 mL^{ix} Contains Appendix IX Compounds**Appendix IX Mixture ^{ix}**

4 Analytes

2,3,4,6-tetrachlorophenol
2,6-dichlorophenol
3-methylphenol
dinoseb

@ 2000 µg/mL in methylene chloride/
acetone/benzene (1:1:1)**US-243-1** 1 x 1 mL^{ix} Contains Appendix IX Compounds

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ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Appendix IX Mixture ^{ix}

22 Analytes

acetophenone
 azobenzene
 chlorobenzilate
 diallate (total)
 dimethoate
 disulfoton
 famphur
 hexachlorophene
 hexachloropropene
 isodrin
 isosafrole
 methapyrilene HCl
 methyl parathion
 1,4-naphthoquinone
 O,O,O-triethyl phosphorothioate
 parathion (ethyl)
 pentachlorobenzene
 pentachloroethane
 phorate
 safrole
 sulfotepp
 1,2,4,5-tetrachlorobenzene

@ 2000 µg/mL in methylene chloride/
 acetone/benzene (1:1:1)

US-242-1 **1 x 1 mL**

^{ix} Contains Appendix IX Compounds

Appendix IX Mixture ^{ix}

32 Analytes

acetophenone
 aramite (total)
 atrazine
 benzaldehyde
 biphenyl
 chlorobenzilate
 1-chloronaphthalene (tech)
 diallate (total)
 dibenz[a,j]acridine
 2,6-dichlorophenol
 7,12-dimethylbenz[a]anthracene
 diphenyl ether
 1,4-dioxane
 ethyl methacrylate
 ethyl methanesulfonate
 e-caprolactam
 hexachloropropene
 isodrin
 isosafrole
 kepone
 3-methylcholanthrene
 methyl methanesulfonate
 1,4-naphthoquinone
 4-nitroquinoline-1-oxide
 pentachlorobenzene
 pentachloroethane
 pentachloronitrobenzene
 phenacetin
 propyzamide
 safrole
 1,2,4,5-tetrachlorobenzene
 1,3,5-trinitrobenzene

@ 1000 µg/mL in methylene chloride

US-244-1 **1 x 1 mL**

^{ix} Contains Appendix IX Compounds

Semi-Volatiles Mixture

11 Analytes

a,a-dimethylphenethylamine
 p-(dimethylamino)azobenzene
 diphenylamine
 1-naphthylamine
 2-naphthylamine
 N-nitrosodi-n-butylamine
 N-nitrosopiperidine
 phenacetin
 p-phenylenediamine
 2-picoline
 pronamide

@ 2000 µg/mL in methylene chloride

US-245-1 **1 x 1 mL**

Calibration Mixture

12 Analytes

p-cresidine
 4,4-methylenebis(n,n-dimethylaniline)
 4,4-methylene bis(2-chloroaniline)
 4-aminoazobenzene
 o-anisidine
 5-chloro-2-methylaniline
 2,4-diaminotoluene
 3-amino-9-ethylcarbazole
 4,4-oxydianiline
 2-picoline
 pyridine
 2,4,5-trimethylaniline

@ 2000 µg/mL in methylene chloride

US-255-1 **1 x 1 mL**

Calibration Mixture

3 Analytes

2-aminoanthraquinone
 4-chloro-1,2-phenylenediamine
 4-chloro-1,3-phenylenediamine

@ 2000 µg/mL in tetrahydrofuran (THF)

US-260-1 **1 x 1 mL**

Calibration Mixture

5 Analytes

1-acetyl-2-thiourea
 3-picolyl chloride HCl
 diethyl sulfate
 hexamethylphosphoramide
 toluene diisocyanate

@ 2000 µg/mL in methylene chloride/
 methanol (3:1)

US-270-1 **1 x 1 mL**

Calibration Mixture

6 Analytes

carbaryl
 carbofuran
 mexacarbate
 phenobarbital
 schradan
 urethane (ethyl carbamate)

@ 2000 µg/mL in methylene chloride

US-275-1 **1 x 1 mL**

ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Calibration Mixture

13 Analytes

dibenzo[a,e]pyrene
 1,2-dibromo-3-chloropropane
 diethyl stilbesterol
 5-nitroacenaphthene
 1,2-dinitrobenzene
 1,4-dinitrobenzene
 4-nitrobiphenyl
 5,5-diphenylhydrantoin
 5-nitro-o-anisidine
 mestranol
 nicotine
 propylthiouracil
 strychnine

@ 1000 µg/mL in methylene chloride/
 methanol (95:5)

US-265-1 1 x 1 mL

Calibration Mixture

6 Analytes

aniline
 azobenzene
 carbazole
 3-methylphenol
 N-nitrosodimethylamine
 pyridine

@ 2000 µg/mL in methylene chloride

US-280-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

US-280-5ML 1 x 5 mL

Base/Neutrals Mixture #2

13 Analytes

2-chloronaphthalene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 2,4-dinitrotoluene
 2,6-dinitrotoluene
 hexachlorobenzene
 hexachlorobutadiene
 hexachlorocyclopentadiene
 hexachloroethane
 isophorone
 nitrobenzene
 1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride

US-295-1 1 x 1 mL

Semi-Volatiles Mixture

15 Analytes

4-aminoazobenzene
 2-acetylaminofluorene
 5-chloro-2-methylaniline
 2,4-diaminotoluene
 3,3-dimethoxybenzidine
 4-nitroquinoline-1-oxide
 5-nitro-o-toluidine
 N-nitrosodiethylamine
 N-nitrosomethylethylamine
 N-nitrosomorpholine
 N-nitrosopyrrolidine
 4,4-oxydianiline
 o-anisidine
 o-toluidine
 p-cresidine

@ 2000 µg/mL in methylene chloride

US-455-1 1 x 1 mL

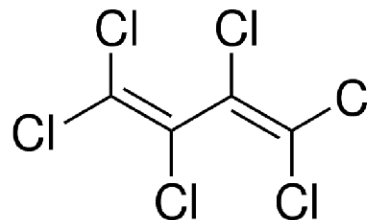
CLP Base/Neutrals Mixture #1

13 Analytes

4-bromophenyl phenyl ether
 bis(2-chloroethoxy)methane
 bis(2-chloroethyl) ether
 bis(2-chloroisopropyl) ether
 bis(2-ethylhexyl) phthalate
 butyl benzyl phthalate
 4-chlorophenyl phenyl ether
 diethyl phthalate
 dimethyl phthalate
 di-n-butyl phthalate
 di-n-octyl phthalate
 N-nitrosodi-n-propylamine
 N-nitrosodiphenylamine

@ 2000 µg/mL in methylene chloride

US-130-1 1 x 1 mL



ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Additional Method 8270D Individuals Standards

All in 1 x 1 mL Ampules

Compound	Concentration	Solvent	Catalog Number
3,3'-dimethylbenzidine	@ 1000 µg/mL	methanol	B-121-1
4-chloro-1,2-phenylenediamine	@ 1000 µg/mL	methanol	CH-240-1
4-chloro-1,3-phenylenediamine	@ 1000 µg/mL	methanol	CH-245-1
4,4'-methylene bis(2-chloroaniline)	@ 1000 µg/mL	methylene chloride	CH-250-1
3-picoyl chloride HCl	@ 1000 µg/mL	methanol	CH-255-1
propylthiouracil	@ 1000 µg/mL	methanol	DRG-1140M1000
5,5-diphenylhydrantoin	@ 1000 µg/mL	methanol	DRG-1170M1000
1,2-dibromo-3-chloropropane	@ 1000 µg/mL	methanol	HC-341-1
2-aminoanthraquinone	@ 1000 µg/mL	methylene chloride	NAI-155-1
1,3,5-trinitrobenzene	@ 1000 µg/m	methanol	NAI-171-1
1,3,5-trinitrobenzene	@ 2000 µg/mL	methanol	NAI-172-1
2,4,5-trimethylaniline	@ 1000 µg/mL	methylene chloride	NAI-175-1
toluene diisocyanate	@ 1000 µg/mL	toluene	NAI-200-1
5-nitro-o-anisidine	@ 1000 µg/mL	methanol	NH-230-1
methapyrilene HCL	@ 2000 µg/mL	methylene chloride	NH-262-1
methapyrilene HCl	@ 1000 µg/mL	methanol	NH-265-1
3-amino-9-ethylcarbazole	@ 1000 µg/mL	methanol	NH-315-1
urethane (ethyl carbamate)	@ 1000 µg/mL	methanol	NH-320-1
4,4-methylenebis(N,N-dimethylaniline)	@ 1000 µg/mL	methanol	NH-325-1
1,4-dioxane	@ 2000 µg/mL	methanol	NV-152-1
1,4-dioxane	@ 1.9 mg/mL	dimethyl sulfoxide (DMSO)	NV-153-1
1,4-dioxane	@ 2000 µg/mL	methylene chloride	NV-155-1
diethyl sulfate	@ 1000 µg/mL	methanol	NV-255-1
trimethyl phosphate	@ 1000 µg/mL	methanol	NV-260-1
tris(2,3-dibromopropyl)phosphate	@ 1000 µg/mL	methylene chloride	NV-265-1
3-methylcholanthrene	@ 1000 µg/mL	methylene chloride	P-781-1
3-methylcholanthrene	@ 2000 µg/mL	methylene chloride	P-782-1
dibenzo[a,e]pyrene	@ 1000 µg/mL	methylene chloride	P-802-1
dibenz[a,j]acridine	@ 1000 µg/mL	methylene chloride	P-810-1
3-methylphenol (m-cresol)	@ 1000 µg/mL	methanol	PH-221-1
thiophenol	@ 1000 µg/mL	methylene chloride	PH-280-1
strychnine	@ 1000 µg/mL	acetonitrile	PST-4250A1000

ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D

(continued)

Additional Method 8270D Individuals Standards

All in 1 x 1 mL Ampules

Compound	Concentration	Solvent	Catalog Number
hexamethylphosphoramide	@ 1000 µg/mL	methanol	PST-4745M1000
aramite (total)	@ 2000 µg/mL	hexane	PST-4000H2000
1-acetyl-2-thiourea	@ 1000 µg/mL	methanol	PPS-645-1
tetrachlorvinphos (stirofos)	@ 1000 µg/mL	methanol	PST-1715M1000
benzoic acid	@ 1000 µg/mL	methanol	SV-131-1
benzoic acid	@ 2000 µg/mL	methylene chloride	SV-132-1
2-cyclohexyl-4,6-dinitrophenol	@ 1000 µg/mL	methanol	PST-2725M1000
nicotine	@ 1000 µg/mL	methanol	PST-4230M1000
maleic anhydride	@ 1000 µg/mL	methanol	SV-210-1

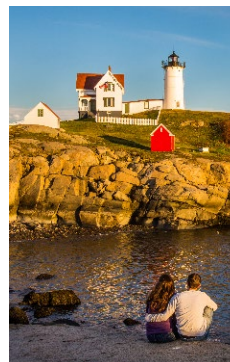
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EPA METHOD 8280B & 8290A

POLYCHLORINATED
DIBENZO-P-DIOXINS
(PCDDs) AND
POLYCHLORINATED
DIBENZOFURANS
(PCDFs)

EPA Methods 8280B and 8290A are high-resolution GC methods. Method 8280B uses low-resolution mass spectrometry for detection (HRGC/LRMS), while 8290A uses high-resolution mass spectrometry (HRGC/HRMS) to quantify the compounds of interest.

To read the complete method, log onto our website at www.ultrasci.com.

Methods 8280B & 8290A
Chlorinated Dibenzo-p-dioxin Mix

5 Analytes

2,3,7,8-tetrachlorodibenzo-p-dioxin
1,2,3,7,8-pentachlorodibenzo-p-dioxin
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin
octachlorodibenzo-p-dioxin

@ 10 µg/mL in toluene

RPE-065M-1

1 x 1 mL

Methods 8280B & 8290A
Chlorinated Dibenzofuran Mixture

5 Analytes

2,3,7,8-tetrachlorodibenzofuran
1,2,3,7,8-pentachlorodibenzofuran
1,2,3,4,7,8-hexachlorodibenzofuran
1,2,3,4,6,7,8-heptachlorodibenzofuran
octachlorodibenzofuran

@ 10 µg/mL in Toluene

RPE-045M-1

1 x 1 mL

Chlorinated Dibenzo-p-dioxin and Dibenzofuran Standards

All @ 50 µg/mL in toluene	Catalog #	Unit Size
2,3,7,8-tetrachlorodibenzo-p-dioxin*	RPE-029S-1	1X1ML
1,2,3,7,8-pentachlorodibenzo-p-dioxin	RPE-056S-1	1X1ML
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	RPE-058S-1	1X1ML
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	RPE-063S-1	1X1ML
octachlorodibenzo-p-dioxin	RPE-017S-1	1X1ML
2,3,7,8-tetrachlorodibenzofuran	RPE-037S-1	1X1ML
1,2,3,7,8-pentachlorodibenzofuran	RPE-042S-1	1X1ML
1,2,3,4,7,8-hexachlorodibenzofuran	RPE-043S-1	1X1ML
1,2,3,4,6,7,8-heptachlorodibenzofuran	RPE-044S-1	1X1ML
octachlorodibenzofuran	RPE-019S-1	1X1ML

* The 2,3,7,8-tetrachlorodibenzo-p-dioxin solution (RPE-029S) is at a concentration of 10 µg/mL in Toluene.

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EPA METHOD 8310

POLYNUCLEAR
AROMATIC
HYDROCARBONS

Method 8310 is used to measure polynuclear aromatic hydrocarbons by HPLC.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: PM-831A-1

Recommended Method 8310

PAH Mixture ^{IX}

16 Analytes	
acenaphthene	1000 µg/mL
acenaphthylene	500 µg/mL
anthracene	20 µg/mL
benz[a]anthracene	50 µg/mL
benzo[b]fluoranthene	20 µg/mL
benzo[k]fluoranthene	20 µg/mL
benzo[ghi]perylene	80 µg/mL
benzo[a]pyrene	50 µg/mL
chrysene	50 µg/mL
dibenz[a,h]anthracene	200 µg/mL
fluoranthene	50 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	50 µg/mL
naphthalene	500 µg/mL
phenanthrene	40 µg/mL
pyrene	100 µg/mL

in acetonitrile/methanol (9:1)

PM-831A-1 **1 x 1 mL**

^{IX} Contains Appendix IX Compounds

PAH QC Reference Mixture ^{IX}

16 Analytes	
acenaphthene	100 µg/mL
acenaphthylene	100 µg/mL
anthracene	100 µg/mL
benz[a]anthracene	10 µg/mL
benzo[b]fluoranthene	10 µg/mL
benzo[k]fluoranthene	5 µg/mL
benzo[ghi]perylene	10 µg/mL
benzo[a]pyrene	10 µg/mL
chrysene	10 µg/mL
dibenz[a,h]anthracene	10 µg/mL
fluoranthene	10 µg/mL
fluorene	100 µg/mL
indeno[1,2,3-cd]pyrene	10 µg/mL
naphthalene	100 µg/mL
phenanthrene	100 µg/mL
pyrene	10 µg/mL

in acetonitrile

PM-613A-1 **1 x 1 mL**

^{IX} Contains Appendix IX Compounds

Method 8310 PAH Mixture ^{IX}

16 Analytes

acenaphthene	chrysene
acenaphthylene	dibenz[a,h]anthracene
anthracene	fluoranthene
benz[a]anthracene	fluorene
benzo[b]fluoranthene	indeno[1,2,3-cd]pyrene
benzo[k]fluoranthene	naphthalene
benzo[ghi]perylene	phenanthrene
benzo[a]pyrene	pyrene

@ 500 µg/mL in acetonitrile/acetone/toluene (6:3:1)

PM-831-1 **1 x 1 mL**

^{IX} Contains Appendix IX Compounds

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individual solutions

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and receive a **20% DISCOUNT**

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item and receive a **30% DISCOUNT**



EPA METHOD 8315A

CARBONYL COMPOUNDS

Method 8315A is used to determine free carbonyl compounds by derivitization followed by HPLC.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: ALD-8315-1

Aldehydes Mixture

2 Analytes

acetaldehyde
formaldehyde

@ 1000 µg/mL in water

ALD-100-1

1 x 1 mL

Recommended Method 8315A
Carbonyl Compounds Mixture

20 Analytes

acetaldehyde
acetone
acrolein
benzaldehyde
butanal (butyraldehyde)
crotonaldehyde
cyclohexanone
decanal
2,5-dimethylbenzaldehyde
formaldehyde
heptanal
hexanal (hexaldehyde)
isovaleraldehyde
nonanal
octanal
pentanal (valeraldehyde)
propanal (propionaldehyde)
o-tolualdehyde
m-tolualdehyde
p-tolualdehyde

@ 100 µg/mL in acetonitrile

ALD-8315-1

1 x 1 mL

Method 8315A Derivatized Carbonyl
Compounds Mixture

20 Analytes

acetaldehyde-DNPH
acetone-DNPH
acrolein-DNPH
benzaldehyde-DNPH
butanal-DNPH
crotonaldehyde-DNPH
cyclohexanone-DNPH
decanal-DNPH
2,5-dimethylbenzaldehyde-DNPH
formaldehyde-DNPH
heptanal-DNPH
hexanal-DNPH
isovaleraldehyde-DNPH
nonanal-DNPH
octanal-DNPH
pentanal-DNPH
propanal-DNPH
m-tolualdehyde-DNPH
o-tolualdehyde-DNPH
p-tolualdehyde-DNPH

@ 100 µg/mL in acetonitrile

ALD-8315D-1

1 x 1 mL

EPA METHOD 8318A

N-METHYLCARBAMATES

Method 8318 is used to determine N-methylcarbamates by HPLC.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standard: PPM-831-1
PPM-831A-1

Recommended Method 8318A
Carbamates Mixture

10 Analytes

aldicarb
aldicarb sulfone
carbaryl
carbofuran
dioxacarb
3-hydroxycarbofuran
methiocarb
methomyl
promecarb
propoxur (Baygon)

@ 100 µg/mL in methanol

PPM-831-1

1 x 1 mL

Recommended Method 8318A
Carbamates Mixture

6 Analytes

bendiocarb
formetanate hydrochloride
metolcarb
mexacarbate
oxamyl
thiodicarb

@ 100 µg/mL in methanol

PPM-831A-1

1 x 1 mL

EPA METHOD 8330A

NITROAROMATICS AND
NITRAMINES
(EXPLOSIVES)

Method 8330A is used to measure explosives by HPLC.

To read the complete method, log onto our website at www.ultrasci.com.

Recommended Standards

Calibration Standards: NAIM-833A-1
NAIM-833B-1

Recommended Method 8330A
Intermediate Stock Solution #1

7 Analytes

HMX
1,3-dinitrobenzene
2,4-dinitrotoluene
nitrobenzene
RDX
1,3,5-trinitrobenzene
2,4,6-trinitrotoluene (TNT)

@ 1000 µg/mL in acetonitrile

NAIM-833A-1 1 x 1 mL

Recommended Method 8330A
Intermediate Stock Solution #2

7 Analytes

2-amino-4,6-dinitrotoluene
4-amino-2,6-dinitrotoluene
2,6-dinitrotoluene
2-nitrotoluene
3-nitrotoluene
4-nitrotoluene
tetryl

@ 1000 µg/mL in acetonitrile

NAIM-833B-1 1 x 1 mL

Internal and Surrogate Standards for Method 8330A

3,4-dinitrotoluene	1,2-dinitrobenzene
@ 1000 µg/mL in methanol	@ 1000 µg/mL in methanol
IST-590-1 1 x 1 mL	IST-600-1 1 x 1 mL

Combined Stock Solution

12 Analytes

1,3-dinitrobenzene
2,4-dinitrotoluene
2,6-dinitrotoluene
HMX
nitrobenzene
2-nitrotoluene
3-nitrotoluene
4-nitrotoluene
RDX
tetryl
1,3,5-trinitrobenzene
2,4,6-trinitrotoluene (TNT)

@ 1000 µg/mL in acetonitrile

NAIM-833E-1 1 x 1 mL

Individual Explosive Standards for Method 8330A

All @ 100 µg/mL in methanol	1 x 1 mL Ampules
1,3-dinitrobenzene	NAI-140-1
2,4-dinitrotoluene	NAI-100-1
2,6-dinitrotoluene	NAI-110-1
nitrobenzene	NAI-130-1
1,3,5-trinitrobenzene	NAI-170-1

All @ 1000 µg/mL in acetonitrile

4-amino-2,6-dinitrotoluene	EPA-1193-1
2-amino-4,6-dinitrotoluene	EPA-1192-1
HMX	EPA-1221-1
2-nitrotoluene	EPA-1227-1
3-nitrotoluene	EPA-1228-1
4-nitrotoluene	EPA-1229-1
RDX	EPA-1233-1
tetryl	EPA-1237-1
2,4,6-trinitrotoluene (TNT)	EPA-1243-1



Find additional EPA Method 8000
Series Standards online:
www.ultrasci.com/EPA8000

EPA METHOD 8332

NITROGLYCERIN

Method 8332 is used to measure nitroglycerin by HPLC.

To read the complete method, log onto our website at www.ultrasci.com.

Nitroglycerin Standard

nitroglycerin

@ 10 µg/mL in acetonitrile

NAI-270-1 **1 x 1 mL**

EPA METHOD 8410

SEMI-VOLATILE ORGANICS

Method 8410 is used to measure semi-volatile organics by GC/FTIR. It is used to complement Method 8270D.

To read the complete method, log onto our website at www.ultrasci.com.

Internal Standard Mixture

2 Analytes

1-fluoronaphthalene

p-terphenyl-d14

@ 2000 µg/mL in methylene chloride

ISM-430-1 **1 x 1 mL**

EPA METHOD 8440

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Method 8440 is used to measure total recoverable petroleum hydrocarbons (TRPHs) by IR.

To read the complete method, log onto our website at www.ultrasci.com.

Method 8440 Calibration Oil

3 Components

Component	%, v/v
n-hexadecane	37.5 %
isooctane	37.5 %
chlorobenzene	25.0 %

RGO-100-1 **1 x 1 mL**

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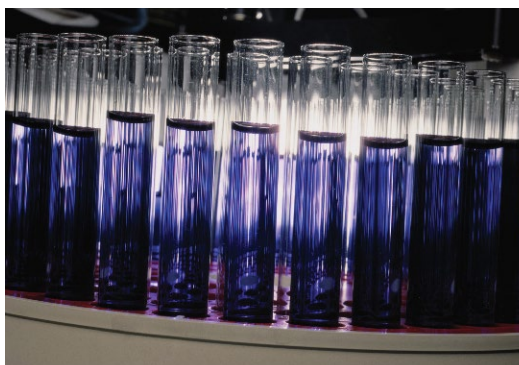
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THE EPA CONTRACT LABORATORY PROGRAM (CLP)

Reference Materials for Monitoring the Target Compounds List Organics

The Contract Laboratory Program (CLP) methods are used to analyze for organic compounds on the Target Compounds List (TCL) in water, sediment, and soil samples from hazardous waste sites. The CLP methods are GC/MS methods, using either packed or capillary columns.



ULTRA Scientific has prepared a series of reference standards for the CLP methods, as well as the necessary surrogate, internal, and calibration standards. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of ± 2.0%. A certificate showing the actual weight of each analyte is supplied with standard.

CLP METHOD

PAGE

- CLP VOLATILES
- CLP SEMI-VOLATILES
- CLP PESTICIDES

300
304
310

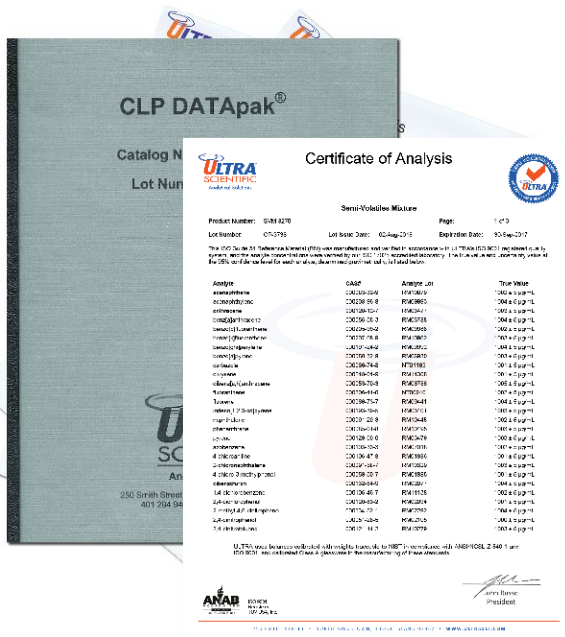
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DATApaks® Include:

- ✓ Identity - GC/MS spectrum for each analyte.
- ✓ Purity - ULTRA determines purity for these compounds using GC LC, LCMS and DSC.
- ✓ Quality control - All solutions are prepared in our ISO Guide 17025 and ISO Guide 34 Accredited Laboratory.
- ✓ Certificate of Analysis – showing actual weights which are traceable to NIST.



CLP VOLATILES

OLM04.3 & SOM01.1/01.2

Recommended Standards

Calibration Standards:	CLP-158-1 CLP-160-1
Internal Standard:	STM-270N-1
System Monitoring Standard:	STM-260N-1

Recommended CLP Volatiles Target Compounds Mixture

50 Analytes

acetone	1,2-dichlorobenzene	4-methyl-2-pentanone
benzene	1,3-dichlorobenzene	styrene
bromodichloromethane	1,4-dichlorobenzene	1,1,2,2-tetrachloroethane
bromoform	dichlorodifluoromethane	tetrachloroethene
bromomethane	1,1-dichloroethane	toluene
2-butanone (MEK)	1,2-dichloroethane	1,2,4-trichlorobenzene
tert-butylmethyl ether	1,1-dichloroethene	1,1,1-trichloroethane
carbon disulfide	cis-1,2-dichloroethene	1,1,2-trichloroethane
carbon tetrachloride	trans-1,2-dichloroethene	trichloroethene
chlorobenzene	1,2-dichloropropane	trichlorofluoromethane
chloroethane	trans-1,3-dichloropropene	1,1,2-trichlorotrifluoroethane
chloroform	cis-1,3-dichloropropene	vinyl chloride
chloromethane	ethylbenzene	o-xylene
cyclohexane	2-hexanone	m-xylene
dibromochloromethane	isopropylbenzene	p-xylene
1,2-dibromo-3-chloropropane	methyl acetate	
1,2-dibromoethane	methylcyclohexane	
	methylene chloride	

@ 100 µg/mL in methanol

CLP-158-1 1 x 1 mL

Additional Volatiles Target Compounds Mixture

3 Analytes

bromochloromethane
1,4-dioxane
1,2,3-trichlorobenzene

@ 100 µg/mL in methanol

CLP-160-1 1 x 1 mL

Recommended CLP Internal Standard Mixtures

3 Analytes

bromochloromethane
chlorobenzene-d₅
1,4-difluorobenzene

@ 1000 µg/mL in methanol

STM-270N-1 1 x 1 mL

@ 2500 µg/mL in methanol

STM-272-1 1 x 1 mL

Recommended CLP System Monitoring Compound Mixtures

3 Analytes

4-bromofluorobenzene
1,2-dichloroethane-d₄
toluene-d₈

@ 1000 µg/mL in methanol

STM-260N-1 1 x 1 mL

@ 2500 µg/mL in methanol

STM-262-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



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Volatile GC/MS Calibration Standard (BFB)

4-bromofluorobenzene (BFB)	
@ 25 µg/mL in methanol	
STS-111-1	1 x 1 mL
@ 2500 µg/mL in methanol	
STS-112-1	1 x 1 mL
@ 2000 µg/mL in methanol	
STS-110N-1	1 x 1 mL
@ 1000 µg/mL in methanol	
STS-114-1	1 x 1 mL
@ 1000 µg/mL in acetone	
STS-113-1	1 x 1 mL
@ 10000 µg/mL in acetone	
STS-115-1	1 x 1 mL

Volatiles Matrix Spiking Solution

5 Analytes	
benzene	
chlorobenzene	
1,1-dichloroethene	
toluene	
trichloroethene	
@ 1000 µg/mL in methanol	
CLP-100N-1	1 x 1 mL
@ 2500 µg/mL in methanol	
CLP-102-1	1 x 1 mL

Volatiles Calibration Check Compounds Mixture

6 Analytes	
chloroform	
1,1-dichloroethene	
1,2-dichloropropane	
ethylbenzene	
toluene	
vinyl chloride	
@ 2000 µg/mL in methanol	
CLP-110-1	1 x 1 mL

Internal Standard Mixture for SOM01.1/01.2

3 Analytes	
chlorobenzene-d ₃	
1,4-dichlorobenzene-d ₄	
1,4-difluorobenzene	
@ 2000 µg/mL in methanol	
ISM-760-1	1 x 1 mL
@ 2500 µg/mL in methanol	
STM-600-1	1 x 1 mL

Volatiles System Performance Check Mixture

5 Analytes	
bromoform	
chlorobenzene	
chloromethane	
1,1-dichloroethane	
1,1,2,2-tetrachloroethane	
@ 2000 µg/mL in methanol	
CLP-120-1	1 x 1 mL

Nonane and Dodecane Mixture

2 Analytes	
<i>n</i> -nonane	
<i>n</i> -dodecane	
@ 1000 µg/mL in methanol	
NDM-110-1	1 x 1 mL

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ADDITIONAL CALIBRATION MIXTURES FOR CLP VOLATILES

CLP Volatiles Target Compounds Mixtures

36 Analytes

acetone	dibromochloromethane	4-methyl-2-pentanone
benzene	1,1-dichloroethane	styrene
bromodichloromethane	1,2-dichloroethane	toluene
bromoform	1,1-dichloroethene	1,1,2,2-tetrachloroethane
bromomethane	<i>cis</i> -1,2-dichloroethene	tetrachloroethene
2-butanone (MEK)	<i>trans</i> -1,2-dichloroethene	1,1,1-trichloroethane
carbon disulfide	1,2-dichloropropane	1,1,2-trichloroethane
carbon tetrachloride	<i>cis</i> -1,3-dichloropropene	trichloroethene
chlorobenzene	<i>trans</i> -1,3-dichloropropene	vinyl chloride
chloroethane	ethylbenzene	<i>o</i> -xylene
chloroform	2-hexanone	<i>m</i> -xylene
chloromethane	methylene chloride	<i>p</i> -xylene

@ 100 µg/mL in methanol

CLP-150-1 1 x 1 mL

@ 1000 µg/mL in methanol

CLP-156-1 1 x 1 mL

VOC Gas Mixtures

6 Analytes

bromomethane	
chloroethane	
chloromethane	
dichlorodifluoromethane	
trichlorofluoromethane	
vinyl chloride	
@ 200 µg/mL in methanol	
DWM-584-1	1 x 1 mL
@ 2000 µg/mL in methanol	
DWM-544-1	1 x 1 mL

CUSTOM STANDARDS

Do you require a standard not cataloged by ULTRA? We catalog over 5500 different standards, but if you can't find the specific standard you need, we will be happy to prepare it for you on a custom basis. Our custom organic and inorganic standards are a fast, economical way to address your unique applications. Simply fax us a copy of the form found on page 479, or log on to www.ultrasci.com and use our convenient quotation request web page. You will receive a quote within 24 hours.

Validation choices available:

Chemical standards manufactured by ULTRA Scientific are supplied with a Lot Specific Certificate of Analysis (CofA) that reflects the associated Quality Control Validation Level. Certificate of Analysis can ship with the product and are available online. All ULTRA Catalog products, unless otherwise noted, are Level II - ISO Guide 34 Reference Materials.

		REPORTED VALUE	REPORTED	FORMER NAME	SOLUTIONS	NEATS	LEAD TIME (CUSTOMS)
			UNCERTAINTY				
Level I	ISO Guide 34 RM	True (Calculated)	U_{char}	Gravimetric	✓	✓	5 Business Days
Level II	ISO Guide 34 RM	True (Analytical)	U_{char}	Full Validation	✓	✓	7 - 10 Business Days
Level III	ISO Guide 34 CRM	Certified	U_{exp}	ISO Guide 34	✓		15 - 20 Business Days

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CLP Volatiles Mixture #1*12 Analytes*

bromodichloromethane
 bromoform
 carbon tetrachloride
 chloroform
 dibromochloromethane
 1,1-dichloroethane
 1,2-dichloroethane
 1,2-dichloropropane
 methylene chloride
 1,1,2,2-tetrachloroethane
 1,1,1-trichloroethane
 1,1,2-trichloroethane

*@ 2000 µg/mL in methanol***CLP-151** **1 x 1 mL****CLP Volatiles Mixture #3***12 Analytes*

tert-butylmethyl ether (MTBE)
 cyclohexane
 1,2-dibromo-3-chloropropane
 1,2-dibromoethane
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 isopropylbenzene
 methyl acetate
 methylcyclohexane
 1,2,4-trichlorobenzene
 1,1,2-trichlorotrifluoroethane

*@ 2000 µg/mL in methanol***CLP-159-1** **1 x 1 mL****CLP Volatiles Mixture #2***13 Analytes*

benzene
 chlorobenzene
 1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
 ethylbenzene
 tetrachloroethene
 toluene
 trichloroethene
m-xylene
p-xylene

*@ 2000 µg/mL in methanol***CLP-152** **1 x 1 mL****B.T.E.X. Mixtures***6 Analytes*

benzene
 ethylbenzene
 toluene
o-xylene
m-xylene
p-xylene

*@ 100 µg/mL in methanol***BTX-100-1** **1 x 1 mL***@ 200 µg/mL in methanol***BTX-110-1** **1 x 1 mL***@ 2000 µg/mL in methanol***BTX-2000N-1** **1 x 1 mL****CLP Volatiles Mixture #4***7 Analytes*

acetone
 2-butanone (MEK)
 carbon disulfide
 2-hexanone
 4-methyl-2-pentanone (MIBK)
 styrene
o-xylene

*@ 2000 µg/mL in methanol***CLP-154** **1 x 1 mL****Additional Volatiles Target
Compounds Mix for SOM01.1/01.2***3 Analytes*

bromochloromethane
 1,4-dioxane
 1,2,3-trichlorobenzene

*@ 100 µg/mL in methanol***CLP-160-1** **1 x 1 mL****Volume discounts for individual solutions**Order 4–19 ampules of the same item and receive a **20% DISCOUNT**Order 20 or more ampules of the same item and receive a **30% DISCOUNT**

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CLP SEMI-VOLATILES

OLM04.3 & SOM01.1/01.2

Recommended Standards

Calibration Standards: US-132K-A

Internal Standard: ISM-560-1

Surrogate Standards: ISM-335N-1
ISM-336XRecommended CLP
Base/Neutrals Mix #1

13 Analytes

bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-ethylhexyl) phthalate
bis(2-chloroisopropyl) ether
4-bromophenyl phenyl ether
butyl benzyl phthalate
4-chlorophenyl phenyl ether
diethyl phthalate
dimethyl phthalate
di-*n*-butyl phthalate
di-*n*-octyl phthalate
N-nitrosodi-*n*-propylamine
N-nitrosodiphenylamine

@ 2000 µg/mL in methylene chloride

US-130-1 1 x 1 mLRecommended CLP
Base/Neutrals Mix #2

14 Analytes

acetophenone
atrazine
benzaldehyde
biphenyl
ε-caprolactam
2-chloronaphthalene
2,4-dinitrotoluene
2,6-dinitrotoluene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
isophorone
nitrobenzene

@ 2000 µg/mL in methylene chloride

US-135-1 1 x 1 mL

Recommended CLP PAH Mixture

17 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
carbazole
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene
indeno[1,2,3-cd]pyrene
naphthalene
phenanthrene
pyrene

@ 2000 µg/mL

in methylene chloride/benzene (1:1)

US-126-1 1 x 1 mLRecommended Method 8270C
Phenols Mixture

11 Analytes

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-107N-1 1 x 1 mLRecommended CLP Semi-Volatiles
Internal Standard Mixtures

6 Analytes

acenaphthene-d₁₀
chrysene-d₁₂
1,4-dichlorobenzene-d₄
naphthalene-d₈
perylene-d₁₂
phenanthrene-d₁₀

@ 2000 µg/mL in methylene chloride

ISM-560-1 1 x 1 mL

@ 4000 µg/mL in methylene chloride

US-108N-1 1 x 1 mL

DATApaks® are available for all CLP part products. Please refer to page 299.

**Recommended CLP
Toxic Substances Mix #1**

3 Analytes

- 2-methylphenol
- 4-methylphenol
- 2,4,5-trichlorophenol

@ 2000 µg/mL in methylene chloride

US-133-1 **1 x 1 mL**

**Recommended CLP
Toxic Substances Mix #2**

7 Analytes

- 4-chloroaniline
- dibenzofuran
- 3,3'-dichlorobenzidine
- 2-methylnaphthalene
- 2-nitroaniline
- 3-nitroaniline
- 4-nitroaniline

@ 2000 µg/mL in methylene chloride

US-134-1 **1 x 1 mL**

**Recommended CLP
Semi-Volatile Standards Kit**

Kit - contains seven ampules:

1 x 1 mL of each of the following standards

Base/Neutral Mixture #1	(US-130-1)
Base/Neutral Mixture #2	(US-135-1)
Toxic Substances Mixture #1	(US-133-1)
Toxic Substances Mixture #2	(US-134-1)
PAH Mixture	(US-126-1)
Phenols Mixture	(US-107N-1)
Internal Standards Mixture	(ISM-560-1)

US-132K-A **Kit**

Additional Analyte Standards

1,2,4,5-tetrachlorobenzene

@ 1000 µg/mL in methylene chloride

EPA-1160A-1 **1 x 1 mL**

2,3,4,6-tetrachlorophenol

@ 1000 µg/mL in methylene chloride

EPA-1246-1 **1 x 1 mL**

**Volume discounts for
individual solutions**

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Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



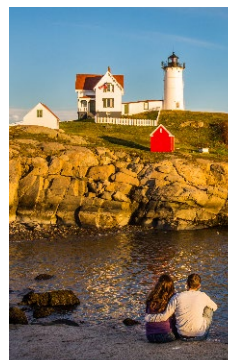
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INTERNAL AND SURROGATE STANDARD SPIKING MIXTURES FOR CLP SEMI-VOLATILES

Recommended CLP Semi-Volatiles Internal Standard Mixtures**6 Analytes**

acenaphthene-d₁₀
 chrysene-d₁₂
 1,4-dichlorobenzene-d₄
 naphthalene-d₈
 perylene-d₁₂
 phenanthrene-d₁₀

@ 2000 µg/mL in methylene chloride

ISM-560-1 1 x 1 mL

@ 4000 µg/mL in methylene chloride

US-108N-1 1 x 1 mL

Recommended CLP Semi-Volatiles Surrogate Standard Mixture**8 Analytes**

1,2-dichlorobenzene-d₄ 1000 µg/mL
 nitrobenzene-d₅ 1000 µg/mL
 2-fluorobiphenyl 1000 µg/mL
p-terphenyl-d₁₄ 1000 µg/mL
 2-chlorophenol-d₄ 1500 µg/mL
 2-fluorophenol 1500 µg/mL
 phenol-d₅ 1500 µg/mL
 2,4,6-tribromophenol 1500 µg/mL

in methylene chloride

ISM-335N-1 1 x 1 mL

Semi-Volatiles Surrogate Standard Mixture**8 Analytes**

1,2-dichlorobenzene-d₄ 5000 µg/mL
 nitrobenzene-d₅ 5000 µg/mL
 2-fluorobiphenyl 5000 µg/mL
p-terphenyl-d₁₄ 5000 µg/mL
 2-chlorophenol-d₄ 7500 µg/mL
 2-fluorophenol 7500 µg/mL
 phenol-d₅ 7500 µg/mL
 2,4,6-tribromophenol 7500 µg/mL

in methylene chloride

ISM-337-1 1 x 1 mL

Base/Neutrals Surrogate Standard Mixtures**4 Analytes**

1,2-dichlorobenzene-d₄
 nitrobenzene-d₅
 2-fluorobiphenyl
p-terphenyl-d₁₄

@ 1000 µg/mL in methylene chloride

ISM-285-1 1 x 1 mL

@ 5000 µg/mL in methylene chloride

ISM-287-1 1 x 1 mL

Acids Surrogate Standard Mixture**4 Analytes**

2-chlorophenol-d₄
 2-fluorophenol
 phenol-d₅
 2,4,6-tribromophenol

@ 2000 µg/mL in methanol

ISM-295-1 1 x 1 mL

@ 7500 µg/mL in methanol

ISM-297-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**

Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



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SHOOTERS™ – OPEN AND SHOOT SPIKING STANDARDS

No Dilution Required

Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

Recommended CLP Semi-Volatiles Surrogate Standard Spiking Solution*8 Analytes*

1,2-dichlorobenzene-d ₄	100 µg/mL
2-fluorobiphenyl	100 µg/mL
nitrobenzene-d ₅	100 µg/mL
<i>p</i> -terphenyl-d ₁₄	100 µg/mL
2,4,6-tribromophenol	150 µg/mL
2-chlorophenol-d ₄	150 µg/mL
2-fluorophenol	150 µg/mL
phenol-d ₅	150 µg/mL

in methanol

ISM-336X	100 mL
ISM-336X-25	25 mL

Recommended CLP Semi-Volatiles Matrix Spiking Solution*11 Analytes*

acenaphthene	100 µg/mL
1,4-dichlorobenzene	100 µg/mL
2,4-dinitrotoluene	100 µg/mL
N-nitrosodi- <i>n</i> -propylamine	100 µg/mL
pyrene	100 µg/mL
1,2,4-trichlorobenzene	100 µg/mL
4-chloro-3-methylphenol	150 µg/mL
2-chlorophenol	150 µg/mL
4-nitrophenol	150 µg/mL
pentachlorophenol	150 µg/mL
phenol	150 µg/mL

in methanol

CLP-350X	25 mL
-----------------	--------------

SHOOTERS™ – OPEN AND SHOOT SPIKING STANDARDS

No Dilution Required

Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

Semi-Volatiles Surrogate Standard Spiking Solution with Indicator*8 Analytes*

1,2-dichlorobenzene-d ₄	100 µg/mL
nitrobenzene-d ₅	100 µg/mL
2-fluorobiphenyl	100 µg/mL
<i>p</i> -terphenyl-d ₁₄	100 µg/mL
2-chlorophenol-d ₄	150 µg/mL
2-fluorophenol	150 µg/mL
phenol-d ₅	150 µg/mL
2,4,6-tribromophenol	150 µg/mL

pH indicator red-yellow pH 3.2-4.4

in methanol

ISM-336XC	100 mL
ISM-336XC-25	25 mL
ISM-336XC-500	500mL

DATApaks® are available for all CLP part products. Please refer to page 299.

MATRIX SPIKING MIXTURES FOR CLP SEMI-VOLATILES

Base/Neutrals Matrix Spiking Solution

6 Analytes	
acenaphthene	
1,4-dichlorobenzene	
2,4-dinitrotoluene	
N-nitrosodi- <i>n</i> -propylamine	
pyrene	
1,2,4-trichlorobenzene	
<i>@ 1000 µg/mL in acetone</i>	
CLP-301-1	1 x 1 mL
<i>@ 1000 µg/mL in methylene chloride</i>	
CLP-300N-1	1 x 1 mL
<i>@ 1000 µg/mL in methanol</i>	
CLP-303-1	1 x 1 mL

Acids Matrix Spiking Solution

5 Analytes	
4-chloro-3-methylphenol	
2-chlorophenol	
4-nitrophenol	
pentachlorophenol	
phenol	
<i>@ 1000 µg/mL in methanol</i>	
CLP-402-1	1 x 1 mL
<i>@ 1500 µg/mL in methanol</i>	
CLP-401-1	1 x 1 mL
<i>@ 2000 µg/mL in methanol</i>	
CLP-400N-1	1 x 1 mL

Recommended CLP Semi-Volatiles Matrix Spiking Solution

11 Analytes	
acenaphthene	100 µg/mL
1,4-dichlorobenzene	100 µg/mL
2,4-dinitrotoluene	100 µg/mL
N-nitrosodi- <i>n</i> -propylamine	100 µg/mL
pyrene	100 µg/mL
1,2,4-trichlorobenzene	100 µg/mL
4-chloro-3-methylphenol	150 µg/mL
2-chlorophenol	150 µg/mL
4-nitrophenol	150 µg/mL
pentachlorophenol	150 µg/mL
phenol	150 µg/mL
<i>in methanol</i>	
CLP-350X	25 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**

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CALIBRATION CHECK MIXTURES FOR CLP SEMI-VOLATILES

Base/Neutrals Calibration Check Compounds Mixture

7 Analytes

acenaphthene
benzo[a]pyrene
1,4-dichlorobenzene
di-*n*-octyl phthalate
fluoranthene
hexachlorobutadiene
N-nitrosodiphenylamine

@ 1000 µg/mL in methylene chloride

CLP-310-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

CLP-311-1 1 x 1 mL

Acids Calibration Check Compounds Mixture

6 Analytes

4-chloro-3-methylphenol
2,4-dichlorophenol
2-nitrophenol
phenol
pentachlorophenol
2,4,6-trichlorophenol

@ 2000 µg/mL in methanol

CLP-410-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

CLP-411-1 1 x 1 mL

Semi-Volatiles GC/MS Calibration Standard

decafluorotriphenylphosphine (*DFTPP*)

@ 25 µg/mL in methylene chloride

IST-342-1 1 X 1 mL

@ 100 µg/mL in methylene chloride

IST-341-1 1x1 mL

@ 250 µg/mL in methylene chloride

IST-340-1 1 x 1 mL

@ 1000 µg/mL in acetone

47995N-1 1 x 1 mL

@ 2500 in methylene chloride

IST-343-1 1x1 mL

@ 2500 in methanol

IST-344-1 1x1 mL

System Performance Check Mixes

4 Analytes

2,4-dinitrophenol
hexachlorocyclopentadiene
4-nitrophenol
N-nitrosodi-*n*-propylamine

@ 200 µg/mL in methylene chloride

CLP-322-1 1 x 1 mL

@ 1000 µg/mL in methylene chloride

CLP-320-1 1 x 1 mL

@ 2000 µg/mL in methylene chloride

CLP-323-1 1 x 1 mL

Semi-Volatiles GC Calibration Standard

3 Analytes

di-*n*-octyl phthalate
phenanthrene
phenol

@ 1000 µg/mL in methylene chloride

CLP-330-1 1 x 1 mL

GPC Calibration Standard Solutions

5 Components

corn oil 250 mg/mL
bis(2-ethylhexyl) phthalate 10 mg/mL
methoxychlor 2 mg/mL
perylene 0.2 mg/mL
sulfur 0.8 mg/mL

in methylene chloride

CLP-340-1 1 x 1 mL

5 Components

corn oil 300 mg/mL
bis(2-ethylhexyl) phthalate 15 mg/mL
pentachlorophenol 1.4 mg/mL
perylene 0.1 mg/mL
sulfur 0.5 mg/mL

in methylene chloride

CLP-341-1 1 x 1 mL

5 Components

corn oil 250 mg/mL
bis(2-ethylhexyl) phthalate 5 mg/mL
methoxychlor 1 mg/mL
perylene 0.2 mg/mL
sulfur 0.8 mg/mL

in methylene chloride

CLP-342-1 1 x 1 mL

DATApaks® are available for all CLP part products. Please refer to page 299.

CLP PESTICIDES

OLM04.3 & SOM01.1/01.2

Recommended Standards

Calibration Standards:	CLP-216-1
	CLP-226B-1
Surrogate Standards:	ISM-320-1
	ISM-321X

Recommended CLP Pesticides Individual Standard Mixture A

<i>11 Analytes</i>	
α-BHC	5 µg/mL
γ-BHC (<i>lindane</i>)	5 µg/mL
dieldrin	10 µg/mL
endosulfan I	5 µg/mL
endrin	10 µg/mL
4,4'-DDD	10 µg/mL
4,4'-DDT	10 µg/mL
heptachlor	5 µg/mL
methoxychlor	50 µg/mL
decachlorobiphenyl	10 µg/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	5 µg/mL
<i>in hexane</i>	
CLP-216-1	1 x 1 mL

Recommended CLP Pesticides Individual Standard Mixture B

<i>13 Analytes</i>	
aldrin	5 µg/mL
β-BHC	5 µg/mL
δ-BHC	5 µg/mL
α-chlordane	5 µg/mL
γ-chlordane	5 µg/mL
4,4'-DDE	10 µg/mL
endosulfan sulfate	10 µg/mL
endrin aldehyde	10 µg/mL
endrin ketone	10 µg/mL
endosulfan II	10 µg/mL
heptachlor epoxide (B)	5 µg/mL
decachlorobiphenyl	10 µg/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	5 µg/mL
<i>in hexane</i>	
CLP-226B-1	1 x 1 mL

Organochlorine Pesticides Mixture

20 Analytes

aldrin
α-BHC
β-BHC
δ-BHC
γ-BHC (<i>lindane</i>)
α-chlordane
γ-chlordane
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
endrin ketone
heptachlor
heptachlor epoxide (isomer B)
methoxychlor

@ 1000 µg/mL in hexane/toluene (1:1)

PPM-808C-1 1 x 1 mL

@ 2000 µg/mL in hexane/toluene (1:1)

US-127-1 1 x 1 mL

Recommended CLP Chlordane, Toxaphene, and PCB Standards

*All @ 100 µg/mL in hexane**1 x 1 mL Ampules*

chlordane	HSS-201	PP-151-1
toxaphene	HSS-202	PP-271-1
Aroclor 1016	HSS-211	PP-281-1
Aroclor 1221	HSS-221	PP-291-1
Aroclor 1232	HSS-231	PP-301-1
Aroclor 1242	HSS-241	PP-311-1
Aroclor 1248	HSS-251	PP-341-1
Aroclor 1254	HSS-261	PP-351-1
Aroclor 1260	HSS-271	PP-361-1

See page 379 for additional Aroclor solutions

Recommended CLP Pesticides Surrogate Standard Spiking Solution

2 Analytes

2,4,5,6-tetrachloro- <i>m</i> -xylene
decachlorobiphenyl

@ 200 µg/mL in acetone

ISM-320-1 1 x 1 mL

Pesticides Surrogate Standard Mixture

2 Analytes

dibutyl chlorendate
2,4,5,6-tetrachloro- <i>m</i> -xylene

@ 200 µg/mL in acetone

ISM-301-1 1 x 1 mL

@ 2000 µg/mL in hexane/toluene (1:1)

ISM-300-1 1 x 1 mL

DATApaks® are available for all CLP part products. Please refer to page 299.

Pesticides Resolution**Check Mixture****9 Analytes**

γ -chlordane	10 $\mu\text{g/mL}$
4,4'-DDE	20 $\mu\text{g/mL}$
dieldrin	20 $\mu\text{g/mL}$
endosulfan I	10 $\mu\text{g/mL}$
endosulfan sulfate	20 $\mu\text{g/mL}$
endrin ketone	20 $\mu\text{g/mL}$
methoxychlor	100 $\mu\text{g/mL}$
decachlorobiphenyl	20 $\mu\text{g/mL}$
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 $\mu\text{g/mL}$

*in hexane***CLP-240-1** **1 x 1 mL****Pesticides Performance****Evaluation Mixture****8 Analytes**

α -BHC	10 $\mu\text{g/mL}$
β -BHC	10 $\mu\text{g/mL}$
γ -BHC (<i>lindane</i>)	10 $\mu\text{g/mL}$
4,4'-DDT	100 $\mu\text{g/mL}$
endrin	50 $\mu\text{g/mL}$
methoxychlor	250 $\mu\text{g/mL}$
decachlorobiphenyl	20 $\mu\text{g/mL}$
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 $\mu\text{g/mL}$

*in hexane***CLP-250-1** **1 x 1 mL****Pesticides Surrogate Standards**2,4,5,6-tetrachloro-*m*-xylene*@ 2000 $\mu\text{g/mL}$ in acetone***IST-440-1** **1 x 1 mL**

decachlorobiphenyl

*@ 1000 $\mu\text{g/mL}$ in toluene***PPS-150-1** **1 x 1 mL***@5000 $\mu\text{g/mL}$ in MTBE***RPC-060B5000** **1 x 1 mL****Pesticides Matrix Spiking Solution****6 Analytes**

aldrin	50 $\mu\text{g/mL}$
γ -BHC (<i>lindane</i>)	50 $\mu\text{g/mL}$
dieldrin	100 $\mu\text{g/mL}$
4,4'-DDT	100 $\mu\text{g/mL}$
endrin	100 $\mu\text{g/mL}$
heptachlor	50 $\mu\text{g/mL}$

*in methanol***CLP-206-1** **1 x 1 mL****Pesticides Evaluation Standards****Mixture****4 Analytes**

aldrin	1 $\mu\text{g/mL}$
endrin	2 $\mu\text{g/mL}$
4,4'-DDT	2 $\mu\text{g/mL}$
dibutyl chlorendate	1 $\mu\text{g/mL}$

*in isooctane***CLP-231-1** **1 x 1 mL****Florisol Cartridge Check Solution**

2,4,5-trichlorophenol

*@ 100 $\mu\text{g/mL}$ in acetone***CLP-245-1** **1 x 1 mL****SHOOTERS™ – OPEN AND SHOOT SPIKING STANDARDS****No Dilution Required**

Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

Recommended CLP Pesticides Surrogate Standards Spiking Solution**2 Analytes**2,4,5,6-tetrachloro-*m*-xylene
decachlorobiphenyl*0.2 $\mu\text{g/mL}$ in acetone***ISM-321X** **1 x 100 mL****Pesticides Matrix Spiking Solution****6 Analytes**

γ -BHC (<i>lindane</i>)	0.5 $\mu\text{g/mL}$
4,4'-DDT	1 $\mu\text{g/mL}$
endrin	1 $\mu\text{g/mL}$
heptachlor	0.5 $\mu\text{g/mL}$
aldrin	0.5 $\mu\text{g/mL}$
dieldrin	1 $\mu\text{g/mL}$

*in methanol***CLP-209X** **1 x 25 mL**

DATApaks® are available for all CLP part products. Please refer to page 299.

PESTICIDE QUICKSHOTS™ FOR THE CLP

Ready-to-shoot calibration standards at the working concentrations specified by the EPA methods. Just snap open the ampule and shoot. It's that easy!

- ✓ No dilutions necessary
- ✓ CLP DATApaks® available
- ✓ Manufactured under ULTRA's ISO 9001 registered quality system and verified by our ISO Guide 17025 Laboratory

**QUICKshot™ CLP Pesticides
Calibration Mix A – Low Point**

11 Analytes	
α-BHC	5 ng/mL
γ-BHC (<i>lindane</i>)	5 ng/mL
dieldrin	10 ng/mL
endosulfan I	5 ng/mL
endrin	10 ng/mL
4,4'-DDD	10 ng/mL
4,4'-DDT	10 ng/mL
heptachlor	5 ng/mL
methoxychlor	50 ng/mL
decachlorobiphenyl	10 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	5 ng/mL
<i>in hexane</i>	
CLP-216C-1	1 x 1 mL

**QUICKshot™ CLP Pesticides
Calibration Mix A – Mid Point**

11 Analytes	
α-BHC	20 ng/mL
γ-BHC (<i>lindane</i>)	20 ng/mL
dieldrin	40 ng/mL
endosulfan I	20 ng/mL
endrin	40 ng/mL
4,4'-DDD	40 ng/mL
4,4'-DDT	40 ng/mL
heptachlor	20 ng/mL
methoxychlor	200 ng/mL
decachlorobiphenyl	40 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 ng/mL
<i>in hexane</i>	
CLP-216D-1	1 x 1 mL

**QUICKshot™ CLP Pesticides
Calibration Mix A – High Point**

11 Analytes	
α-BHC	80 ng/mL
γ-BHC (<i>lindane</i>)	80 ng/mL
dieldrin	160 ng/mL
endosulfan I	80 ng/mL
endrin	160 ng/mL
4,4'-DDD	160 ng/mL
4,4'-DDT	160 ng/mL
heptachlor	80 ng/mL
methoxychlor	800 ng/mL
decachlorobiphenyl	160 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	80 ng/mL
<i>in hexane</i>	
CLP-216E-1	1 x 1 mL

**QUICKshot™ CLP Pesticides
Calibration Mix B – Low Point**

13 Analytes	
aldrin	5 ng/mL
β-BHC	5 ng/mL
δ-BHC	5 ng/mL
α-chlordane	5 ng/mL
γ-chlordane	5 ng/mL
4,4'-DDE	10 ng/mL
endosulfan sulfate	10 ng/mL
endrin aldehyde	10 ng/mL
endrin ketone	10 ng/mL
endosulfan II	10 ng/mL
heptachlor epoxide (isomer B)	5 ng/mL
decachlorobiphenyl	10 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	5 ng/mL
<i>in hexane</i>	
CLP-226C-1	1 x 1 mL

**QUICKshot™ CLP Pesticides
Calibration Mix B – Mid Point**

13 Analytes	
aldrin	20 ng/mL
β-BHC	20 ng/mL
δ-BHC	20 ng/mL
α-chlordane	20 ng/mL
γ-chlordane	20 ng/mL
4,4'-DDE	40 ng/mL
endosulfan sulfate	40 ng/mL
endrin aldehyde	40 ng/mL
endrin ketone	40 ng/mL
endosulfan II	40 ng/mL
heptachlor epoxide (isomer B)	20 ng/mL
decachlorobiphenyl	40 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 ng/mL
<i>in hexane</i>	
CLP-226D-1	1 x 1 mL

**QUICKshot™ CLP Pesticides
Calibration Mix B – High Point**

13 Analytes	
aldrin	80 ng/mL
β-BHC	80 ng/mL
δ-BHC	80 ng/mL
α-chlordane	80 ng/mL
γ-chlordane	80 ng/mL
4,4'-DDE	160 ng/mL
endosulfan sulfate	160 ng/mL
endrin aldehyde	160 ng/mL
endrin ketone	160 ng/mL
endosulfan II	160 ng/mL
heptachlor epoxide (isomer B)	80 ng/mL
decachlorobiphenyl	160 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	80 ng/mL
<i>in hexane</i>	
CLP-226E-1	1 x 1 mL

DATApaks® are available for all CLP part products. Please refer to page 299.

QUICKshot™ CLP Aroclor and Toxaphene Calibration Standards

Each standard consists of the analyte(s) listed, plus **20 ng/mL** each **decachlorobiphenyl** and **2,4,5,6-tetrachloro-*m*-xylene**.
In **isooctane**.

Analyte(s)	Concentration	1 x 1 mL Ampules
Aroclors 1016 + 1260	100 ng/mL each	CLP-281-1
Aroclor 1221	200 ng/mL	CLP-282-1
Aroclor 1232	100 ng/mL	CLP-283-1
Aroclor 1242	100 ng/mL	CLP-284-1
Aroclor 1248	100 ng/mL	CLP-285-1
Aroclor 1254	100 ng/mL	CLP-286-1
toxaphene	500 ng/mL	CLP-287-1

QUICKshot™ CLP Pesticides Resolution Check Mixture

9 Analytes

γ -chlordane	10 ng/mL
4,4'-DDE	20 ng/mL
dieldrin	20 ng/mL
endosulfan I	10 ng/mL
endosulfan sulfate	20 ng/mL
endrin ketone	20 ng/mL
methoxychlor	100 ng/mL
decachlorobiphenyl	20 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 ng/mL

in hexane

CLP-242-1	1 x 1 mL
------------------	-----------------

Complete CLP Pesticides QUICKshots™ Kit

Kit - contains fifteen ampules:

1 x 1 mL of each of the following standards

Pesticides Mix A Low	(CLP-216C-1)	Aroclor 1016/1260	(CLP-281-1)
Pesticides Mix A Mid	(CLP-216D-1)	Aroclor 1221	(CLP-282-1)
Pesticides Mix A High	(CLP-216E-1)	Aroclor 1232	(CLP-283-1)
Pesticides Mix B Low	(CLP-226C-1)	Aroclor 1242	(CLP-284-1)
Pesticides Mix B Mid	(CLP-226D-1)	Aroclor 1248	(CLP-285-1)
Pesticides Mix B High	(CLP-226E-1)	Aroclor 1254	(CLP-286-1)
Performance Eval. Mix	(CLP-252-1)	Toxaphene	(CLP-287-1)
		Resolution Check Mix	(CLP-242-1)

CLK-210C

Kit

QUICKshot™ CLP Pesticides Performance Evaluation Mixture

8 Analytes

α -BHC	10 ng/mL
β -BHC	10 ng/mL
γ -BHC (<i>lindane</i>)	10 ng/mL
4,4'-DDT	100 ng/mL
endrin	50 ng/mL
methoxychlor	250 ng/mL
decachlorobiphenyl	20 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 ng/mL

in hexane

CLP-252-1	1 x 1 mL
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CLP Pesticides Calibration QUICKshots™ Kit

Kit - contains six ampules:

1 x 1 mL of each of the following standards

Pesticides Mix A Low	(CLP-216C-1)
Pesticides Mix A Mid	(CLP-216D-1)
Pesticides Mix A High	(CLP-216E-1)
Pesticides Mix B Low	(CLP-226C-1)
Pesticides Mix B Mid	(CLP-226D-1)
Pesticides Mix B High	(CLP-226E-1)

CLK-210A

Kit

CLP Aroclors and Toxaphene Calibration QUICKshots™ Kit

Kit - contains seven ampules:

1 x 1 mL of each of the following standards

Aroclor 1016/1260	(CLP-281-1)
Aroclor 1221	(CLP-282-1)
Aroclor 1232	(CLP-283-1)
Aroclor 1242	(CLP-284-1)
Aroclor 1248	(CLP-285-1)
Aroclor 1254	(CLP-286-1)
Toxaphene	(CLP-287-1)

CLK-210B

Kit

DATApaks® are available for all CLP part products. Please refer to page 299.



Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



US STATE UNDERGROUND STORAGE TANK METHODS AND PETROCHEMICAL STANDARDS

Each state has developed analytical protocols for dealing with the problem of leaking underground storage tanks. Although there is a great deal of overlap among these methods, each state's protocol takes their unique conditions and requirements into account.

ULTRA Scientific has prepared a number of reference standards for the state and federal underground storage tank (UST) methods, as well as standards for petrochemical analysis, including the fast developing field of biodiesel fuels. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 2.0\%$. A certificate showing the actual weight of each analyte is supplied with the standard.

If you cannot find the specific mixture you require listed under your state method, examine some of the other methods. The standard you need may appear listed under one of the other states.



METHOD	PAGE	METHOD	PAGE
● UST STANDARDS	316	● EPA METHOD 1664A	337
● ALASKA	317	● EPA METHOD 418.1	337
● ARIZONA	318	● HYDROCARBON FUEL STANDARDS	338
● CALIFORNIA	319	● WEATHERED HYDROCARBON FUELS	339
● CONNECTICUT	319	● EN 14105 :2003	340
● FLORIDA	320	● ASTM METHOD D6584	341
● IOWA	321	● ASTM METHOD D1387	342
● KANSAS	322	● ASTM METHOD D2887	342
● MAINE	323	● ASTM METHOD D3710	343
● MASSACHUSETTS	324	● ASTM METHOD D4815	343
● MICHIGAN	328	● ASTM METHOD D5453	344
● MISSISSIPPI	328	● ASTM METHOD D3120	345
● NEW JERSEY	329	● ASTM METHOD D3246	345
● NEW YORK	330	● ASTM METHOD D3961	345
● OREGON	335	● ASTM METHOD D4629	346
● PENNSYLVANIA	330	● ASTM METHOD D5762	347
● TENNESSEE	331	● ASTM METHOD D4929	348
● TEXAS	332	● ASTM METHOD D5808	348
● WASHINGTON	333	● ELEMENTAL COMBUSTION STANDARDS	349
● WISCONSIN	335	● COMBUSTION ANALYZER REAGENTS	352
● INTERNAL AND SURROGATE STANDARDS FOR UST	336		

UNDERGROUND STORAGE TANK (UST) STANDARDS

B.T.E.X. Mixtures

6 Analytes

benzene
ethylbenzene
toluene
o-xylene
m-xylene
p-xylene

@ 100 µg/mL in methanol

BTX-100-1 1 x 1 mL

@ 200 µg/mL in methanol

BTX-110-1 1 x 1 mL

@ 2000 µg/mL in methanol

BTX-2000N-1 1 x 1 mL

B.T.E.X. in Unleaded Gasoline

This is composite unleaded gasoline for which the BTEX components have been analyzed. The concentrations of the components are certified by ULTRA Scientific.

7 Analytes

benzene
ethylbenzene
toluene
xylenes (total)
isopropylbenzene
naphthalene
methyl tert-butyl ether (MTBE)

Concentrations Certified on Accompanying Certificate

BTX-3000-1 1 x 1 mL

Fuel Oil Degradation Mixture

4 Analytes

n-heptadecane (C₁₇)
n-octadecane (C₁₈)
phytane
pristane

@ 2000 µg/mL in methylene chloride

UST-310-1 1 x 1 mL

Gasoline Additives

4 Analytes

dibromomethane
1,2-dichloroethane
ethylene dibromide
methyl tert-butyl ether

@ 200 µg/mL in methanol

HCM-620-1 1 x 1 mL

Diesel/Motor Oil Standard

2 Analytes

diesel fuel
SAE 10W30 motor oil

@ 50,000 µg/mL in hexane

RGO-730-1 1 x 1 mL

GRO Mixture (EPA)

9 Analytes

benzene 500 µg/mL
ethylbenzene 500 µg/mL
n-heptane 500 µg/mL
2-methylpentane 1500 µg/mL
toluene 1500 µg/mL
1,2,4-trimethylbenzene 1000 µg/mL
2,2,4-trimethylpentane 1500 µg/mL
o-xylene 1000 µg/mL
m-xylene 1000 µg/mL

in methanol

UST-110-1 1 x 1 mL

GRO Mixture

9 Analytes

benzene
ethylbenzene
3-methylpentane
naphthalene
toluene
1,2,4-trimethylbenzene
2,2,4-trimethylpentane (isooctane)
o-xylene
m-xylene

@ 1000 µg/mL in methanol

UST-120-1 1 x 1 mL

LUST Retention Time Standard

7 Analytes

n-hexane (C₆)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-tetracosane (C₂₄)
n-octacosane (C₂₈)
n-triacontane (C₃₀)
n-tetracontane (C₄₀)

@ 25 µg/mL in methylene chloride

UST-300-1 1 x 1 mL

ALASKA – METHODS AK 101, AK 102, AND AK 103

GRO Aliphatic Calibration Mix (AK)

5 Analytes

n-hexane (C₆)
n-heptane (C₇)
n-octane (C₈)
n-nonane (C₉)
n-decane (C₁₀)

@ 2000 µg/mL in methanol

SAK-100-1 1 x 1 mL

GRO Aromatic Calibration Mix (AK)

14 Analytes

benzene
ethylbenzene
1-ethyl-2-methylbenzene (*2-ethyltoluene*)
1-ethyl-3-methylbenzene (*3-ethyltoluene*)
1-ethyl-4-methylbenzene (*4-ethyltoluene*)
isopropylbenzene
n-propylbenzene
toluene
1,2,3-trimethylbenzene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

SAK-120-1 1 x 1 mL

DRO Aliphatic Calibration Mix (AK)

16 Analytes

n-decane (C₁₀)
n-undecane (C₁₁)
n-dodecane (C₁₂)
n-tridecane (C₁₃)
n-tetradecane (C₁₄)
n-pentadecane (C₁₅)
n-hexadecane (C₁₆)
n-heptadecane (C₁₇)
n-octadecane (C₁₈)
n-nonadecane (C₁₉)
n-eicosane (C₂₀)
n-heneicosane (C₂₁)
n-docosane (C₂₂)
n-tricosane (C₂₃)
n-tetracosane (C₂₄)
n-pentacosane (C₂₅)

@ 1000 µg/mL in methylene chloride

UST-210-1 1 x 1 mL

Retention Time Marker Mix (AK)

3 Analytes

n-decane (C₁₀)
n-pentacosane (C₂₅)
n-hexatriacontane (C₃₆)

@ 50 µg/mL in methylene chloride

SAK-200-1 1 x 1 mL

GRO Retention Time Marker Mix (AK)

2 Analytes

n-hexane (C₆)
n-decane (C₁₀)

@ 1000 µg/mL in methylene chloride

SAK-201-1 1 x 1 mL

DRO Retention Time Marker Mix (AK)

2 Analytes

n-decane (C₁₀)
n-pentacosane (C₂₅)

@ 2000 µg/mL in methylene chloride

SAK-202-1 1 x 1 mL

RRO Aliphatic Calibration Mix (AK)

5 Analytes

n-hexacosane (C₂₆)
n-octacosane (C₂₈)
n-triacontane (C₃₀)
n-dotriacontane (C₃₂)
n-tetracontane (C₃₄)

@ 1000 µg/mL in hexane

SAK-210-1 1 x 1 mL

Composite Motor Oil Standard

2 Analytes

SAE 10W30 motor oil
SAE 10W40 motor oil

@ 25,000 µg/mL in methylene chloride

RGO-724-1 1 x 1 mL

RRO Retention Time Marker Mix (AK)

2 Analytes

n-pentacosane (C₂₅)
n-hexatriacontane (C₃₆)

@ 2000 µg/mL in hexane

SAK-203-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



ARIZONA – METHOD 8015AZ

Retention Time Verification Mixture (AZ)

3 Analytes

n-decane (C₁₀)*n*-docosane (C₂₂)*n*-dotriacontane (C₃₂)

@ 1000 µg/mL in methylene chloride

SAZ-100-1 1 x 1 mL**Volume discounts for individual solutions**Order 4–19 ampules of the same item and receive a **20% DISCOUNT**Order 20 or more ampules of the same item and receive a **30% DISCOUNT****Individual Petrochemical Standards for UST Testing – AK & AZ**

1 x 1 mL Ampules

All @ 5000 µg/mL in methylene chloride

unleaded regular gasoline (oxygenate free)	RGO-608-1
unleaded premium gasoline (oxygenate free)	RGO-609-1
diesel fuel #2	RGO-611-1

All @ 1000 µg/mL in methylene chloride

SAE 10W30 motor oil	RGO-722-1
SAE 10W40 motor oil	RGO-723-1

Internal and Surrogate Standards for UST Testing – AK & AZ

1 x 1 mL Ampules

All @ 2000 µg/mL in methanol

4-bromofluorobenzene	STS-110N-1
1-chloro-4-fluorobenzene	STS-570-1
α,α,α-trifluorotoluene	STS-220N-1

All @ 2000 µg/mL in methylene chloride

5-α-androstane	IST-500-1
squalane	IST-670-1
<i>o</i>-terphenyl	IST-480-1
<i>n</i>-triacontane-d₆₂	IST-720-1

CALIFORNIA – PVOC AND WIP

Revised PVOC Mixture (CA)

7 Analytes

benzene
ethylbenzene
methyl *tert*-butyl ether (MTBE)
toluene
o-xylene
m-xylene
p-xylene

@ 1000 µg/mL in methanol

UST-141-1 1 x 1 mL

WIP VOA Standard (CA)

11 Analytes

benzene
chlorobenzene
ethylbenzene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
methyl *tert*-butyl ether (MTBE)
toluene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

SCA-100-1 1 x 1 mL

PVOC Mixture (CA)

6 Analytes

benzene
ethylbenzene
methyl *tert*-butyl ether (MTBE)
toluene
o-xylene
m-xylene

@ 1000 µg/mL in methanol

UST-140-1 1 x 1 mL

Oxygenates Standard (CA)

5 Analytes

diisopropyl ether (DIPE)
ethyl *tert*-butyl ether (ETBE)
methyl *tert*-butyl ether (MTBE)
tert-amyl methyl ether (TAME)
tert-butyl alcohol (@ 10,000 µg/mL)

@ 2000 µg/mL in methanol except as noted

SCA-110-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



CONNECTICUT – ETPH METHOD

ETPH Standard (CT)

14 Analytes

n-nonane (C₉)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-tetradecane (C₁₄)
n-hexadecane (C₁₆)
n-octadecane (C₁₈)
n-nonadecane (C₁₉)
n-eicosane (C₂₀)
n-docosane (C₂₂)
n-tetracosane (C₂₄)
n-hexacosane (C₂₆)
n-octacosane (C₂₈)
n-triacontane (C₃₀)
n-hexatriacontane (C₃₆)

@ 1000 µg/mL in hexane

SMA-310-1 1 x 1 mL

FLORIDA – METHOD FL-PRO

TRPH Standard (FL)

17 Analytes

n-octane (C₈)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-tetradecane (C₁₄)
n-hexadecane (C₁₆)
n-octadecane (C₁₈)
n-eicosane (C₂₀)
n-docosane (C₂₂)
n-tetracosane (C₂₄)
n-hexacosane (C₂₆)
n-octacosane (C₂₈)
n-triacontane (C₃₀)
n-dotriacontane (C₃₂)
n-tetracontane (C₃₄)
n-hexatriacontane (C₃₆)
n-octatriacontane (C₃₈)
n-tetracontane (C₄₀)

@ 500 µg/mL in hexane

SFL-601-1 **1 x 1 mL**

TPRH Surrogate Standards (FL)

n-nonatriacontane (C₃₉)

@ 2000 µg/mL in carbon disulfide

IST-680-1 **1 x 1 mL**

o-terphenyl

@ 2000 µg/mL in methylene chloride

IST-480-1 **1 x 1 mL**

@ 10,000 µg/mL in methylene chloride

IST-481-1 **1 x 1 mL**

PAH Standard (FL)

18 Analytes

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[ghi]perylene
 benzo[a]pyrene
 chrysene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 1-methylnaphthalene
 2-methylnaphthalene
 naphthalene
 phenanthrene
 pyrene

@ 2000 µg/mL in

methylene chloride/benzene (1:1)

SFL-610-1 **1 x 1 mL**

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		REPORTED VALUE	REPORTED UNCERTAINTY	FORMER NAME	SOLUTIONS	NEATS	LEAD TIME (CUSTOMS)
Level I	ISO Guide 34 RM	True (Calculated)	U _{char}	Gravimetric	✓	✓	5 Business Days
Level II	ISO Guide 34 RM	True (Analytical)	U _{char}	Full Validation	✓	✓	7 - 10 Business Days
Level III	ISO Guide 34 CRM	Certified	U _{exp}	ISO Guide 34	✓		15 - 20 Business Days

IOWA – METHODS OA-1 AND OA-2

B.T.E.X. Mixtures**6 Analytes**

benzene
ethylbenzene
toluene
o-xylene
m-xylene
p-xylene

@ 100 µg/mL in methanol

BTX-100-1 **1 x 1 mL**

@ 200 µg/mL in methanol

BTX-110-1 **1 x 1 mL**

@ 2000 µg/mL in methanol

BTX-2000N-1 **1 x 1 mL**

B.T.E.X. in Unleaded Gasoline

This is composite unleaded gasoline for which the BTEX components have been analyzed. The component concentrations are certified by ULTRA Scientific on the accompanying certificate.

7 Analytes

benzene
ethylbenzene
toluene
xylenes (total)
isopropylbenzene
naphthalene
methyl tert-butyl ether (MTBE)

in unleaded gasoline

BTX-3000-1 **1 x 1 mL**

Individual Petrochemical Standards for UST Testing – IA**1 x 1 mL Ampules**

All @ 5000 µg/mL in methylene chloride

unleaded regular gasoline (oxygenate free)	RGO-608-1
unleaded premium gasoline (oxygenate free)	RGO-609-1
diesel fuel #2	RGO-611-1
kerosene	RGO-621-1
mineral spirits	RGO-701-1

All @ 1000 µg/mL in methylene chloride

SAE 10W30 motor oil	RGO-722-1
SAE 10W40 motor oil	RGO-723-1

Internal and Surrogate Standards for UST Testing – IA**1 x 1 mL Ampules**

All @ 2000 µg/mL in methanol

4-bromofluorobenzene	STS-110N-1
α,α,α-trifluorotoluene	STS-220N-1

KANSAS – TPH METHOD

KANSAS MRH/HRH

Determination of Mid-Range Hydrocarbons (MRH) and High-Range Hydrocarbons (HRH) *Revision 1.0, Nov 2015*

This method collectively quantitates extractable petroleum hydrocarbons within 2 ranges: mid-range hydrocarbons ($C_9 - C_{18}$) and high-range hydrocarbons ($C_{19} - C_{35}$). Solvent extraction followed by GC/FID analysis is used to measure the total concentration of extractable petroleum hydrocarbons in water and soil/sediment matrices.

MRH/HRH Surrogate Spiking Solution

1-chlorooctadecane

@ 1000 mg/L in hexane

SKS-110 **1 x 5 mL**

MRH/HRH Surrogate Spiking Solution

1-chlorooctadecane

@ 1000 mg/L in methylene chloride

SKS-121 **1 x 5 mL**

MRH/HRH Internal Standard Solution

5-a-androstane

@ 5000 mg/L in methylene chloride

SKS-130 **1 x 5 mL**

MRH/HRH Stock Standard Solution

14 Analytes

n-decane

n-docosane

n-dodecane

n-eicosane

n-hexacosane

n-hexadecane

n-nonadecane

n-nonane

n-octacosane

n-octadecane

n-pentatriacontane

n-tetracosane

n-tetradecane

n-triacontane

@ 2000 mg/L in hexane

SKS-111 **1 x 5 mL**

MRH/HRH Stock Standard Solution

14 Analytes

n-decane

n-docosane

n-dodecane

n-eicosane

n-hexacosane

n-hexadecane

n-nonadecane

n-nonane

n-octacosane

n-octadecane

n-pentatriacontane

n-tetracosane

n-tetradecane

n-triacontane

@ 2000 mg/L in methylene chloride

SKS-120 **1 x 5 mL**

KANSAS MODIFIED 8015 (LRH)

Kansas Method for the Determination of Low-Range Hydrocarbons (LRH) *Revision 1.0, Nov 2015*

This method collectively quantitates low-range hydrocarbons ($C_5 - C_8$). This is a purge-and-trap method, using GC/FID to measure the total concentration of volatile hydrocarbons in water and soil/sediment matrices.

LRH Stock Standard Solution

4 Analytes

2,2,4-trimethylpentane

2-methylpentane

n-nonane

n-pentane

@ 2000 mg/L in methanol

SKS-100 **1 x 5 mL**

LRH Surrogate Spiking Solution

2,5-dibromotoluene

@ 10,000 mg/L in methanol

SKS-101 **1 x 5 mL**

MAINE – METHODS 4.1.25 AND 4.2.17

GRO Mixture (ME)*10 Analytes*

benzene
ethylbenzene
methyl *tert*-butyl ether (MTBE)
naphthalene
toluene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene

@ 1000 µg/mL in methanol

UST-100-1 **1 x 1 mL**

GRO Mixture (ME)*9 Analytes*

benzene 500 µg/mL
ethylbenzene 500 µg/mL
n-heptane 500 µg/mL
2-methylpentane 1500 µg/mL
toluene 1500 µg/mL
1,2,4-trimethylbenzene 1000 µg/mL
2,2,4-trimethylpentane 1500 µg/mL
o-xylene 1000 µg/mL
m-xylene 1000 µg/mL

in methanol

UST-110-1 **1 x 1 mL**

DRO Mixture (ME)*10 Analytes*

n-decane (C₁₀)
n-dodecane (C₁₂)
n-tetradecane (C₁₄)
n-hexadecane (C₁₆)
n-octadecane (C₁₈)
n-eicosane (C₂₀)
n-docosane (C₂₂)
n-tetracosane (C₂₄)
n-hexacosane (C₂₆)
n-octacosane (C₂₈)

@ 2000 µg/mL in methylene chloride

UST-200-1 **1 x 1 mL**

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**

**Individual and Surrogate Standards for UST Testing – ME****1 x 1 mL Ampules**

All @ 2000 µg/mL in methanol

4-bromofluorobenzene STS-110N-1

α, α, α-trifluorotoluene STS-220N-1

All @ 2000 µg/mL in methylene chloride

5-α-androstane IST-500-1

***o*-terphenyl** IST-480-1

***p*-terphenyl** IST-490-1

MASSACHUSETTS – VOLATILE PETROLEUM HYDROCARBONS (VPH) METHOD

Primary VPH Dilution Standard (MA)

16 Analytes

n-pentane
 2-methylpentane
 methyl *tert*-butyl ether (MTBE)
 2,2,4-trimethylpentane (isooctane)
 benzene
 toluene
n-nonane
n-decane
 ethylbenzene
m-xylene
p-xylene
o-xylene
 1,2,4-trimethylbenzene
n-butylcyclohexane
 naphthalene
 2,5-dibromotoluene (surrogate)

@ 1000 µg/mL in methanol

SMA-101-1 **1 x 1 mL**

Primary VPH Dilution Standard, no Surrogate (MA)

15 Analytes

n-pentane
 2-methylpentane
 methyl *tert*-butyl ether
 2,2,4-trimethylpentane
 benzene
 toluene
n-nonane
n-decane
 ethylbenzene
m-xylene
p-xylene
o-xylene
 1,2,4-trimethylbenzene
n-butylcyclohexane
 naphthalene

@ 1000 µg/mL in methanol

SMA-121-1 **1 x 1 mL**

VPH Matrix Spiking Solution (MA)

16 Analytes

n-pentane
 2-methylpentane
 methyl *tert*-butyl ether (MTBE)
 2,2,4-trimethylpentane (isooctane)
 benzene
 toluene
n-nonane
n-decane
 ethylbenzene
m-xylene
p-xylene
o-xylene
 1,2,4-trimethylbenzene
n-butylcyclohexane
 naphthalene
 2,5-dibromotoluene (surrogate)

@ 50 µg/mL in methanol

SMA-111-1 **1 x 1 mL**

VPH Surrogate Spiking Solution (MA)

2,5-dibromotoluene

@ 5000 µg/mL in methanol

STS-550-1 **1 x 1 mL**

@ 10000 µg/mL in methanol

SKS-101 **1 x 1 mL**

Gasoline Standard

unleaded gasoline

@ 5000 µg/mL in methanol

RGO-601-1 **1 x 1 mL**

Primary VPH Dilution Standard (MA)**14 Analytes**

<i>n</i> -pentane	1000 µg/mL
2-methylpentane	1500 µg/mL
methyl <i>tert</i> -butyl ether	1500 µg/mL
2,2,4-trimethylpentane	1500 µg/mL
benzene	500 µg/mL
toluene	1500 µg/mL
<i>n</i> -nonane	1000 µg/mL
ethylbenzene	500 µg/mL
<i>m</i> -xylene	1000 µg/mL
<i>p</i> -xylene	1000 µg/mL
<i>o</i> -xylene	1000 µg/mL
1,2,4-trimethylbenzene	1000 µg/mL
naphthalene	1000 µg/mL
2,5-dibromotoluene (surr)	1000 µg/mL

in methanol**SMA-100-1** 1 x 1 mL**Primary VPH Dilution Standard, no Surrogate (MA)****13 Analytes**

<i>n</i> -pentane	1000 µg/mL
2-methylpentane	1500 µg/mL
methyl <i>tert</i> -butyl ether	1500 µg/mL
2,2,4-trimethylpentane	1500 µg/mL
benzene	500 µg/mL
toluene	1500 µg/mL
<i>n</i> -nonane	1000 µg/mL
ethylbenzene	500 µg/mL
<i>m</i> -xylene	1000 µg/mL
<i>p</i> -xylene	1000 µg/mL
<i>o</i> -xylene	1000 µg/mL
1,2,4-trimethylbenzene	1000 µg/mL
naphthalene	1000 µg/mL

in methanol**SMA-120-1** 1 x 1 mL**VPH Matrix Spiking Solution (MA)****14 Analytes**

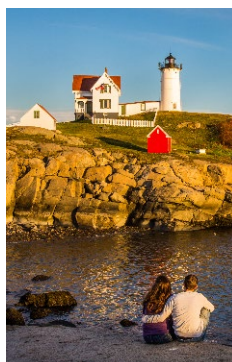
<i>n</i> -pentane	
2-methylpentane	
methyl <i>tert</i> -butyl ether (MTBE)	
2,2,4-trimethylpentane (isooctane)	
benzene	
toluene	
<i>n</i> -nonane	
ethylbenzene	
<i>m</i> -xylene	
<i>p</i> -xylene	
<i>o</i> -xylene	
1,2,4-trimethylbenzene	
naphthalene	
2,5-dibromotoluene (surrogate)	

@ 50 µg/mL in methanol**SMA-110-1** 1 x 1 mLWWW.ULTRASCI.COM**Download and Print from Our Online Library**

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**Volume discounts for individual solutions**

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



MASSACHUSETTS – EXTRACTABLE PETROLEUM HYDROCARBONS (EPH) METHOD

EPH Aromatic Hydrocarbon Standard (MA)**17 Analytes**

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[ghi]perylene
 benzo[a]pyrene
 chrysene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 2-methylnaphthalene
 naphthalene
 phenanthrene
 pyrene

@ 1000 µg/mL in methylene chloride

SMA-300-1 **1 x 1 mL**

EPH Aliphatic Hydrocarbon Standard (MA)**14 Analytes**

n-nonane (C₉)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-tetradecane (C₁₄)
n-hexadecane (C₁₆)
n-octadecane (C₁₈)
n-nonadecane (C₁₉)
n-eicosane (C₂₀)
n-docosane (C₂₂)
n-tetracosane (C₂₄)
n-hexacosane (C₂₆)
n-octacosane (C₂₈)
n-triacontane (C₃₀)
n-hexatriacontane (C₃₆)

@ 1000 µg/mL in hexane

SMA-310-1 **1 x 1 mL**

EPH Matrix Spike Standard (MA)**31 Analytes**

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[a]pyrene
 benzo[b]fluoranthene
 benzo[ghi]perylene
 benzo[k]fluoranthene
 chrysene
n-decane (C₁₀)
 dibenz[a,h]anthracene
n-docosane (C₂₂)
n-dodecane (C₁₂)
n-eicosane (C₂₀)
 fluoranthene
 fluorene
n-hexacosane (C₂₆)
n-hexadecane (C₁₆)
n-hexatriacontane (C₃₆)
 indeno[1,2,3-cd]pyrene
 2-methylnaphthalene
 naphthalene
n-nonadecane (C₁₉)
n-nonane (C₉)
n-octacosane (C₂₈)
n-octadecane (C₁₈)
 phenanthrene
 pyrene
n-tetracosane (C₂₄)
n-tetradecane (C₁₄)
n-triacontane (C₃₀)

@ 25 µg/mL in hexane

SMA-330-1 **1 x 1 mL**

EPH Surrogate Spiking Solution (MA)**2 Analytes**

o-terphenyl (OTP)
 1-chlorooctadecane (COD)

@ 2000 µg/mL in acetone

ISM-580-1 **1 x 1 mL**

EPH Fractionation Surrogate Standard Mixture (MA)**2 Analytes**

2-bromonaphthalene
 2-fluorobiphenyl

@ 2000 µg/mL in methylene chloride

ISM-650-1 **1 x 1 mL**

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No Dilution Required

Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

EPH Matrix Spike Standard Shooter™ (MA)

10 Analytes

acenaphthene
anthracene
chrysene
naphthalene
pyrene
n-eicosane (C₂₀)
n-nonadecane (C₁₉)
n-nonane (C₉)
n-octacosane (C₂₈)
n-tetradecane (C₁₄)

@ 50 µg/mL in acetone

SMA-322X 1 x 100 mL

EPH Fractionation Surrogate Standard Mixture Shooter™ (MA)

2 Analytes

2-bromonaphthalene
2-fluorobiphenyl

@ 40 µg/mL in hexane

ISM-651X 1 x 100 mL

EPH Surrogate Spiking Solution Shooter™ (MA)

2 Analytes

o-terphenyl (OTP)
1-chlorooctadecane (COD)

@ 40 µg/mL in acetone

ISM-581X 1 x 100 mL

Internal and Surrogate Standards for UST Testing – MA EPH

1 x 1 mL Ampules

All @ 2000 µg/mL in methylene chloride

5-α-androstane	IST-500-1
2-bromonaphthalene	IST-551-1
1-chlorooctadecane	IST-470-1
2-fluorobiphenyl	ATS-140-1
<i>o</i>-terphenyl	IST-480-1

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**

Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



MICHIGAN – GRO AND PNA

PNA Standard (MS)

17 Analytes

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[ghi]perylene
 benzo[a]pyrene
 chrysene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 2-methylnaphthalene
 naphthalene
 phenanthrene
 pyrene

@ 1000 µg/mL in methylene chloride

SMA-300-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**

Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



MISSISSIPPI – GRO, DRO, AND PAH

GRO Mixture (MS)

10 Analytes

benzene	500 µg/mL
ethylbenzene	500 µg/mL
<i>n</i> -heptane	500 µg/mL
2-methylpentane	1500 µg/mL
toluene	1500 µg/mL
1,2,4-trimethylbenzene	1000 µg/mL
2,2,4-trimethylpentane	1500 µg/mL
<i>o</i> -xylene	1000 µg/mL
<i>m</i> -xylene	1000 µg/mL
<i>p</i> -xylene	1000 µg/mL

in methanol

UST-111-1 1 x 1 mL

DRO Aliphatic Calibration Mix (MS)

16 Analytes

n-decane (C₁₀)
n-undecane (C₁₁)
n-dodecane (C₁₂)
n-tridecane (C₁₃)
n-tetradecane (C₁₄)
n-pentadecane (C₁₅)
n-hexadecane (C₁₆)
n-heptadecane (C₁₇)
n-octadecane (C₁₈)
n-nonadecane (C₁₉)
n-eicosane (C₂₀)
n-heneicosane (C₂₁)
n-docosane (C₂₂)
n-tricosane (C₂₃)
n-tetracosane (C₂₄)
n-pentacosane (C₂₅)

@ 1000 µg/mL in methylene chloride

UST-210-1 1 x 1 mL

PAH Standard (MS)

17 Analytes

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[ghi]perylene
 benzo[a]pyrene
 chrysene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 2-methylnaphthalene
 naphthalene
 phenanthrene
 pyrene

@ 1000 µg/mL in methylene chloride

SMA-300-1 1 x 1 mL

NEW JERSEY – OQA-QAM-025

TRPH Standard (NJ)

35 Analytes

<i>n</i> -octane (C ₈)	<i>n</i> -hexacosane (C ₂₆)
<i>n</i> -nonane (C ₉)	<i>n</i> -heptacosane (C ₂₇)
<i>n</i> -decane (C ₁₀)	<i>n</i> -octacosane (C ₂₈)
<i>n</i> -undecane (C ₁₁)	<i>n</i> -nonacosane (C ₂₉)
<i>n</i> -dodecane (C ₁₂)	<i>n</i> -triacontane (C ₃₀)
<i>n</i> -tridecane (C ₁₃)	<i>n</i> -hentriacontane (C ₃₁)
<i>n</i> -tetradecane (C ₁₄)	<i>n</i> -dotriacontane (C ₃₂)
<i>n</i> -pentadecane (C ₁₅)	<i>n</i> -tritriacontane (C ₃₃)
<i>n</i> -hexadecane (C ₁₆)	<i>n</i> -tetratriacontane (C ₃₄)
<i>n</i> -heptadecane (C ₁₇)	<i>n</i> -pentatriacontane (C ₃₅)
<i>n</i> -octadecane (C ₁₈)	<i>n</i> -hexatriacontane (C ₃₆)
<i>n</i> -nonadecane (C ₁₉)	<i>n</i> -heptatriacontane (C ₃₇)
<i>n</i> -eicosane (C ₂₀)	<i>n</i> -octatriacontane (C ₃₈)
<i>n</i> -heneicosane (C ₂₁)	<i>n</i> -nonatriacontane (C ₃₉)
<i>n</i> -docosane (C ₂₂)	<i>n</i> -tetracontane (C ₄₀)
<i>n</i> -tricosane (C ₂₃)	phytane
<i>n</i> -tetracosane (C ₂₄)	pristane
<i>n</i> -pentacosane (C ₂₅)	

@ 500 µg/mL in methylene chloride

SNJ-200-1 1 x 1 mL

TRPH Column Resolution Standard (NJ)

4 Analytes

<i>n</i> -heptadecane (C ₁₇)
<i>n</i> -octadecane (C ₁₈)
phytane
pristane

@ 2000 µg/mL in methylene chloride

UST-310-1 1 x 1 mL

Individual Petrochemical Standards for UST Testing – NJ

1 x 1 mL Ampules

@ 5000 µg/mL in methylene chloride

diesel fuel #2 RGO-611-1

All @ 1000 µg/mL in methylene chloride

SAE 10W30 motor oil RGO-722-1

SAE 10W40 motor oil RGO-723-1

Internal and Surrogate Standards for UST Testing – NJ

1 x 1 mL Ampules

@ 1000 µg/mL in methylene chloride

tetracosane-d₅₀ IST-730-1

All @ 2000 µg/mL in methylene chloride

5- α -androstane IST-500-1

1-chlorooctadecane IST-470-1

α -terphenyl IST-480-1

NEW YORK – STARS COMPOUNDS

VOA Mixture (NY)

16 Analytes

benzene
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
 ethylbenzene
 isopropylbenzene
p-isopropyltoluene
 methyl *tert*-butyl ether (MTBE)
 naphthalene
n-propylbenzene
 toluene
 1,2,4-trimethylbenzene
 1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

SNY-100-1

1 x 1 mL

PAH Mixture (NY)

16 Analytes

acenaphthene
 acenaphthylene
 anthracene
 benz[a]anthracene
 benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[ghi]perylene
 benzo[a]pyrene
 chrysene
 dibenz[a,h]anthracene
 fluoranthene
 fluorene
 indeno[1,2,3-cd]pyrene
 naphthalene
 phenanthrene
 pyrene

@ 2000 µg/mL in

methylene chloride/benzene (1:1)

US-106N-1

1 x 1 mL

PENNSYLVANIA – GRO AND PAH

GRO Mixture (PA)

11 Analytes

benzene
 1,2-dibromoethane
 1,2-dichloroethane
 ethylbenzene
 isopropylbenzene
 methyl *tert*-butyl ether (MTBE)
 naphthalene
 toluene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

SPA-100-1

1 x 1 mL

VPH Mixture (PA)

9 Analytes

benzene	1000 µg/mL
ethylbenzene	1000 µg/mL
methyl <i>tert</i> -butyl ether	2000 µg/mL
naphthalene	1000 µg/mL
isopropylbenzene	1000 µg/mL
toluene	1000 µg/mL
<i>o</i> -xylene	1000 µg/mL
<i>m</i> -xylene	1000 µg/mL
<i>p</i> -xylene	1000 µg/mL

in methanol

SPA-110-1

1 x 1 mL

TENNESSEE - GRO AND DRO

GRO Mixture (TN)*10 Analytes*

benzene	500 µg/mL
ethylbenzene	500 µg/mL
<i>n</i> -heptane	500 µg/mL
2-methylpentane	1500 µg/mL
toluene	1500 µg/mL
1,2,4-trimethylbenzene	1000 µg/mL
2,2,4-trimethylpentane	1500 µg/mL
<i>o</i> -xylene	1000 µg/mL
<i>m</i> -xylene	1000 µg/mL
<i>p</i> -xylene	1000 µg/mL

*in methanol***UST-111-1** **1 x 1 mL****DRO Aliphatic Calibration Mix (TN)***16 Analytes*

<i>n</i> -decane (C ₁₀)
<i>n</i> -undecane (C ₁₁)
<i>n</i> -dodecane (C ₁₂)
<i>n</i> -tridecane (C ₁₃)
<i>n</i> -tetradecane (C ₁₄)
<i>n</i> -pentadecane (C ₁₅)
<i>n</i> -hexadecane (C ₁₆)
<i>n</i> -heptadecane (C ₁₇)
<i>n</i> -octadecane (C ₁₈)
<i>n</i> -nonadecane (C ₁₉)
<i>n</i> -eicosane (C ₂₀)
<i>n</i> -heneicosane (C ₂₁)
<i>n</i> -docosane (C ₂₂)
<i>n</i> -tricosane (C ₂₃)
<i>n</i> -tetracosane (C ₂₄)
<i>n</i> -pentacosane (C ₂₅)

@ 1000 µg/mL in methylene chloride

UST-210-1 **1 x 1 mL****Internal and Surrogate Standards for UST Testing – TN****1 x 1 mL Ampules**

@ 5000 µg/mL in methylene chloride

4-isopropyltoluene EPA-1039-1

All @ 2000 µg/mL in methylene chloride

5- α -androstane IST-500-1***o*-terphenyl** IST-480-1**Ordering Is Easy****Online**www.ultrasci.com
ultra@ultrasci.com**Phone**800-338-1754
Monday – Friday
8:30 a.m. - 5:00 p.m. ET**Fax**

401-295-2330

MailULTRA Scientific
250 Smith Street
No. Kingstown, RI
02852

TEXAS – TNRCC METHODS 1005 AND 1006

**TNRCC Method 1005 Window
Defining Hydrocarbon Standard (TX)**

4 Analytes

n-hexane (C₆)
n-dodecane (C₁₂)
n-octacosane (C₂₈)
n-pentatriacontane (C₃₅)

@ 200 µg/mL in pentane

STX-110-1 1 x 1 mL**TNRCC Method 1005 and 1006
Marker Standard (TX)**

7 Analytes

n-hexane (C₆)
n-octane (C₈)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-hexadecane (C₁₆)
n-heneicosane (C₂₁)
n-pentatriacontane (C₃₅)

@ 200 µg/mL in pentane

STX-120-1 1 x 1 mL**TNRCC Method 1005 Window
Defining Hydrocarbon Standard (TX)**

3 Analytes

n-hexane (C₆)
n-decane (C₁₀)
n-octacosane (C₂₈)

@ 200 µg/mL in pentane

STX-100-1 1 x 1 mL**Petroleum Product Standard**

2 Analytes

unleaded gasoline
diesel fuel #2

@ 5000 µg/mL in methanol

RGO-740-1 1 x 1 mL**Internal and Surrogate Standards for UST Testing – TX**

1 x 1 mL Ampules

All @ 2000 µg/mL in methanol

1-chlorooctane	STS-490-1
α,α,α-trifluorotoluene	STS-220N-1

All @ 2000 µg/mL in methylene chloride

1-chlorooctadecane	IST-470-1
2-fluorobiphenyl	ATS-140-1
σ-terphenyl	IST-480-1

Volume discounts for individual solutionsOrder 4–19 ampules of the same item and receive a **20% DISCOUNT**Order 20 or more ampules of the same item and receive a **30% DISCOUNT**

WASHINGTON – VOLATILE PETROLEUM HYDROCARBONS (VPH) METHOD

Primary VPH Stock Standard (WA)

15 Analytes

n-pentane (C₅)
n-hexane (C₆)
 methyl *tert*-butyl ether (MTBE)
 benzene
 toluene
n-octane (C₈)
 ethylbenzene
o-xylene
m-xylene
p-xylene
 1,2,3-trimethylbenzene
n-decane (C₁₀)
 naphthalene
n-dodecane (C₁₂)
 1-methylnaphthalene

@ 20,000 µg/mL in methanol

SWA-101-1 **1 x 1 mL**

Primary VPH Dilution Standard (WA)

15 Analytes

n-pentane (C₅)
n-hexane (C₆)
 methyl *tert*-butyl ether (MTBE)
 benzene
 toluene
n-octane (C₈)
 ethylbenzene
o-xylene
m-xylene
p-xylene
 1,2,3-trimethylbenzene
n-decane (C₁₀)
 naphthalene
n-dodecane (C₁₂)
 1-methylnaphthalene

@ 1000 µg/mL in methanol

SWA-100-1 **1 x 1 mL**

VPH Matrix Spiking Solution (WA)

15 Analytes

n-pentane (C₅)
n-hexane (C₆)
 methyl *tert*-butyl ether (MTBE)
 benzene
 toluene
n-octane (C₈)
 ethylbenzene
o-xylene
m-xylene
p-xylene
 1,2,3-trimethylbenzene
n-decane (C₁₀)
 naphthalene
n-dodecane (C₁₂)
 1-methylnaphthalene

@ 50 µg/mL in methanol

SWA-110-1 **1 x 1 mL**

VPH Surrogate Spiking Solution (WA)

2,5-dibromotoluene

@ 5000 µg/mL in methanol

STS-550-1 **1 x 1 mL**

@ 10000 µg/mL in methanol

SKS-101 **1 x 5 mL**

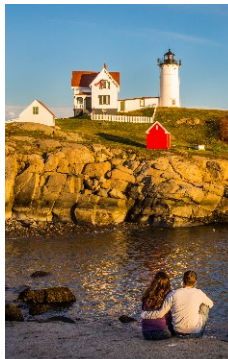
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- ✓ SDS's (GHS compliant)
- ✓ EPA Methods
- ✓ And more!



WASHINGTON – EXTRACTABLE PETROLEUM HYDROCARBONS (EPH) METHOD

EPH Aromatic Hydrocarbon Standard (WA)

6 Analytes

acenaphthene
benzo[ghi]perylene
naphthalene
pyrene
toluene
1,2,3-trimethylbenzene

@ 1000 µg/mL in methylene chloride

SWA-300-1**1 x 1 mL****PH Aliphatic Hydrocarbon Standard (WA)**

6 Analytes

n-octane (C₈)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-hexadecane (C₁₆)
n-heneicosane (C₂₁)
n-tetratriacontane (C₃₄)

@ 1000 µg/mL in hexane

SWA-310-1**1 x 1 mL****EPH Fractionation Check Solution (WA)**

22 Analytes

n-octane (C₈)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-hexadecane (C₁₆)
n-heneicosane (C₂₁)
n-tetratriacontane (C₃₄)

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[a]pyrene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[k]fluoranthene
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene
indeno[1,2,3-cd]pyrene
naphthalene
phenanthrene
pyrene

@ 25 µg/mL in hexane

SWA-330-1**1 x 1 mL****EPH Surrogate Spiking Solution (WA)**

2 Analytes

o-terphenyl (OTP)
1-chlorooctadecane (COD)

@ 2000 µg/mL in acetone

ISM-580-1**1 x 1 mL****EPH Matrix Spike Standard Shooter™ (WA)**

10 Analytes

n-decane (C₁₀)
n-dodecane (C₁₂)
n-hexadecane (C₁₆)
n-heneicosane (C₂₁)

acenaphthene
anthracene
benzo[ghi]perylene
benzo[a]pyrene
naphthalene
pyrene

@ 25 µg/mL in acetone

SWA-320X**1 x 100 mL****Internal and Surrogate Standards for UST Testing – WA EPH****1 x 1 mL Ampules**

All @ 2000 µg/mL in methylene chloride

5- α -androstane

IST-500-1

1-chlorooctadecane

IST-470-1

***o*-terphenyl**

IST-480-1

WASHINGTON AND OREGON – TOTAL PETROLEUM HYDROCARBONS (NWTPH) METHODS

NWTPH-HCID Retention Time Standard**3 Analytes**

toluene
n-dodecane (C₁₂)
n-tetracosane (C₂₄)

@ 2500 µg/mL in methylene chloride

SWA-500-1 **1 x 1 mL**

NWTPH-HCID Surrogate Standard**2 Analytes**

4-bromofluorobenzene
n-pentacosane (C₂₅)

@ 5000 µg/mL in methylene chloride

ISM-660-1 **1 x 1 mL**

NWTPH-Gx Surrogate Standard**2 Analytes**

4-bromofluorobenzene
 1,4-difluorobenzene

@ 2500 µg/mL in methanol

STM-560-1 **1 x 1 mL**

M – GRO AND DRO

PVOC/GRO Mixture (WI)**10 Analytes**

benzene
 ethylbenzene
 methyl *tert*-butyl ether (MTBE)
 naphthalene
 toluene
 1,2,4-trimethylbenzene
 1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene

@ 1000 µg/mL in methanol

UST-100-1 **1 x 1 mL**

DRO Mixture (WI)**10 Analytes**

n-decane (C₁₀)
n-dodecane (C₁₂)
n-tetradecane (C₁₄)
n-hexadecane (C₁₆)
n-octadecane (C₁₈)
n-eicosane (C₂₀)
n-docosane (C₂₂)
n-tetracosane (C₂₄)
n-hexacosane (C₂₆)
n-octacosane (C₂₈)

@ 2000 µg/mL in methylene chloride

UST-200-1 **1 x 1 mL**

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



INTERNAL AND SURROGATE STANDARDS FOR UNDERGROUND STORAGE TANK (UST) TESTING

Internal and Surrogate Standards for UST Testing

1 x 1 mL Ampules

All @ 2000 µg/mL in methanol

4-bromofluorobenzene	STS-110N-1
1-chloro-4-fluorobenzene	STS-570-1
1-chlorooctane	STS-490-1
α,α,α-trifluorotoluene	STS-220N-1

@ 1000 µg/mL in methylene chloride

tetracosane-d₅₀	IST-730-1
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All @ 2000 µg/mL in methylene chloride

5-α-androstane	IST-500-1
2-bromonaphthalene	IST-551-1
1-chlorooctadecane	IST-470-1
2-fluorobiphenyl	ATS-140-1
squalane	IST-670-1
o-terphenyl	IST-480-1
p-terphenyl	IST-490-1
n-triacontane-d₆₂	IST-720-1

ASTM Surrogate Base Gasoline

13 Components

Component	Volume %
benzene	1 %
n-decane (C ₁₀)	10 %
n-dodecane (C ₁₂)	5 %
ethylbenzene	5 %
n-heptane (C ₇)	15 %
n-hexane (C ₆)	10 %
isooctane	10 %
n-octane (C ₈)	15 %
1,2,4,5-tetramethylbenzene (wt %)	5 %
toluene	9 %
1,2,4-trimethylbenzene	5 %
o-xylene	5 %
m-xylene	5 %

RGO-711-1 **1 x 1 mL**

B.T.E.X. in Unleaded Gasoline

This is composite unleaded gasoline for which the BTEX components have been analyzed. The concentrations of the components are certified by ULTRA Scientific.

7 Analytes

benzene
ethylbenzene
toluene
xylenes (total)
isopropylbenzene
naphthalene
methyl tert-butyl ether (MTBE)

Concentrations Certified on Accompanying Certificate

BTX-3000-1 **1 x 1 mL**

Diesel/Motor Oil Standard

2 Analytes

diesel fuel
SAE 10W30 motor oil

*@ 50,000 µg/mL in hexane***RGO-730-1** **1 x 1 mL**

EPA METHOD 1664A

OIL AND GREASE, AND TOTAL PETROLEUM HYDROCARBONS

Method 1664A is a gravimetric method for the determination of *n*-hexane extractable material (HEM) in surface and saline waters, and in industrial and domestic aqueous wastes. Extractable materials that may be determined are relatively non-volatile hydrocarbons, vegetable oils, animal fats, waxes, soaps, greases, and related materials.

To read the complete method, log onto our website at www.ultrasci.com.

EPA Method 1664A Precision, Accuracy, and Recovery Standard

2 Analytes

n-hexadecane
stearic acid

@ 2000 µg/mL in acetone

RGO-102X **1 x 100 mL**

@ 4000 µg/mL in acetone

RGO-101X **1 x 100 mL**

Technical Note

These standards often crystallize on standing. Always check for crystals before use. For best results, always equilibrate the standards in an ultrasonic bath to ensure complete dissolution.

EPA METHOD 418.1

OIL AND GREASE AND TOTAL PETROLEUM HYDROCARBONS

Method 418.1 is a method for determining TPH using a freon (CFC-113) as the extraction solvent. After extraction, polar components are removed by adsorption on silica gel, and the remaining components are measured by infrared spectrometry (IR). Method 418.1 was withdrawn by the EPA due to the use of a fluorocarbon extraction solvent. Although Method 418.1 is no longer an approved EPA method, ULTRA Scientific continues to offer this standard for your convenience.

EPA Method 418.1 Calibration Oil

3 Components

Component	% v/v
<i>n</i> -hexadecane	37.5 %
isooctane	37.5 %
chlorobenzene	25.0 %

RGO-100-1 **1 x 1 mL**

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



HYDROCARBON FUEL STANDARDS

Fuel Standards for UST Testing

1 x 1 mL Ampules

All @ 500 µg/mL in methanol

Unleaded Gasoline	RGO-600-1
Diesel Fuel #2	RGO-610-1

All @ 1000 µg/mL in methylene chloride

SAE 10W30 motor oil	RGO-722-1
SAE 10W40 motor oil	RGO-723-1

All @ 2500 µg/mL in methanol

Composite Unleaded Gasoline *	RGO-605-1
100 Octane Aviation Fuel	RGO-661-1
Composite Diesel Fuel *	RGO-615-1
Composite Kerosene *	RGO-625-1

All @ 5000 µg/mL in methylene chloride

Commercial Jet Fuel A	RGO-671-1
Fuel Oil #4	RGO-631-1
Fuel Oil #5	RGO-641-1
Fuel Oil #6	RGO-651-1
Oxygenate Free Unleaded Regular Gasoline	RGO-608-1
Oxygenate Free Unleaded Premium Gasoline	RGO-609-1
JP-5 Military Fuel	RGO-691-1

All @ 50,000 µg/mL in methylene chloride

Composite Unleaded Gasoline *	RGO-606-1
100 Octane Aviation Fuel	RGO-662-1
Composite Diesel Fuel *	RGO-616-1
Composite Kerosene *	RGO-626-1
Commercial Jet Fuel A	RGO-672-1
Fuel Oil #4	RGO-632-1
Fuel Oil #5	RGO-642-1
Fuel Oil #6	RGO-652-1
JP-5 Military Fuel	RGO-692-1

** Composite standards are prepared from multiple sources of fuel.
All other standards are single source samples.*

WEATHERED HYDROCARBON FUEL STANDARDS

WEATHERED FUELS

ULTRA's weathered fuel standards are designed to simulate the effects of exposures on hydrocarbon fuel samples. The standards are prepared by evaporation of the low boiling components of the fuel sample until the desired percentage reduction is achieved. Matrix effects have not been simulated.

Unleaded Gasoline Standards

unleaded gasoline
@ 5000 µg/mL in methanol

Unweathered

RGO-601-1 1 x 1 mL

25% Weathered

RGO-602-1 1 x 1 mL

50% Weathered

RGO-603-1 1 x 1 mL

75% Weathered

RGO-604-1 1 x 1 mL

Diesel Fuel Standards

diesel fuel
@ 5000 µg/mL in methylene chloride

Unweathered

RGO-611-1 1 x 1 mL

25% Weathered

RGO-612-1 1 x 1 mL

50% Weathered

RGO-613-1 1 x 1 mL

75% Weathered

RGO-614-1 1 x 1 mL

Weathered Hydrocarbon Kits

Each kit contains four ampules:

1 x 1 mL of each of the following standards

Unweathered Hydrocarbon
25% Weathered Hydrocarbon
50% Weathered Hydrocarbon
75% Weathered Hydrocarbon

Weathered Gasoline Kit

RGK-601 Kit

Weathered Diesel Kit

RGK-611 Kit

Weathered Kerosene Kit

RGK-621 Kit

Weathered Mineral Spirits Kit

RGK-701 Kit

Kerosene Standards

kerosene
@ 5000 µg/mL in methylene chloride

Unweathered

RGO-621-1 1 x 1 mL

25% Weathered

RGO-622-1 1 x 1 mL

50% Weathered

RGO-623-1 1 x 1 mL

75% Weathered

RGO-624-1 1 x 1 mL

Mineral Spirits Standards

mineral spirits
@ 5000 µg/mL in methylene chloride

Unweathered

RGO-701-1 1 x 1 mL

25% Weathered

RGO-702-1 1 x 1 mL

50% Weathered

RGO-703-1 1 x 1 mL

75% Weathered

RGO-704-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



EN 14105:2003

FREE AND TOTAL GLYCEROL AND MONO-, DI-, TRI-GLYCERIDE CONTENT

Method EN 14105 is used to determine glycerin and total glycerine in fatty acid methyl esters (FAME) used in biodiesel products. Samples are derivatized, then analyzed by high temperature gas chromatography (HTGC). It is similar to ASTM D6584.

EN 14105:2003 Standard #1

6 Analytes

1,2,4-butanetriol	80 µg/mL
diolein	50 µg/mL
glycerol (<i>glycerine</i>)	5 µg/mL
monoolein	250 µg/mL
tricaprin	800 µg/mL
triolein	50 µg/mL

in pyridine

RGO-300-1	1 x 1 mL
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EN 14105:2003 Standard #2

6 Analytes

1,2,4-butanetriol	80 µg/mL
diolein	200 µg/mL
glycerol (<i>glycerine</i>)	20 µg/mL
monoolein	600 µg/mL
tricaprin	800 µg/mL
triolein	150 µg/mL

in pyridine

RGO-301-1	1 x 1 mL
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Monoglyceride Stock Solution

3 Analytes

monoolein
monopalmitin
monostearin

@ 10,000 µg/mL in pyridine

RGO-280-1	1 x 1 mL
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EN 14105:2003 Standard #3

6 Analytes

1,2,4-butanetriol	80 µg/mL
diolein	350 µg/mL
glycerol (<i>glycerine</i>)	35 µg/mL
monoolein	950 µg/mL
tricaprin	800 µg/mL
triolein	300 µg/mL

in pyridine

RGO-302-1	1 x 1 mL
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EN 14105:2003 Standard #4

6 Analytes

1,2,4-butanetriol	80 µg/mL
diolein	500 µg/mL
glycerol (<i>glycerine</i>)	50 µg/mL
monoolein	1250 µg/mL
tricaprin	800 µg/mL
triolein	400 µg/mL

in pyridine

RGO-303-1	1 x 1 mL
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Individual Standards for Biodiesel Testing

	Concentration	Catalog #	Unit Size
<i>in pyridine</i>			
glycerine	500 µg/mL	RGO-210	1 x 2 mL
monoolein	5000 µg/mL	RGO-220	1 x 2 mL
diolein	5000 µg/mL	RGO-230	1 x 2 mL
triolein	5000 µg/mL	RGO-240	1 x 2 mL
monopalmitin	5000 µg/mL	RGO-250	1 x 2 mL

ASTM METHOD D6584

FREE AND TOTAL
GLYCERIN IN B-100
BIODIESEL METHYL
ESTERS

Method D6584 covers the quantitative determination of free and total glycerin in B-100 methyl esters. Samples are derivatized, then analyzed by high temperature gas chromatography (HTGC). It is similar to EN 14105.

ASTM D6584 Standard #1

4 Analytes

diolein	50 µg/mL
glycerol (<i>glycerine</i>)	5 µg/mL
monoolein	100 µg/mL
triolein	50 µg/mL

in pyridine

RGO-310-1	1 x 1 mL
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ASTM D6584 Standard #2

4 Analytes

diolein	100 µg/mL
glycerol (<i>glycerine</i>)	15 µg/mL
monoolein	250 µg/mL
triolein	100 µg/mL

in pyridine

RGO-311-1	1 x 1 mL
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ASTM D6584 Standard #3

4 Analytes

diolein	200 µg/mL
glycerol (<i>glycerine</i>)	25 µg/mL
monoolein	500 µg/mL
triolein	200 µg/mL

in pyridine

RGO-312-1	1 x 1 mL
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ASTM D6584 Standard #4

4 Analytes

diolein	350 µg/mL
glycerol (<i>glycerine</i>)	35 µg/mL
monoolein	750 µg/mL
triolein	350 µg/mL

in pyridine

RGO-313-1	1 x 1 mL
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ASTM D6584 Standard #5

4 Analytes

diolein	500 µg/mL
glycerol (<i>glycerine</i>)	50 µg/mL
monoolein	1000 µg/mL
triolein	500 µg/mL

in pyridine

RGO-314-1	1 x 1 mL
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Internal Standards for Biodiesel Testing

	Concentration	Catalog #	Unit Size
<i>in pyridine</i>			
1,2,4-butanetriol	1000 µg/mL	RGO-260	1 x 5 mL
tricaprin	8000 µg/mL	RGO-270	1 x 5 mL

Derivatizing Agent—MSTFA

N-methyl-N-(trimethylsilyl)trifluoroacetamide (MSTFA)		
RGO-200		1 x 5 gm

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



ASTM METHOD D1387

SAPONIFICATION
NUMBER (EMPIRICAL)
OF SYNTHETIC AND
NATURAL WAXES

Method D1387 covers the determination of the saponification number of synthetic waxes and natural waxes.

ASTM E1387 Column Resolution
Check Mixture

13 Analytes

n-hexane (C₆)
n-octane (C₈)
n-decane (C₁₀)
n-dodecane (C₁₂)
n-tetradecane (C₁₄)
n-hexadecane (C₁₆)
n-octadecane (C₁₈)
n-eicosane (C₂₀)
 toluene
 1,2,4-trimethylbenzene
 2-ethyltoluene
 3-ethyltoluene
p-xylene

@ 2000 µg/mL in methylene chloride

ASTM-130-1 **1 x 1 mL**

ASTM METHOD D2887

BOILING RANGE
DISTRIBUTION OF
PETROLEUM FRACTIONS

Method D2887 covers the determination of the boiling range distribution of petroleum products. The test method is applicable to petroleum products and fractions having a final boiling point of 538°C (1000°F) or lower at atmospheric pressure as measured by this test method. The test method is limited to samples having a boiling range greater than 55°C (100°F), and having a vapor pressure sufficiently low to permit sampling at ambient temperature.

ASTM Method D2887 Column
Test Mixture

2 Analytes

n-hexadecane (C₁₆)
n-octadecane (C₁₈)

@ 1 % (w/v) in *n*-octane

ASTM-120-1 **1 x 1 mL**

ASTM Method D2887 Column
Test Mixture

17 Components

Component	%, w/w
<i>n</i> -hexane (C ₆)	6 %
<i>n</i> -heptane (C ₇)	6 %
<i>n</i> -octane (C ₈)	8 %
<i>n</i> -nonane (C ₉)	8 %
<i>n</i> -decane (C ₁₀)	12 %
<i>n</i> -undecane (C ₁₁)	12 %
<i>n</i> -dodecane (C ₁₂)	12 %
<i>n</i> -tetradecane (C ₁₄)	12 %
<i>n</i> -hexadecane (C ₁₆)	10 %
<i>n</i> -octadecane (C ₁₈)	5 %
<i>n</i> -eicosane (C ₂₀)	2 %
<i>n</i> -tetracosane (C ₂₄)	2 %
<i>n</i> -octacosane (C ₂₈)	1 %
<i>n</i> -dotriacontane (C ₃₂)	1 %
<i>n</i> -hexatriacontane (C ₃₆)	1 %
<i>n</i> -tetracontane (C ₄₀)	1 %
<i>n</i> -tetratetracontane (C ₄₄)	1 %

ASTM-110-1 **1 x 1 mL**

ASTM METHOD D3710

BOILING RANGE
DISTRIBUTION OF
GASOLINE AND
GASOLINE FRACTIONS

Method D3710 covers the determination of the boiling range distribution of gasoline and gasoline components. The test method is applicable to petroleum products and fractions with a final boiling point of 500°F (260°C) or lower.

ASTM Method D3710 Calibration Mixture

16 Components

Component	% v/v	Component	% v/v
2-methylbutane	10 %	<i>p</i> -xylene	14 %
<i>n</i> -pentane (C ₅)	8 %	<i>n</i> -propylbenzene	5 %
2-methylpentane	6 %	<i>n</i> -decane (C ₁₀)	4 %
<i>n</i> -hexane (C ₆)	6 %	<i>n</i> -butylbenzene	4 %
2,4-dimethylpentane	6 %	<i>n</i> -dodecane (C ₁₂)	4 %
<i>n</i> -heptane (C ₇)	10 %	<i>n</i> -tridecane (C ₁₃)	2 %
toluene	12 %	<i>n</i> -tetradecane (C ₁₄)	2 %
<i>n</i> -octane (C ₈)	5 %	<i>n</i> -pentadecane (C ₁₅)	2 %

ASTM-100-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**

Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



ASTM METHOD D4815

MTBE, ETBE, TAME,
DIPE, TERTIARY-AMYL
ALCOHOL AND C1
TO C4 ALCOHOLS IN
GASOLINE

Method D4815 covers the determination of ethers and alcohols in gasolines by gas chromatography.

ASTM Method D4815 Quantitative
Peak ID Mixture

16 Components

Component	Weight %
methylcyclopentane	4.0 %
methanol	7.3 %
ethanol	7.3 %
isopropanol	7.3 %
tert-butanol	7.3 %
<i>n</i> -propanol	7.3 %
methyl <i>tert</i> -butyl ether (MTBE)	4.0 %
<i>sec</i> -butanol	7.3 %
diisopropyl ether (DIPE)	4.0 %
isobutanol	7.3 %
ethyl <i>tert</i> -butyl ether (ETBE)	4.0 %
<i>tert</i> -pentanol	7.3 %
1,2-dimethoxyethane (DME)	6.0 %
<i>n</i> -butanol	7.3 %
benzene	5.0 %
<i>tert</i> -amyl methyl ether	7.3 %

RGO-422-1 1 x 1 mL

ASTM Surrogate Base Gasoline

13 Components

Component	Volume %
benzene	1 %
<i>n</i> -decane (C ₁₀)	10 %
<i>n</i> -dodecane (C ₁₂)	5 %
ethylbenzene	5 %
<i>n</i> -heptane (C ₇)	15 %
<i>n</i> -hexane (C ₆)	10 %
isooctane	10 %
<i>n</i> -octane (C ₈)	15 %
1,2,4,5-tetramethylbenzene (weight)	5 %
toluene	9 %
1,2,4-trimethylbenzene	5 %
<i>o</i> -xylene	5 %
<i>m</i> -xylene	5 %

RGO-711-1 1 x 1 mL

ASTM METHOD D5453

TOTAL SULFUR IN LIGHT HYDROCARBONS, SPARK IGNITION ENGINE FUEL, DIESEL ENGINE FUEL, AND ENGINE OIL

Method D5453 covers the determination of total sulfur in light hydrocarbons, spark ignition engine fuel, diesel engine fuel, and engine oil by ultraviolet fluorescence.

ASTM D5453—Total Sulfur Standards Kits (Low Concentration)

	Analyte	Concentration	Catalog #	Unit Size
ASTM D5453 Standards Kit (Low) <i>in toluene</i>	1 each of ampules 1-6		PANAL0211	kit
Ampule 1	toluene	solvent blank	PANAL0211-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	1 mg/L	PANAL0211-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	2.5 mg/L	PANAL0211-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	5 mg/L	PANAL0211-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	7.5 mg/L	PANAL0211-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	10 mg/L	PANAL0211-6	1 x 2 mL
ASTM D5453 Standards Kit (Low) <i>in isooctane</i>	1 each of ampules 1-6		PANAL0214	kit
Ampule 1	isooctane	solvent blank	PANAL0214-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	1 mg/L	PANAL0214-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	2.5 mg/L	PANAL0214-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	5 mg/L	PANAL0214-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	7.5 mg/L	PANAL0214-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	10 mg/L	PANAL0214-6	1 x 2 mL

ASTM D5453—Total Sulfur Standards Kits (Medium Concentration)

	Analyte	Concentration	Catalog #	Unit Size
ASTM D5453 Standards Kit (Medium) <i>in toluene</i>	1 each of ampules 1-6		PANAL0212	kit
Ampule 1	toluene	solvent blank	PANAL0212-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	5 mg/L	PANAL0212-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	25 mg/L	PANAL0212-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	50 mg/L	PANAL0212-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	100 mg/L	PANAL0212-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	200 mg/L	PANAL0212-6	1 x 2 mL
ASTM D5453 Standards Kit (Medium) <i>in isooctane</i>	1 each of ampules 1-6		PANAL0215	kit
Ampule 1	isooctane	solvent blank	PANAL0215-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	5 mg/L	PANAL0215-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	25 mg/L	PANAL0215-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	50 mg/L	PANAL0215-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	100 mg/L	PANAL0215-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	200 mg/L	PANAL0215-6	1 x 2 mL

ASTM D5453–Total Sulfur Standards Kits (High Concentration)

	Analyte	Concentration	Catalog #	Unit Size
ASTM D5453 Standards Kit (High)				
<i>in toluene</i>	1 each of ampules 1-6		PANAL0213	kit
Ampule 1	toluene	solvent blank	PANAL0213-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	100 mg/L	PANAL0213-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	250 mg/L	PANAL0213-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	500 mg/L	PANAL0213-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	750 mg/L	PANAL0213-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	1000 mg/L	PANAL0213-6	1 x 2 mL

	Analyte	Concentration	Catalog #	Unit Size
ASTM D5453 Standards Kit (High)				
<i>in isooctane</i>	1 each of ampules 1-6		PANAL0216	kit
Ampule 1	isooctane	solvent blank	PANAL0216-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	100 mg/L	PANAL0216-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	250 mg/L	PANAL0216-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	500 mg/L	PANAL0216-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	750 mg/L	PANAL0216-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	1000 mg/L	PANAL0216-6	1 x 2 mL

ASTM METHODS D3120, D3246 AND D3961

TOTAL SULFUR PETROLEUM HYDROCARBONS

Methods D3120, D3246 and D3961 cover the determination of total sulfur (including trace sulfur) in light petroleum products, and in related products and chemicals. ASTM D3961 was withdrawn in 2004.

ASTM D3120, D3246 & D3961–Sulfur Standards Kit

	Analyte	Concentration	Catalog #	Unit Size
ASTM D3120, D3246 & D3961 Kit				
<i>in isooctane</i>	1 each of ampules 1-6		PANAL0217	kit
Ampule 1	isooctane	solvent blank	PANAL0217-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	1 mg/L	PANAL0217-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	10 mg/L	PANAL0217-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	40 mg/L	PANAL0217-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	75 mg/L	PANAL0217-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	100 mg/L	PANAL0217-6	1 x 2 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



ASTM METHOD D4629

TRACE NITROGEN IN LIQUID PETROLEUM HYDROCARBONS

Method D4629 covers the determination of trace total nitrogen in liquid petroleum hydrocarbons by syringe/inlet oxidative combustion and chemiluminescence detection.

ASTM D4629—Trace Nitrogen Standards Kits

	Analyte	Concentration	Catalog #	Unit Size
ASTM D4629 Standards Kit (Low) <i>in isooctane</i>	1 each of ampules 1-6		PANAL0218	kit
Ampule 1	isooctane	solvent blank	PANAL0218-1	1 x 2 mL
Ampule 2	pyridine (as N)	1 mg/L	PANAL0218-2	1 x 2 mL
Ampule 3	pyridine (as N)	2 mg/L	PANAL0218-3	1 x 2 mL
Ampule 4	pyridine (as N)	5 mg/L	PANAL0218-4	1 x 2 mL
Ampule 5	pyridine (as N)	10 mg/L	PANAL0218-5	1 x 2 mL
Ampule 6	pyridine (as N)	20 mg/L	PANAL0218-6	1 x 2 mL
ASTM D4629 Standards Kit (Medium) <i>in isooctane</i>	1 each of ampules 1-6		PANAL0219	kit
Ampule 1	isooctane	solvent blank	PANAL0219-1	1 x 2 mL
Ampule 2	pyridine (as N)	50 mg/L	PANAL0219-2	1 x 2 mL
Ampule 3	pyridine (as N)	100 mg/L	PANAL0219-3	1 x 2 mL
Ampule 4	pyridine (as N)	200 mg/L	PANAL0219-4	1 x 2 mL
Ampule 5	pyridine (as N)	500 mg/L	PANAL0219-5	1 x 2 mL
Ampule 6	pyridine (as N)	1000 mg/L	PANAL0219-6	1 x 2 mL
ASTM D4629 Standards Kit (High) <i>in isooctane</i>	1 each of ampules 1-6		PANAL0220	kit
Ampule 1	isooctane	solvent blank	PANAL0220-1	1 x 2 mL
Ampule 2	pyridine (as N)	500 mg/L	PANAL0220-2	1 x 2 mL
Ampule 3	pyridine (as N)	1000 mg/L	PANAL0220-3	1 x 2 mL
Ampule 4	pyridine (as N)	2000 mg/L	PANAL0220-4	1 x 2 mL
Ampule 5	pyridine (as N)	5000 mg/L	PANAL0220-5	1 x 2 mL
Ampule 6	pyridine (as N)	10,000 mg/L	PANAL0220-6	1 x 2 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**

Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



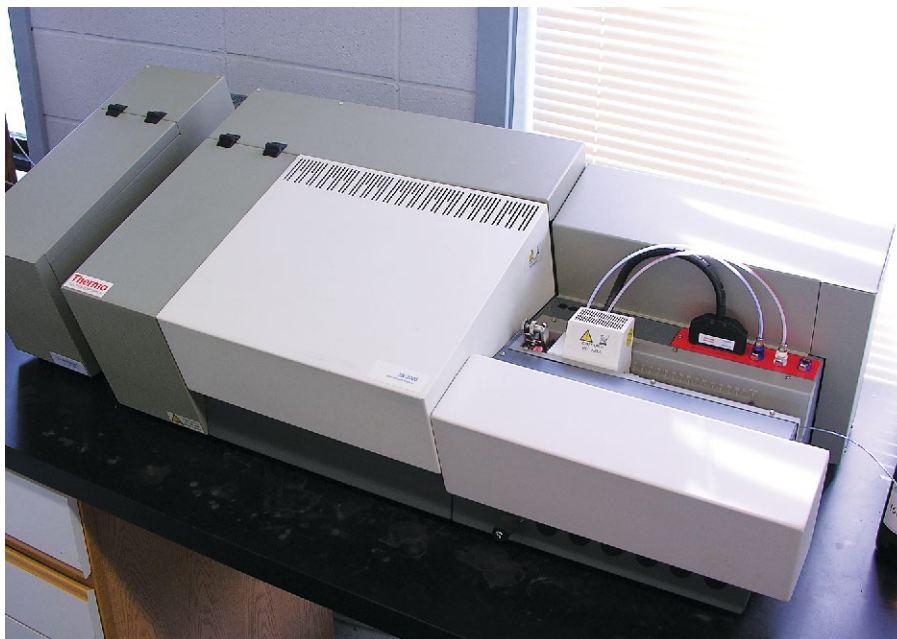
ASTM METHOD D5762

NITROGEN IN PETROLEUM AND PETROLEUM PRODUCTS

Method D5762 covers the determination of nitrogen in petroleum and petroleum products by boat-inlet chemiluminescence. For light hydrocarbons containing less than 100 µg/g nitrogen, Test Method D4629 can be more appropriate.

ASTM D5762–Nitrogen Standards Kit

	Analyte	Concentration	Catalog #	Unit Size
ASTM D5762 Standards Kit	1 each of ampules 1-6 <i>in toluene</i>		PANAL0221	kit
Ampule 1	toluene	solvent blank	PANAL0221-1	1 x 2 mL
Ampule 2	acridine (as N)	1 mg/L	PANAL0221-2	1 x 2 mL
Ampule 3	acridine (as N)	5 mg/L	PANAL0221-3	1 x 2 mL
Ampule 4	acridine (as N)	10 mg/L	PANAL0221-4	1 x 2 mL
Ampule 5	acridine (as N)	50 mg/L	PANAL0221-5	1 x 2 mL
Ampule 6	acridine (as N)	100 mg/L	PANAL0221-6	1 x 2 mL



ASTM METHOD D4929

ORGANIC CHLORIDE CONTENT IN CRUDE OIL

Method D4929 covers the determination of organic chloride in crude oils, using either distillation and sodium biphenyl reduction or distillation and microcoulometry.

ASTM D4929—Organic Chloride Standards Kits

	Analyte	Concentration	Catalog #	Unit Size
ASTM D4929 Standards Kit	<i>in isooctane</i>	1 each of ampules 1-6	PANAL0223	kit
Ampule 1	isooctane	solvent blank	PANAL0223-1	1 x 2 mL
Ampule 2	chlorobenzene (as Cl)	5 mg/L	PANAL0223-2	1 x 2 mL
Ampule 3	chlorobenzene (as Cl)	10 mg/L	PANAL0223-3	1 x 2 mL
Ampule 4	chlorobenzene (as Cl)	25 mg/L	PANAL0223-4	1 x 2 mL
Ampule 5	chlorobenzene (as Cl)	50 mg/L	PANAL0223-5	1 x 2 mL
Ampule 6	chlorobenzene (as Cl)	100 mg/L	PANAL0223-6	1 x 2 mL

ASTM METHOD D5808

ORGANIC CHLORIDE IN AROMATIC HYDROCARBONS

Method D5808 covers the determination of organic chloride in aromatic hydrocarbons and related chemicals by microcoulometry.

ASTM D5808—Organic Chloride Standards Kits

	Analyte	Concentration	Catalog #	Unit Size
ASTM D5808 Standards Kit	<i>in methanol</i>	1 each of ampules 1-6	PANAL0224	kit
Ampule 1	methanol	solvent blank	—	1 x 2 mL
Ampule 2	2,4,6-trichlorophenol (as Cl)	1 mg/L	—	1 x 2 mL
Ampule 3	2,4,6-trichlorophenol (as Cl)	5 mg/L	—	1 x 2 mL
Ampule 4	2,4,6-trichlorophenol (as Cl)	10 mg/L	—	1 x 2 mL
Ampule 5	2,4,6-trichlorophenol (as Cl)	15 mg/L	—	1 x 2 mL
Ampule 6	2,4,6-trichlorophenol (as Cl)	25 mg/L	—	1 x 2 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



ELEMENTAL COMBUSTION ANALYZER STANDARDS

Total Chlorine

See also ASTM D4929 and D5808 (opposite).

Chlorine Combustion Analyzer Standards

		Concentration	Catalog #	Unit Size		
<i>in Toluene</i>						
NaCl Standard	sodium chloride @ 2 mmol/L in Water PANAL0101	1 x 100 mL				
			chlorocyclohexane (as Cl)	0.05 %	PANAL0155	5 x 2 mL
			chlorocyclohexane (as Cl)	0.10 %	PANAL0156	5 x 2 mL
			chlorocyclohexane (as Cl)	0.50 %	PANAL0157	5 x 2 mL
			chlorocyclohexane (as Cl)	1.0 %	PANAL0158	5 x 2 mL
		chlorocyclohexane (as Cl)	3.0 %	PANAL0159	5 x 2 mL	
<i>in hexane</i>						
		aldrin (as Cl)	10 mg/L	PANAL0230	5 x 2 mL	
		aldrin (as Cl)	50 mg/L	PANAL0096	5 x 2 mL	
		aldrin (as Cl)	100 mg/L	PANAL0131	5 x 2 mL	

AOX Standard

4-chlorophenol (as Cl)
@ 200 mg/L in Water
PANAL0094

1 x 20 mL

POX Standard

methylene chloride (as Cl)
@ 100 mg/L in Ethanol
PANAL0102

1 x 10 mL

Chlorine Combustion Analyzer Standard Kits

	Analyte	Concentration	Catalog #	Unit Size
Aldrin (as Cl) Standards Kit				
	<i>in hexane</i>	1 each of ampules 1-4	PANAL0229	kit
Ampule 1	hexane	solvent blank	–	1 x 2 mL
Ampule 2	aldrin (as Cl)	0.1 mg/L	–	1 x 2 mL
Ampule 3	aldrin (as Cl)	0.5 mg/L	–	1 x 2 mL
Ampule 4	aldrin (as Cl)	1.0 mg/L	–	1 x 2 mL
Aldrin (as Cl) Standards Kit				
	<i>in hexane</i>	5 each of ampules 1-2	PANAL0095	kit
Ampule 1	hexane	solvent blank	PANAL0097	5 x 2 mL
Ampule 2	aldrin (as Cl)	5 mg/L	–	5 x 2 mL

ELEMENTAL COMBUSTION ANALYZER STANDARDS

Total Nitrogen

See also ASTM D4629 and D5762 (page 346).

Nitrogen Combustion Analyzer Standards

	Concentration	Catalog #	Unit Size
<i>in Toluene</i>			
benzotrile (as N)	1 mg/L	PANAL0175	5 x 2 mL
benzotrile (as N)	10 mg/L	PANAL0169	5 x 2 mL
benzotrile (as N)	50 mg/L	PANAL0170	5 x 2 mL
benzotrile (as N)	100 mg/L	PANAL0180	5 x 2 mL
benzotrile (as N)	200 mg/L	PANAL0183	5 x 2 mL
benzotrile (as N)	500 mg/L	PANAL0181	5 x 2 mL
benzotrile (as N)	1000 mg/L	PANAL0179	5 x 2 mL
benzotrile (as N)	2000 mg/L	PANAL0186	5 x 2 mL
benzotrile (as N)	5000 mg/L	PANAL0187	5 x 2 mL

Additional Nitrogen Combustion Analyzer Standard Kits

	Analyte	Concentration	Catalog #	Unit Size
Benzonitrile (as N) Standards Kit (Low)				
<i>in toluene</i>	1 each of ampules 1-4		PANAL0237	kit
Ampule 1	toluene	solvent blank	–	1 x 2 mL
Ampule 2	benzotrile (as N)	1 mg/L	–	1 x 2 mL
Ampule 3	benzotrile (as N)	5 mg/L	–	1 x 2 mL
Ampule 4	benzotrile (as N)	10 mg/L	–	1 x 2 mL
Benzonitrile (as N) Standards Kit (High)				
<i>in toluene</i>	1 each of ampules 1-4		PANAL0238	kit
Ampule 1	benzotrile (as N)	100 mg/L	–	1 x 2 mL
Ampule 2	benzotrile (as N)	200 mg/L	–	1 x 2 mL
Ampule 3	benzotrile (as N)	500 mg/L	–	1 x 2 mL
Ampule 4	benzotrile (as N)	1000 mg/L	–	1 x 2 mL

Ultra Low Nitrogen Standards Kit

	Analyte	Concentration	Catalog #	Unit Size
Ultra Low Nitrogen Standards Kit				
<i>in toluene</i>	1 each of ampules 1-6		PANAL0228	kit
Ampule 1	toluene	solvent blank	PANAL0228-1	1 x 2 mL
Ampule 2	pyridine (as N)	50 µg/L	PANAL0228-2	1 x 2 mL
Ampule 3	pyridine (as N)	100 µg/L	PANAL0228-3	1 x 2 mL
Ampule 4	pyridine (as N)	200 µg/L	PANAL0228-4	1 x 2 mL
Ampule 5	pyridine (as N)	500 µg/L	PANAL0228-5	1 x 2 mL
Ampule 6	pyridine (as N)	1000 µg/L	PANAL0228-6	1 x 2 mL

TN Water Applications Standards Kits

	Analyte	Concentration	Catalog #	Unit Size
TN Water Standards Kit (Low)	1 each of ampules 1-6		PANAL0225	kit
<i>in water</i>				
Ampule 1	water	solvent blank	–	1 x 2 mL
Ampule 2	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	0.5 mg/L each	–	1 x 2 mL
Ampule 3	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	1.0 mg/L each	–	1 x 2 mL
Ampule 4	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	2.5 mg/L each	–	1 x 2 mL
Ampule 5	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	5.0 mg/L each	–	1 x 2 mL
Ampule 6	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	12.5 mg/L each	–	1 x 2 mL
TN Water Standards Kit (Medium)	1 each of ampules 1-6		PANAL0226	kit
<i>in water</i>				
Ampule 1	water	solvent blank	–	1 x 2 mL
Ampule 2	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	5.0 mg/L each	–	1 x 2 mL
Ampule 3	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	12.5 mg/L each	–	1 x 2 mL
Ampule 4	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	25.0 mg/L each	–	1 x 2 mL
Ampule 5	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	37.5 mg/L each	–	1 x 2 mL
Ampule 6	NH ₄ SO ₄ (as N) + NaNO ₃ (as N)	50.0 mg/L each	–	1 x 2 mL

ELEMENTAL COMBUSTION ANALYZER STANDARDS

Total Sulfur

See also ASTM D5453, D3120, D3246 and D3961 (page 344).

Additional Sulfur Combustion Analyzer Standards

	Concentration	Catalog #	Unit Size
<i>in Xylene</i>			
Dibenzothiophene (as S)	1 mg/L	PANAL0194	1 x 10 mL
Dibenzothiophene (as S)	5 mg/L	PANAL0195	1 x 10 mL
Dibenzothiophene (as S)	10 mg/L	PANAL0196	1 x 10 mL

Ultra-Low Sulfur Standards Kit

	Analyte	Concentration	Catalog #	Unit Size
Ultra-Low Sulfur Standards Kit	1 each of ampules 1-6		PANAL0227	kit
<i>in toluene</i>				
Ampule 1	toluene	solvent blank	PANAL0227-1	1 x 2 mL
Ampule 2	butylsulfide (as S)	50 µg/L	PANAL0227-2	1 x 2 mL
Ampule 3	butylsulfide (as S)	100 µg/L	PANAL0227-3	1 x 2 mL
Ampule 4	butylsulfide (as S)	200 µg/L	PANAL0227-4	1 x 2 mL
Ampule 5	butylsulfide (as S)	500 µg/L	PANAL0227-5	1 x 2 mL
Ampule 6	butylsulfide (as S)	1000 µg/L	PANAL0227-6	1 x 2 mL

ELEMENTAL COMBUSTION ANALYZER STANDARDS

Total Nitrogen and Sulfur

Sulfur and Nitrogen Mixed Standards

	Analyte	Concentration	Catalog #	Unit Size
Sulfur and Nitrogen Mixed Kit	1 each of ampules 1-6 <i>in isooctane</i>		PANAL0222	kit
Ampule 1	isooctane	solvent blank	PANAL0222-1	1 x 2 mL
Ampule 2	pyridine (as N) + thiophene (as S)	1 mg/L each	PANAL0222-2	1 x 2 mL
Ampule 3	pyridine (as N) + thiophene (as S)	5 mg/L each	PANAL0222-3	1 x 2 mL
Ampule 4	pyridine (as N) + thiophene (as S)	10 mg/L each	PANAL0222-4	1 x 2 mL
Ampule 5	pyridine (as N) + thiophene (as S)	50 mg/L each	PANAL0222-5	1 x 2 mL
Ampule 6	pyridine (as N) + thiophene (as S)	100 mg/L each	PANAL0222-6	1 x 2 mL

Total Carbon

Carbon Combustion Analyzer Standards

potassium hydrogen phthalate (99.9+%) <i>Neat Standard</i>	sodium carbonate (99.9+%) <i>Neat Standard</i>	sodium hydrogen carbonate (99.9+%) <i>Neat Standard</i>
PANAL0241 1 x 50 gm	PANAL0171 1 x 50 gm	PANAL0172 1 x 50 gm

ELEMENTAL COMBUSTION
ANALYZER REAGENTS

Combustion Analyzer Reagents

Reagent	Concentration	Catalog #	Unit Size
agar	99.9+%	PANAL0099	25 gm
ammonium sulfate	99.9+%	PANAL0167	50 gm
electrolyte Cl	75% (v/v)	PANAL0153	250 mL
electrolyte Cl	75% (v/v)	PANAL0133	1 L
electrolyte w/ClO ₄	75% (v/v)	PANAL0152	250 mL
KCl saturated w/ AgCl	3 mol/L	PANAL0013	250 mL
phosphoric acid	15 % (v/v)	PANAL0188	100 mL
potassium iodide	99.9+%	PANAL0103	25 gm
potassium nitrate	99.9+%	PANAL0100	50 gm
sodium azide	99.9+%	PANAL0104	25 gm
sodium hydroxide	99.9+%	PANAL0243	50 gm
sodium persulfate	99.9+%	PANAL0242	250 gm
sodium sulfate (anhydrous)	99.9+%	PANAL0084	25 gm

ADDITIONAL STANDARDS FOR INTERNATIONAL REGULATIONS, AND HAZARDOUS WASTE

ULTRA Scientific has prepared reference standards for the Canadian MISA program, European methods, and other environmental and hazardous waste programs. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 0.5\%$. A certificate showing the actual weight of each analyte is supplied with each standard.

METHOD	PAGE
• CANADIAN MISA TEST GROUPS	354
• EUROPEAN STANDARDS	356
• DM 471	358
• F LIST HAZARDOUS WASTE	360
• SKINNER LIST	361
• EPA CLUSTER RULE	361
• USP 467	362
• FLUOROCARBON REFRIGERANTS	364
• MINNESOTA DEPARTMENT OF HEALTH	365
• GC AND LC TEST STANDARDS	366



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STANDARDS FOR THE MUNICIPAL AND INDUSTRIAL STRATEGY FOR ABATEMENT (MISA)

TEST GROUP 16

Halogenated Volatiles Mixture

26 Analytes

bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
1,2-dichloropropane
chlorobenzene
chloroform
chloromethane
dibromochloromethane
1,2-dibromoethane (EDB)
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
1,1-dichloroethane
1,2-dichloroethane
1,1-dichloroethene
trans-1,2-dichloroethene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
methylene chloride
1,1,2,2-tetrachloroethane
tetrachloroethene
1,1,2-trichloroethane
trichloroethene
trichlorofluoromethane
vinyl chloride

@ 100 µg/mL in methanol

MISA-160-1

1 x 1 mL

TEST GROUP 17

Non-Halogenated Volatiles Mix

7 Analytes

benzene	<i>o</i> -xylene
ethylbenzene	<i>m</i> -xylene
styrene	<i>p</i> -xylene
toluene	

@ 100 µg/mL in methanol

MISA-170-1

1 x 1 mL

TEST GROUP 18

Water Soluble Volatiles Mixture

2 Analytes

acrolein
acrylonitrile

@ 2000 µg/mL in methanol

AMN-623-1

1 x 1 mL

TEST GROUP 19

Base/Neutrals Extractables Mix #2

16 Analytes

biphenyl
bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-chloro-1-methylethyl) ether
bis(2-ethylhexyl) phthalate
4-bromophenyl phenyl ether
butyl benzyl phthalate
4-chlorophenyl phenyl ether
di-*n*-butyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
di-*n*-octyl phthalate
diphenylamine
diphenyl ether
N-nitrosodiphenylamine
N-nitrosodi-*n*-propylamine

@ 100 µg/mL in methylene chloride

MISA-192-1

1 x 1 mL

TECHNICAL NOTE:
ACROLEIN STANDARDS

Acrolein is known to undergo polymerization with time. ULTRA prepares standards that contain acrolein every month to ensure the accuracy of each standard's certified values. These standards are assigned expiration dates of three months. ULTRA strongly recommends that these standards be used as soon as possible after receipt.

Base/Neutrals Extractables Mix #1

24 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
camphene
1-chloronaphthalene
2-chloronaphthalene
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene
indeno[1,2,3-*cd*]pyrene
indole
1-methylnaphthalene
2-methylnaphthalene
naphthalene
5-nitroacenaphthene
perylene
phenanthrene
pyrene

@ 100 µg/mL in methylene chloride

MISA-191-1

1 x 1 mL

TEST GROUP 20

Acid Extractables Mixture

20 Analytes

4-chloro-3-methylphenol
2-chlorophenol
<i>o</i> -cresol
<i>m</i> -cresol
<i>p</i> -cresol
2,4-dichlorophenol
2,6-dichlorophenol
2,4-dimethylphenol
4,6-dinitro-2-methylphenol
2,4-dinitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,3,4,5-tetrachlorophenol
2,3,4,6-tetrachlorophenol
2,3,5,6-tetrachlorophenol
2,3,4-trichlorophenol
2,3,5-trichlorophenol
2,4,5-trichlorophenol
2,4,6-trichlorophenol

@ 2000 µg/mL in methylene chloride

MISA-201-1 1 x 1 mL

TEST GROUP 21

Phenoxy Acid Herbicides Mixtures

10 Analytes

2,4-D	100 µg/mL
dalapon	250 µg/mL
2,4-DB	100 µg/mL
dicamba	10 µg/mL
dichlorprop	100 µg/mL
dinoseb	50 µg/mL
MCPA	10,000 µg/mL
MCPP	10,000 µg/mL
silvex (2,4,5-TP)	10 µg/mL
2,4,5-T	10 µg/mL

Herbicide Acids Mixture

in methanol

HBM-8150A-1 1 x 1 mL

Methylated Herbicide Mixture

in methanol

HBM-8150M-1 1 x 1 mL

TEST GROUP 22

Organochlorine Pesticides Mixture

18 Analytes

aldrin	endosulfan I
α-BHC	endosulfan II
β-BHC	endosulfan sulfate
γ-BHC	endrin
δ-BHC	endrin aldehyde
4,4'-DDD	endrin ketone
4,4'-DDE	heptachlor
4,4'-DDT	heptachlor epoxide
dieldrin	methoxychlor

@ 2000 µg/mL in acetone

MISA-220-1 1 x 1 mL

TEST GROUP 27

Polychlorinated Biphenyls Standards

1 x 1 mL Ampules

All @ 100 µg/mL in hexane

Aroclor 1016	PP-281-1
Aroclor 1221	PP-291-1
Aroclor 1232	PP-301-1
Aroclor 1242	PP-311-1
Aroclor 1248	PP-341-1
Aroclor 1254	PP-351-1
Aroclor 1260	PP-361-1

See page 379 for additional Aroclor solutions

TEST GROUP 23

Chlorinated Extractables Mixture

12 Analytes

hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
octachlorostyrene
pentachlorobenzene
1,2,3,4-tetrachlorobenzene
1,2,3,5-tetrachlorobenzene
1,2,4,5-tetrachlorobenzene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
2,4,5-trichlorotoluene

@ 2000 µg/mL in methylene chloride

MISA-231-1 1 x 1 mL

STANDARDS FOR EUROPEAN ENVIRONMENTAL METHODS – PAHS AND PESTICIDES

PAH Mixture

22 Analytes

naphthalene
 acenaphthylene
 acenaphthene
 fluorene
 phenanthrene
 anthracene
 fluoranthene
 pyrene
 benz[a]anthracene
 chrysene
 benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[e]pyrene
 benzo[a]pyrene
 perylene
 indeno[1,2,3-cd]pyrene
 benzo[ghi]perylene
 dibenz[a,h]anthracene
 dibenzo[a,l]pyrene
 dibenzo[a,e]pyrene
 dibenzo[a,i]pyrene
 dibenzo[a,h]pyrene

@ 200 µg/mL in methylene chloride

PM-022-1 1 x 1 mL

PAH Mixture

6 Analytes

benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[ghi]perylene
 benzo[a]pyrene
 fluoranthene
 indeno[1,2,3-cd]pyrene

@ 10 µg/mL in acetonitrile

PM-006-1 1 x 1 mL

PAH Mixture

7 Analytes

benzo[b]fluoranthene 10 µg/mL
 benzo[k]fluoranthene 10 µg/mL
 benzo[ghi]perylene 10 µg/mL
 benzo[a]pyrene 10 µg/mL
 fluoranthene 10 µg/mL
 indeno[1,2,3-cd]pyrene 10 µg/mL
 perylene 5 µg/mL

in acetonitrile

PM-007-1 1 x 1 mL

Deuterated PAH Mixture

3 Analytes

acenaphthylene-d₈
 chrysene-d₁₂
 indeno[1,2,3-cd]pyrene-d₁₂

@ 200 µg/mL in toluene

ISM-740A-1 1 x 1 mL

Deuterated PAH Mixture

7 Analytes

acenaphthene-d₁₀
 benz[a]anthracene-d₁₂
 benzo[a]pyrene-d₁₂
 dibenz[a,h]anthracene-d₁₄
 dibenzo[a,i]pyrene-d₁₄
 fluoranthene-d₁₀
 phenanthrene-d₁₀

@ 200 µg/mL in methylene chloride

ISM-750-1 1 x 1 mL

Pesticides Mixture

17 Analytes

atrazine metazachlor
 chlortoluron metobromuron
 cyanazine metolachlor
 desethylatrazine metoxuron
 diuron monolinuron
 hexazinone sebuthylazine
 isoproturon simazine
 linuron terbuthylazine
 methabenzthiazuron

@ 50 µg/mL in acetonitrile

PPM-017-1 1 x 1 mL

PAH Mixture

16 Analytes

acenaphthene 20.0 µg/mL
 acenaphthylene 15.0 µg/mL
 anthracene 0.8 µg/mL
 benz[a]anthracene 4.0 µg/mL
 benzo[b]fluoranthene 4.0 µg/mL
 benzo[k]fluoranthene 4.5 µg/mL
 benzo[ghi]perylene 3.5 µg/mL
 benzo[a]pyrene 5.0 µg/mL

in acetonitrile

JTB-0005 1 x 1 mL

chrysene 3.5 µg/mL
 dibenz[a,h]anthracene 3.5 µg/mL
 fluoranthene 8.0 µg/mL
 fluorene 5.0 µg/mL
 indeno[1,2,3-cd]pyrene 4.5 µg/mL
 naphthalene 20.0 µg/mL
 phenanthrene 3.5 µg/mL
 pyrene 8.5 µg/mL

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STANDARDS FOR EUROPEAN ENVIRONMENTAL METHODS – PCBs

NEN 5734/VPR C85-16 PCB Mixture**7 Analytes**

2,4,4'-trichlorobiphenyl
 2,2',5,5'-tetrachlorobiphenyl
 2,2',4,5,5'-pentachlorobiphenyl
 2,3,4,4',5-pentachlorobiphenyl
 2,2',3,4,4',5'-hexachlorobiphenyl
 2,2',4,4',5,5'-hexachlorobiphenyl
 2,2',3,4,4',5,5'-heptachlorobiphenyl

*@ 10 µg/mL in isoctane***RPCM-200-1** **1 x 1 mL****EN 12766/CEN EN 61619 PCB Calibration Mixture****14 Analytes**

2,2',5-trichlorobiphenyl
 2,4,4'-trichlorobiphenyl
 2,4',5-trichlorobiphenyl
 2,2',3,5'-tetrachlorobiphenyl
 2,2',5,5'-tetrachlorobiphenyl
 2,2',4,5,5'-pentachlorobiphenyl
 2,3,4,4',5-pentachlorobiphenyl
 2,2',3,4,4',5'-hexachlorobiphenyl
 2,2',3,4',5,6-hexachlorobiphenyl
 2,2',4,4',5,5'-hexachlorobiphenyl
 2,2',3,3',4,4',5-heptachlorobiphenyl
 2,2',3,4,4',5,5'-heptachlorobiphenyl
 2,2',3,3',4,4',5,5'-octachlorobiphenyl
 decachlorobiphenyl

*@ 10 µg/mL in isoctane***RPCM-210-1** **1 x 1 mL****WHO PCB Calibration Mixture****12 Analytes**

3,3',4,4'-tetrachlorobiphenyl
 3,4,4',5-tetrachlorobiphenyl
 2,3,3',4,4'-pentachlorobiphenyl
 2,3,4,4',5-pentachlorobiphenyl
 2,3',4,4',5-pentachlorobiphenyl
 2',3,4,4',5-pentachlorobiphenyl
 3,3',4,4',5-pentachlorobiphenyl
 2,3,3',4,4',5-hexachlorobiphenyl
 2,3,3',4,4',5'-hexachlorobiphenyl
 2,3',4,4',5,5'-hexachlorobiphenyl
 3,3',4,4',5,5'-hexachlorobiphenyl
 2,3,3',4,4',5,5'-heptachlorobiphenyl

*@ 10 µg/mL in isoctane***RPCM-220-1** **1 x 1 mL****ISS PCB Calibration Mixture****18 Analytes**

2,4,4'-trichlorobiphenyl
 2,2',5,5'-tetrachlorobiphenyl
 2,2',3,5',6-pentachlorobiphenyl
 2,2',4,4',5-pentachlorobiphenyl
 2,2',4,5,5'-pentachlorobiphenyl
 2,3,3',4,4'-pentachlorobiphenyl
 2,3,3',4',6-pentachlorobiphenyl
 2,3',4,4',5-pentachlorobiphenyl
 2,2',3,4,4',5'-hexachlorobiphenyl
 2,2',3,4',5,5'-hexachlorobiphenyl
 2,2',3,4',5,6-hexachlorobiphenyl
 2,2',3,5,5',6-hexachlorobiphenyl
 2,2',4,4',5,5'-hexachlorobiphenyl
 2,2',3,3',4,4',5-heptachlorobiphenyl
 2,2',3,3',4',5,6-heptachlorobiphenyl
 2,2',3,4,4',5,5'-heptachlorobiphenyl
 2,2',3,4,4',5,6-heptachlorobiphenyl
 2,2',3,4',5,5',6-heptachlorobiphenyl

*@ 10 µg/mL in isoctane***RPCM-230-1** **1 x 1 mL****WHO/ISS PCB Calibration Mixture****32 Analytes**

2,2',5-trichlorobiphenyl
 2,4,4'-trichlorobiphenyl
 2,4',5-trichlorobiphenyl
 2,2',3,5'-tetrachlorobiphenyl
 2,2',5,5'-tetrachlorobiphenyl
 3,3',4,4'-tetrachlorobiphenyl
 3,4,4',5-tetrachlorobiphenyl
 2,2',3,5',6-pentachlorobiphenyl
 2,2',4,4',5-pentachlorobiphenyl
 2,2',4,5,5'-pentachlorobiphenyl
 2,3,3',4,4'-pentachlorobiphenyl
 2,3,3',4',6-pentachlorobiphenyl
 2,3,4,4',5-pentachlorobiphenyl
 2,3',4,4',5-pentachlorobiphenyl
 2',3,4,4',5-pentachlorobiphenyl
 3,3',4,4',5-pentachlorobiphenyl

*@ 10 µg/mL in isoctane***RPCM-240-1** **1 x 1 mL**

2,2',3,3',4,4'-hexachlorobiphenyl
 2,2',3,4,4',5'-hexachlorobiphenyl
 2,2',3,4',5,5'-hexachlorobiphenyl
 2,2',3,4',5,6-hexachlorobiphenyl
 2,2',3,5,5',6-hexachlorobiphenyl
 2,2',4,4',5,5'-hexachlorobiphenyl
 2,3,3',4,4',5-hexachlorobiphenyl
 2,3,3',4,4',5'-hexachlorobiphenyl
 2,3',4,4',5,5'-hexachlorobiphenyl
 3,3',4,4',5,5'-hexachlorobiphenyl
 2,2',3,3',4,4',5-heptachlorobiphenyl
 2,2',3,3',4',5,6-heptachlorobiphenyl
 2,2',3,4,4',5,5'-heptachlorobiphenyl
 2,2',3,4,4',5,6-heptachlorobiphenyl
 2,2',3,4',5,5',6-heptachlorobiphenyl
 2,3,3',4,4',5,5'-heptachlorobiphenyl

STANDARDS FOR EUROPEAN ENVIRONMENTAL METHODS – ITALIAN REGULATION DM 471

DM 471 Mixtures*8 Analytes*

benzene
ethylbenzene
tert-butylmethyl ether
toluene
o-xylene
m-xylene
p-xylene
styrene

*@ 10 µg/mL in methanol***D471-B-1** **1 x 1 mL***@ 1000 µg/mL in methanol***D471-A-1** **1 x 1 mL****DM 471 Mixtures***7 Analytes*

aniline
diphenylamine
o-toluidine
o-anisidine
m-anisidine
p-anisidine
p-toluidine

*@ 10 µg/mL in methanol***D471-C-1** **1 x 1 mL***@ 100 µg/mL in methanol***D471-E-1** **1 x 1 mL****DM 471 PAH Standard***13 Analytes*

benzo[a]pyrene
benzo[b]fluoranthene
benzo[ghi]perylene
benz[a]anthracene
benzo[k]fluoranthene
chrysene
dibenz[a,h]anthracene
indeno[1,2,3-cd]pyrene
pyrene
dibenzo[a,e]pyrene
dibenzo[a,i]pyrene
dibenzo[a,h]pyrene
dibenzo[a,l]pyrene

*@ 10 µg/mL in acetonitrile***PAH-471-1** **1 x 1 mL****DM 471 Mixture***7 Analytes*

1,1,2-trichloroethane
trichloroethene
1,2,3-trichloropropane
1,1,2,2-tetrachloroethane
tetrachloroethene
hexachlorobutadiene
1,1,1-trichloroethane

*@ 100 µg/mL in methanol***D471-I-1** **1 x 1 mL****DM 471 Mixture***8 Analytes*

n-pentane (C₅)
n-hexane (C₆)
n-heptane (C₇)
n-octane (C₈)
n-nonane (C₉)
n-decane (C₁₀)
n-undecane (C₁₁)
n-dodecane (C₁₂)

*@ 500 µg/mL in methanol***D471-D-1** **1 x 1 mL****DM 471 Pesticide Standard***16 Analytes*

alachlor
aldrin
atrazine
a-BHC (a-HCH)
b-BHC (b-HCH)
g-BHC (lindane)
cis-chlordane
trans-chlordane
2,4'-DDD
4,4'-DDD
2,4'-DDE
4,4'-DDE
2,4'-DDT
4,4'-DDT
dieldrin
endrin

*@ 100 µg/mL in acetone***PPM-471A-1** **1 x 1 mL****DM 471 Mixture***6 Analytes*

nitrobenzene
1,2-dinitrobenzene
m-dinitrobenzene
1-chloro-2-nitrobenzene
1-chloro-3-nitrobenzene
1-chloro-4-nitrobenzene

*@ 100 µg/mL in methanol***D471-L-1** **1 x 1 mL**

DM 471 Mixture**14 Analytes**

chloromethane
 chloroform
 vinyl chloride
 1,2-dichloroethane
 1,1-dichloroethene
 1,1-dichloroethane
 cis-1,2-dichloroethene
 trans-1,2-dichloroethene
 methylene chloride
 bromoform
 1,2-dibromoethane (EDB)
 dibromochloromethane
 bromodichloromethane
 1,2-dichloropropane

@ 100 µg/mL in methanol

D471-HA-1

1 x 1 mL

DM 471 Mixture**9 Analytes**

2-chlorophenol
 4-chlorophenol
 2,4-dichlorophenol
 2,4,6-trichlorophenol
 pentachlorophenol
 phenol
 o-cresol (2-methylphenol)
 m-cresol (3-methylphenol)
 p-cresol (4-methylphenol)

@ 100 µg/mL in methanol

D471-G-1

1 x 1 mL

DM 471 Mixture**8 Analytes**

chlorobenzene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,2,4-trichlorobenzene
 1,2,4,5-tetrachlorobenzene
 pentachlorobenzene
 hexachlorobenzene

@ 100 µg/mL in methanol

D471-F-1

1 x 1 mL

CUSTOM STANDARDS

Do you require a standard not cataloged by ULTRA? We catalog over 5500 different standards, but if you can't find the specific standard you need, we will be happy to prepare it for you on a custom basis. Our custom organic and inorganic standards are a fast, economical way to address your unique applications. Simply fax us a copy of the form found on page 479, or log on to www.ultrasci.com and use our convenient quotation request web page. You will receive a quote within 24 hours.

Validation choices available:

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		REPORTED VALUE	REPORTED UNCERTAINTY	FORMER NAME	SOLUTIONS	NEATS	LEAD TIME (CUSTOMS)
Level I	ISO Guide 34 RM	True (Calculated)	U _{char}	Gravimetric	✓	✓	5 Business Days
Level II	ISO Guide 34 RM	True (Analytical)	U _{char}	Full Validation	✓	✓	7 - 10 Business Days
Level III	ISO Guide 34 CRM	Certified	U _{exp}	ISO Guide 34	✓		15 - 20 Business Days

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Review Full Details on Page 5

F-LIST – HAZARDOUS WASTE FROM NON-SPECIFIC SOURCES

F-LIST MIXTURES

The "F-List" identifies wastes from common manufacturing and industrial processes, such as solvents that have been used in cleaning or degreasing operations. Because the processes producing these wastes can occur in different sectors of industry, the F-Listed wastes are known as wastes from non-specific sources. Wastes included on the F-List can be found in the regulations at 40 CFR §261.31

Combined F-List Mixture

32 Analytes

acetone
benzene
n-butanol
2-butanone (MEK)
carbon disulfide
carbon tetrachloride
chlorobenzene
o-cresol (2-methylphenol)
m-cresol (3-methylphenol)
p-cresol (4-methylphenol)
cyclohexanone
1,2-dichlorobenzene
2-ethoxyethanol
ethyl acetate
ethylbenzene
ethyl ether
isobutanol
methylene chloride
4-methyl-2-pentanone (MIBK)
nitrobenzene
2-nitropropane
pyridine
tetrachloroethene
toluene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
1,1,2-trichlorotrifluoroethane
trichlorofluoromethane
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

FLM-010-1 1 x 1 mL

F001 & F002 Solvent List Mixture

10 Analytes

carbon tetrachloride
chlorobenzene
1,2-dichlorobenzene
methylene chloride
tetrachloroethene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
1,1,2-trichlorotrifluoroethane
trichlorofluoromethane

@ 2000 µg/mL in methanol

FLM-001-1 1 x 1 mL

F003 Solvent List Mixture

10 Analytes

acetone
n-butanol
cyclohexanone
ethyl acetate
ethylbenzene
ethyl ether
4-methyl-2-pentanone (MIBK)
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

FLM-003-1 1 x 1 mL

F004 Solvent List Mixture

3 Analytes

o-cresol (2-methylphenol)
m-cresol (3-methylphenol)
p-cresol (4-methylphenol)

@ 2000 µg/mL in methanol

FLM-004-1 1 x 1 mL

F005 Solvent List Mixture

9 Analytes

benzene
2-butanone (MEK)
carbon disulfide
2-ethoxyethanol
isobutanol
nitrobenzene
2-nitropropane
pyridine
toluene

@ 2000 µg/mL in methanol

FLM-005-1 1 x 1 mL

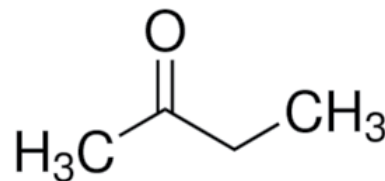
Alcohols Mixture

3 Analytes

ethanol
isopropanol
methanol

@ 2000 µg/mL in water

FLM-002-1 1 x 1 mL



SKINNER LIST – REFINERY WASTES

SKINNER LIST MIXTURES

The “Skinner List” refers to a subset of 40 CFR 261 Appendix VIII constituents (89 compounds) that, when developed, was considered a conservative list of hazardous constituents that were reasonably likely to be in petroleum refinery wastes.

Skinner List Acids Mixture

8 Analytes

o-cresol (2-methylphenol)
m-cresol (3-methylphenol)
p-cresol (4-methylphenol)
 4-nitrophenol
 2,4-dimethylphenol
 2,4-dinitrophenol
 phenol
 thiophenol (*benzenethiol*)

@ 2000 µg/mL in methylene chloride

SLM-400-1 1 x 1 mL

Skinner List Volatiles Mixture

14 Analytes

benzene
 2-butanone
 carbon disulfide
 chlorobenzene
 chloroform
 1,4-dioxane
 ethylbenzene
 1,2-dibromoethane
 1,2-dichloroethane
 styrene
 toluene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

SLM-100-1 1 x 1 mL

Skinner List Semi-Volatiles Mixture

27 Analytes

anthracene
 benz[a]anthracene
 benzo[b]fluoranthene
 benzo[k]fluoranthene
 benzo[a]pyrene
 bis(2-ethylhexyl) phthalate
 butyl benzyl phthalate
 chrysene
 dibenz[a,h]acridine
 dibenz[a,h]anthracene
 di-*n*-butyl phthalate
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 diethyl phthalate
 7,12-dimethylbenz[a]anthracene
 dimethyl phthalate
 di-*n*-octyl phthalate
 fluoranthene
 indene
 6-methylchrysene
 1-methylnaphthalene
 naphthalene
 phenanthrene
 pyrene
 pyridine
 quinoline

@ 2000 µg/mL in methylene chloride

SLM-300-1 1 x 1 mL

EPA CLUSTER RULE STANDARDS

CLUSTER RULE STANDARDS

The combined air and water “cluster rule” for the pulp and paper industry sets baseline limits for standards to reduce discharges of pollutants to the air and water.

See also page 74 for blind QC check samples for the cluster rule.

Methanol Standard

methanol

@ 10,000 µg/mL in water

HAP-100-1 1 x 1 mL

HAP Standard

4 Analytes

methanol
 acetaldehyde
 propionaldehyde (propanal)
 2-butanone (MEK)

@ 10,000 µg/mL in water

HAP-110-1 1 x 1 mL

USP 467 TEST MIXTURES FOR GC ANALYSIS OF RESIDUAL SOLVENTS

USP 467 TEXT MIXTURES

These mixtures are used in US Pharmacopeia Method 467 to determine residual organic solvents in pharmaceutical preparations. The latest revision (July 2008) uses a risk-based system to classify solvents. Class 1 solvents are known or strongly suspected carcinogens that pose a risk to both the consumer and the environment, and are to be avoided. Class 2 solvents are nongenotoxic animal carcinogens or compounds suspected of other significant but reversible toxicities.

USP 467 Class 1 Residual Solvents Mixture - July 2008 Revision

5 Analytes

benzene	10 mg/mL
carbon tetrachloride	20 mg/mL
1,2-dichloroethane	25 mg/mL
1,1-dichloroethene	40 mg/mL
1,1,1-trichloroethane	50 mg/mL

in dimethyl sulfoxide

USPM-467J-1	1 x 1 mL
--------------------	-----------------

USP 467 Class 2 Residual Solvents Mixture A - July 2008 Revision

15 Analytes

acetonitrile	2.05 mg/mL
chlorobenzene	1.80 mg/mL
cyclohexane	19.40 mg/mL
<i>cis</i> -1,2-dichloroethene	4.70 mg/mL
<i>trans</i> -1,2-dichloroethene	4.70 mg/mL
1,4-dioxane	1.90 mg/mL
ethylbenzene	1.84 mg/mL
methanol	15.00 mg/mL
methylcyclohexane	5.90 mg/mL
methylene chloride	3.00 mg/mL
tetrahydrofuran	3.60 mg/mL
toluene	4.45 mg/mL
<i>o</i> -xylene	0.98 mg/mL
<i>m</i> -xylene	6.51 mg/mL
<i>p</i> -xylene	1.52 mg/mL

in dimethyl sulfoxide

USPM-467K-1	1 x 1 mL
--------------------	-----------------

USP 467 Class 2 Residual Solvents Mixture B - July 2008 Revision

8 Analytes

chloroform	300 µg/mL
1,2-dimethoxyethane	500 µg/mL
<i>n</i> -hexane	1450 µg/mL
2-hexanone	250 µg/mL
nitromethane	250 µg/mL
pyridine	1000 µg/mL
tetralin	500 µg/mL
trichloroethene	400 µg/mL

in dimethyl sulfoxide

USPM-467L-1	1 x 1 mL
--------------------	-----------------

USP 467 Class 2 Residual Solvents Mixture C - July 2008 Revision

8 Analytes

N,N-dimethylacetamide	5450 µg/mL
N,N-dimethylformamide	4400 µg/mL
2-ethoxyethanol	800 µg/mL
ethylene glycol	3100 µg/mL
formamide	1100 µg/mL
2-methoxyethanol	250 µg/mL
N-methylpyrrolidone	2650 µg/mL
sulfolane	800 µg/mL

in dimethyl sulfoxide

USPM-467M-1	1 x 1 mL
--------------------	-----------------

USP 467 Class 2 Residual Solvents Mixture B - July 2008 Revision

8 Analytes

chloroform	60 µg/mL
1,2-dimethoxyethane	100 µg/mL
<i>n</i> -hexane	290 µg/mL
2-hexanone	50 µg/mL
nitromethane	50 µg/mL
pyridine	200 µg/mL
tetralin	100 µg/mL
trichloroethene	80 µg/mL

in dimethyl sulfoxide

USPM-467N-1	1 x 1 mL
--------------------	-----------------

**USP 467 Calibration Mixes -
January 2005 Revision****4 Analytes**

chloroform	60 µg/mL
1,4-dioxane	380 µg/mL
methylene chloride	600 µg/mL
trichloroethene	80 µg/mL

*in dimethyl sulfoxide***USPM-467G-1** **1 x 1 mL***in methanol***USPM-467H-1** **1 x 1 mL****USP 467 Calibration Mixes -
January 2000 Revision****5 Analytes**

benzene	2 µg/mL
chloroform	60 µg/mL
1,4-dioxane	380 µg/mL
methylene chloride	600 µg/mL
trichloroethene	80 µg/mL

*in dimethyl sulfoxide***USPM-467E-1** **1 x 1 mL***in methanol***USPM-467F-1** **1 x 1 mL****Revised USP 467 Calibration Mixes****5 Analytes**

benzene	1000 µg/mL
chloroform	500 µg/mL
1,4-dioxane	1000 µg/mL
methylene chloride	5000 µg/mL
trichloroethene	1000 µg/mL

*in dimethyl sulfoxide***USPM-467C-1** **1 x 1 mL***in methanol***USPM-467D-1** **1 x 1 mL****USP 467 Calibration Mixtures****5 Analytes**

benzene	1000 µg/mL
chloroform	500 µg/mL
1,4-dioxane	1000 µg/mL
methylene chloride	1000 µg/mL
trichloroethene	1000 µg/mL

*in dimethyl sulfoxide***USPM-467A-1** **1 x 1 mL****Volume discounts for
individual solutions**

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FLUOROCARBON REFRIGERANTS – FREONS

Fluorocarbon Refrigerants

	Freon #	1 x 1 mL Ampules
<i>All @ 100 µg/mL in methanol</i>		
1-chloro-1,1-difluoroethane	142b	CFC-210-1
chlorodifluoromethane	22	CFC-110-1
chloroethane	160	HC-060-1
chloromethane	40	HC-090-1
chlorotrifluoromethane	13	CFC-120-1
dichlorodifluoromethane	12	HC-140-1
1,1-dichloro-1-fluoroethane	141b	CFC-250-1
dichlorofluoromethane	21	CFC-130-1
1,2-dichloro-1,1,2,2-tetrafluoroethane	114	CFC-260-1
1,1,1,2-tetrafluoroethane	134a	CFC-300-1
1,1,2,2-tetrafluoroethane	134	CFC-310-1
trichlorofluoromethane	11	HC-280-1
1,1,2-trichloro-1,2,2-trifluoroethane	113	HC-480-1
trifluoromethane	23	CFC-140-1

OZONE DEPLETING SUBSTANCES

Effective January 1, 1996, the manufacture of Class I Ozone Depleting Substances (ODSs) is prohibited in accordance with Title VI of the Clean Air Act. Among these substances are many that appear in the EPA and state analytical methods, or are required to be analyzed for under federal or state rules. There has been concern that, because of the ban, these compounds would no longer be available for the analysis of environmental contaminants. This issue was addressed in a subsequent rule published in the Federal Register (May 10, 1995, Vol. 60, No. 90, Pg. 24970). The EPA, in Appendix G to Subpart A of 40 CFR Part 82, specifically exempts laboratory and analytical uses of these compounds from the ban. Laboratory purposes are identified to include equipment calibration; use as extraction solvents, diluents, or carriers for chemical analysis; biochemical research; inert solvents for chemical reactions, as a carrier or laboratory chemical; and other critical analytical and laboratory purposes. Production for laboratory and analytical purposes is authorized provided that these laboratory and analytical chemicals shall contain only controlled substances manufactured to specific minimum purities. These pure, controlled substances can be subsequently mixed with other chemicals as is customary for laboratory and analytical uses.

ULTRA Scientific is pleased to continue to provide these compounds for use as analytical standards.

STANDARDS FOR MINNESOTA DEPARTMENT OF HEALTH LIST – METHOD 465 D

VOC Mixtures (No Gases)

54 Analytes

benzene	1,3-dichlorobenzene	naphthalene
bromobenzene	1,4-dichlorobenzene	<i>n</i> -propylbenzene
bromochloromethane	1,1-dichloroethane	styrene
bromodichloromethane	1,2-dichloroethane	1,1,1,2-tetrachloroethane
bromoform	1,1-dichloroethene	1,1,2,2-tetrachloroethane
<i>n</i> -butylbenzene	<i>cis</i> -1,2-dichloroethene	tetrachloroethene
<i>sec</i> -butylbenzene	<i>trans</i> -1,2-dichloroethene	toluene
<i>tert</i> -butylbenzene	1,2-dichloropropane	1,2,3-trichlorobenzene
carbon tetrachloride	1,3-dichloropropane	1,2,4-trichlorobenzene
chlorobenzene	2,2-dichloropropane	1,1,1-trichloroethane
chloroform	1,1-dichloropropene	1,1,2-trichloroethane
2-chlorotoluene	<i>cis</i> -1,3-dichloropropene	trichloroethene
4-chlorotoluene	<i>trans</i> -1,3-dichloropropene	1,2,3-trichloropropane
dibromochloromethane	ethylbenzene	1,2,4-trimethylbenzene
1,2-dibromo-3-chloropropane	hexachlorobutadiene	1,3,5-trimethylbenzene
1,2-dibromoethane	isopropylbenzene	<i>o</i> -xylene
dibromomethane	4-isopropyltoluene	<i>m</i> -xylene
1,2-dichlorobenzene	methylene chloride	<i>p</i> -xylene

@ 200 µg/mL in methanol

DWM-583-1 1 x 1 mL

@ 2000 µg/mL in methanol

DWM-589N-1 1 x 1 mL

VOC Additions Mixture (MN)

8 Analytes

acetone
allyl chloride
2-butanone (MEK)
tert-butyl methyl ether (MTBE)
ethyl ether
4-methyl-2-pentanone (MIBK)
tetrahydrofuran (THF)
1,1,2-trichlorotrifluoroethane

@ 200 µg/mL in methanol

SMN-102-1 1 x 1 mL

Gas Mixture (MN)

7 Analytes

bromomethane
chloroethane
chloromethane
dichlorodifluoromethane
dichlorofluoromethane
trichlorofluoromethane
vinyl chloride

@ 200 µg/mL in methanol

SMN-101-1 1 x 1 mL

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GC COLUMN TEST MIXTURE

Capillary Column Test Mixture

12 Analytes

methyl decanoate	0.423 µg/µL
methyl undecanoate	0.419 µg/µL
methyl dodecanoate	0.413 µg/µL
nonanal	0.400 µg/µL
2,3-butanediol	0.530 µg/µL
2,6-dimethylaniline	0.320 µg/µL
2,6-dimethylphenol	0.320 µg/µL
dicyclohexylamine	0.313 µg/µL
2-ethylhexanoic acid	0.380 µg/µL
1-octanol	0.355 µg/µL
<i>n</i> -undecane	0.287 µg/µL
<i>n</i> -decane	0.283 µg/µL

in methylene chloride

KGCC-101 1 x 2 mL

GC DETECTOR TEST MIXTURES

Flame Ionization Detector
Test Mixture

3 Analytes

<i>n</i> -tetradecane (C ₁₄)	0.033 %
<i>n</i> -pentadecane (C ₁₅)	0.033 %
<i>n</i> -hexadecane (C ₁₆)	0.033 %

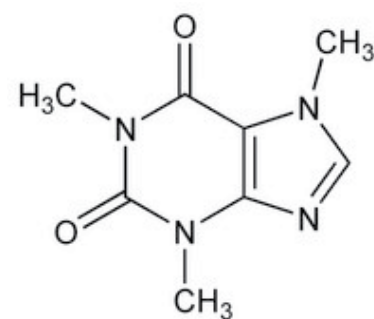
in hexane

FIDM 3 x 1 mLElectron Capture Detector
Test Mixture

2 Analytes

aldrin	33 µg/µL
lindane	33 µg/µL

in iso-octane

ECDM 3 x 1 mL

GC/MS CALIBRATION

GC/MS Calibration Standard

Neat Material

perfluorotributylamine (FC-43)

GCS-200 1 x 2 mL

LC TEST STANDARDS

LC Caffeine Standards Kit

Kit - contains five vials

1 x 5 mL of each individual standard in water

caffeine	5 µg/mL
caffeine	25 µg/mL
caffeine	125 µg/mL
caffeine	250 µg/mL
caffeine	500 µg/mL

LCS-6762 Kit

LC/MS Caffeine Standards Kit

Kit - contains five vials

1 x 5 mL of each individual standard in water

caffeine	0.5 µg/mL
caffeine	1 µg/mL
caffeine	5 µg/mL
caffeine	25 µg/mL
caffeine	50 µg/mL

LCS-6917 Kit

LC Caffeine Standards Kit

Kit - contains six vials

1 x 10 mL of each individual standard in water

caffeine	15 µg/mL
caffeine	40 µg/mL
caffeine	60 µg/mL
caffeine	80 µg/mL
caffeine	100 µg/mL
caffeine	1000 µg/mL

LCS-4045 Kit

POLYCHLORINATED BIPHENYLS AND RELATED COMPOUNDS

Reference Materials - Both Neat and in Solution - for PCBs, PBBs, Dioxins, Furans, Ethers, and PCB Metabolites

Polychlorinated biphenyls (PCBs) are industrial compounds which are now known to be among the most persistent and widely distributed pollutants in the global ecosystem. Their physical and chemical stability, along with their excellent dielectric properties led to the widespread commercial use of these compounds. The stability of PCBs accounts for the environmental persistence of these materials. Since they are lipophilic, they tend to bioaccumulate in the fatty tissues of animals, including humans.



The manufacture of PCBs was prohibited as of January 1, 1979 [see: Section 6(e) TSCA, 15 U.S.C. 2605(e)]. However, in 1984 ULTRA Scientific obtained an exemption from US EPA for the manufacture of small quantities of pure PCBs for research and development purposes (see 40 CFR Part 761, 49 FR 28163 and 51 FR 28569).

All of these materials are manufactured under ULTRA's ISO 9001 quality system. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 2.0\%$. A certificate showing the actual weight of each analyte is supplied with each mixture.

PCBS AND RELATED STANDARDS

● PCB CONGENERS	368
● PCB CONGENER MIXTURES	374
● EPA METHOD 680	375
● EPA METHOD 8082	376
● EUROPEAN PCB MIXTURES	377
● PCB WINDOWING MIXTURES	378
● AROCLORS	379
● PCB METABOLITES	381
● CHLORINATED TERPHENYLS	381
● BROMINATED BIPHENYLS	382
● CHLORINATED DIPHENYL ETHERS	383
● BROMINATED DIPHENYL ETHERS	383
● CHLORINATED DIBENZO-P-DIOXINS	384
● CHLORINATED DIBENZOFURANS	385

PAGE

WORKING WITH SMALL QUANTITIES

When neat chemical standards are packaged in very small quantities (100 milligrams or less), the volume of chemical contained in the vial is very small compared to the size of the vial. For example, 5 milligrams of a liquid PCB occupies about 4.2 microliters of volume. Thus it is difficult to remove the material from the vial without wasting some of it.

To avoid this problem, ULTRA Scientific uses analytical balances and strict weigh tolerances to dispense these materials. The actual amount of material contained in the vial is never less than the stated value, nor more than 1% higher than the stated value. Thus, the analyst can simply rinse the material out of the vial using an appropriate solvent, and still be assured of the amount dispensed.

PCB PURITIES

The response factors for individual PCB congeners vary greatly when measured using an electron capture detector (ECD). For this reason, ULTRA determines purity for these compounds using a flame ionization detector (FID), GC-FID, or GC-MS.

BZ NUMBERS

BZ# represents the Ballschmimer number used to identify each specific congener. These numbers are equivalent to the IUPAC numbers for PCBs, with three exceptions. Congeners BZ# 199, 200, and 201 have the IUPAC numbers 200, 201, and 199, respectively. Both usages are found in the literature.

PCB CONGENERS – NEAT AND IN SOLUTION

Buy 9 or more PCB Solutions (any single or combination of solutions) and receive a 30% discount !

Chlorinated Biphenyls 97+% Pure by FID

BZ #	Compound	CAS #	Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
			Catalog #	Unit Size	in hexane	in isooctane
–	biphenyl	92-52-4	RPC-001	500 mg	RPC-001S	RPC-001AS
1	2-chlorobiphenyl	2051-60-7	RPC-006	50 mg	RPC-006S	RPC-006AS
2	3-chlorobiphenyl	2051-61-8	RPC-007	10 mg	RPC-007S	RPC-007AS
3	4-chlorobiphenyl	2051-62-9	RPC-008	50 mg	RPC-008S	RPC-008AS
4	2,2'-dichlorobiphenyl	13029-08-8	RPC-009	25 mg	RPC-009S	RPC-009AS
5	2,3-dichlorobiphenyl	16605-91-7	RPC-012	25 mg	RPC-012S	RPC-012AS
6	2,3'-dichlorobiphenyl	25569-80-6	RPC-101	5 mg	RPC-101S	RPC-101AS
7	2,4-dichlorobiphenyl	33284-50-3	RPC-013	25 mg	RPC-013S	RPC-013AS
8	2,4'-dichlorobiphenyl	34883-43-7	RPC-089	25 mg	RPC-089S	RPC-089AS
9	2,5-dichlorobiphenyl	34883-39-1	RPC-014	50 mg	RPC-014S	RPC-014AS
10	2,6-dichlorobiphenyl	33146-45-1	RPC-015	25 mg	RPC-015S	RPC-015AS
11	3,3'-dichlorobiphenyl	2050-67-1	RPC-010	50 mg	RPC-010S	RPC-010AS
12	3,4-dichlorobiphenyl	2974-92-7	RPC-016	50 mg	RPC-016S	RPC-016AS
13	3,4'-dichlorobiphenyl	2974-90-5	RPC-112	5 mg	RPC-112S	RPC-112AS
14	3,5-dichlorobiphenyl	34883-41-5	RPC-017	50 mg	RPC-017S	RPC-017AS
15	4,4'-dichlorobiphenyl	2050-68-2	RPC-011	10 mg	RPC-011S	RPC-011AS
16	2,2',3-trichlorobiphenyl	38444-78-9	RPC-092	5 mg	RPC-092S	RPC-092AS
17	2,2',4-trichlorobiphenyl	37680-66-3	RPC-173	5 mg	RPC-173S	RPC-173AS
18	2,2',5-trichlorobiphenyl	37680-65-2	RPC-021	25 mg	RPC-021S	RPC-021AS
19	2,2',6-trichlorobiphenyl	38444-73-4	RPC-139	5 mg	RPC-139S	RPC-139AS
20	2,3,3'-trichlorobiphenyl	38444-84-7	RPC-104	5 mg	RPC-104S	RPC-104AS
21	2,3,4-trichlorobiphenyl	55702-46-0	RPC-018	25 mg	RPC-018S	RPC-018AS
22	2,3,4'-trichlorobiphenyl	38444-85-8	RPC-118	5 mg	RPC-118S	RPC-118AS
23	2,3,5-trichlorobiphenyl	55720-44-0	–		RPC-175S	RPC-175AS
24	2,3,6-trichlorobiphenyl	55702-45-9	RPC-083A	5 mg	RPC-083S	RPC-083AS
25	2,3',4-trichlorobiphenyl	55712-37-3	RPC-121	5 mg	RPC-121S	RPC-121AS
26	2,3',5-trichlorobiphenyl	38444-81-4	RPC-022	25 mg	RPC-022S	RPC-022AS
27	2,3',6-trichlorobiphenyl	38444-76-7	RPC-120	5 mg	RPC-120S	RPC-120AS
28	2,4,4'-trichlorobiphenyl	7012-37-5	RPC-084	10 mg	RPC-084S	RPC-084AS
29	2,4,5-trichlorobiphenyl	15862-07-4	RPC-019	50 mg	RPC-019S	RPC-019AS
30	2,4,6-trichlorobiphenyl	35693-92-6	RPC-020	50 mg	RPC-020S	RPC-020AS
31	2,4',5-trichlorobiphenyl	16606-02-3	RPC-023	25 mg	RPC-023S	RPC-023AS
32	2,4',6-trichlorobiphenyl	38444-77-8	–		RPC-176S	RPC-176AS
33	2',3,4-trichlorobiphenyl	38444-86-9	RPC-062	10 mg	RPC-062S	RPC-062AS
34	2',3,5-trichlorobiphenyl	37680-68-5	RPC-123	5 mg	RPC-123S	RPC-123AS
35	3,3',4-trichlorobiphenyl	37680-69-6	RPC-107	5 mg	RPC-107S	RPC-107AS

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BZ #	Compound	CAS #	Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
			Catalog #	Unit Size	in hexane	in isoctane
36	3,3',5-trichlorobiphenyl	38444-87-0	RPC-122	5 mg	RPC-122S	RPC-122AS
37	3,4,4'-trichlorobiphenyl	38444-90-5	RPC-119	5 mg	RPC-119S	RPC-119AS
38	3,4,5-trichlorobiphenyl	53555-66-1	RPC-124	5 mg	RPC-124S	RPC-124AS
39	3,4',5-trichlorobiphenyl	38444-88-1	RPC-125	5 mg	RPC-125S	RPC-125AS
40	2,2',3,3'-tetrachlorobiphenyl	38444-93-8	RPC-065	50 mg	RPC-065S	RPC-065AS
41	2,2',3,4-tetrachlorobiphenyl	52663-59-9	–		RPC-177S	RPC-177AS
42	2,2',3,4'-tetrachlorobiphenyl	36559-22-5	RPC-105	5 mg	RPC-105S	RPC-105AS
43	2,2',3,5-tetrachlorobiphenyl	70362-46-8	–		RPC-178S	RPC-178AS
44	2,2',3,5'-tetrachlorobiphenyl	41464-39-5	RPC-029	25 mg	RPC-029S	RPC-029AS
45	2,2',3,6-tetrachlorobiphenyl	70362-45-7	–		RPC-179S	RPC-179AS
46	2,2',3,6'-tetrachlorobiphenyl	41464-47-5	–		RPC-180S	RPC-180AS
47	2,2',4,4'-tetrachlorobiphenyl	2437-79-8	RPC-035	50 mg	RPC-035S	RPC-035AS
48	2,2',4,5-tetrachlorobiphenyl	70362-47-9	RPC-136	5 mg	RPC-136S	RPC-136AS
49	2,2',4,5'-tetrachlorobiphenyl	41464-40-8	RPC-030	50 mg	RPC-030S	RPC-030AS
50	2,2',4,6-tetrachlorobiphenyl	62796-65-8	RPC-024	10 mg	RPC-024S	RPC-024AS
51	2,2',4,6'-tetrachlorobiphenyl	65194-04-7	–		RPC-181S	RPC-181AS
52	2,2',5,5'-tetrachlorobiphenyl	35693-99-3	RPC-031	10 mg	RPC-031S	RPC-031AS
53	2,2',5,6'-tetrachlorobiphenyl	41464-41-9	RPC-032	25 mg	RPC-032S	RPC-032AS
54	2,2',6,6'-tetrachlorobiphenyl	15968-05-5	RPC-066	50 mg	RPC-066S	RPC-066AS
55	2,3,3',4-tetrachlorobiphenyl	74338-24-2	RPC-126	5 mg	RPC-126S	RPC-126AS
56	2,3,3',4'-tetrachlorobiphenyl	41464-43-1	–		RPC-182S	RPC-182AS
57	2,3,3',5-tetrachlorobiphenyl	70424-67-8	–		RPC-183S	RPC-183AS
58	2,3,3',5'-tetrachlorobiphenyl	41464-49-7	RPC-128	5 mg	RPC-128S	RPC-128AS
59	2,3,3',6-tetrachlorobiphenyl	74472-33-6	–		RPC-184S	RPC-184AS
60	2,3,4,4'-tetrachlorobiphenyl	33025-41-1	RPC-093	5 mg	RPC-093S	RPC-093AS
61	2,3,4,5-tetrachlorobiphenyl	33284-53-6	RPC-027	50 mg	RPC-027S	RPC-027AS
62	2,3,4,6-tetrachlorobiphenyl	54230-23-7	RPC-148	5 mg	RPC-148S	RPC-148AS
63	2,3,4',5-tetrachlorobiphenyl	74472-34-7	–		RPC-185S	RPC-185AS
64	2,3,4',6-tetrachlorobiphenyl	52663-58-8	–		RPC-186S	RPC-186AS
65	2,3,5,6-tetrachlorobiphenyl	33284-54-7	RPC-028	25 mg	RPC-028S	RPC-028AS
66	2,3',4,4'-tetrachlorobiphenyl	32598-10-0	RPC-086	20 mg	RPC-086S	RPC-086AS
67	2,3',4,5-tetrachlorobiphenyl	73575-53-8	–		RPC-187S	RPC-187AS
68	2,3',4,5'-tetrachlorobiphenyl	73575-52-7	–		RPC-188S	RPC-188AS
69	2,3',4,6-tetrachlorobiphenyl	60233-24-1	RPC-025	10 mg	RPC-025S	RPC-025AS
70	2,3',4',5-tetrachlorobiphenyl	32598-11-1	RPC-033	10 mg	RPC-033S	RPC-033AS
71	2,3',4',6-tetrachlorobiphenyl	41464-46-4	–		RPC-189S	RPC-189AS

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BZ #	Compound	CAS #	Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
			Catalog #	Unit Size	in hexane	in isoootane
72	2,3',5,5'-tetrachlorobiphenyl	41464-42-0	RPC-034	25 mg	RPC-034S	RPC-034AS
73	2,3',5',6-tetrachlorobiphenyl	74338-23-1	–		RPC-190S	RPC-190AS
74	2,4,4',5-tetrachlorobiphenyl	32690-93-0	RPC-138	5 mg	RPC-138S	RPC-138AS
75	2,4,4',6-tetrachlorobiphenyl	32598-12-2	RPC-026	10 mg	RPC-026S	RPC-026AS
76	2',3,4,5-tetrachlorobiphenyl	70362-48-0	–		RPC-191S	RPC-191AS
77	3,3',4,4'-tetrachlorobiphenyl	32598-13-3	RPC-036	25 mg	RPC-036S	RPC-036AS
78	3,3',4,5-tetrachlorobiphenyl	70362-49-1	RPC-127	5 mg	RPC-127S	RPC-127AS
79	3,3',4,5'-tetrachlorobiphenyl	41464-48-6	RPC-129	5 mg	RPC-129S	RPC-129AS
80	3,3',5,5'-tetrachlorobiphenyl	33284-52-5	RPC-091	5 mg	RPC-091S	RPC-091AS
81	3,4,4',5-tetrachlorobiphenyl	70362-50-4	RPC-096	5 mg	RPC-096S	RPC-096AS
82	2,2',3,3',4-pentachlorobiphenyl	52663-62-4	RPC-097	5 mg	RPC-097S	RPC-097AS
83	2,2',3,3',5-pentachlorobiphenyl	60145-20-2	–		RPC-192S	RPC-192AS
84	2,2',3,3',6-pentachlorobiphenyl	52663-60-2	–		RPC-193S	RPC-193AS
85	2,2',3,4,4'-pentachlorobiphenyl	65510-45-4	–		RPC-194S	RPC-194AS
86	2,2',3,4,5-pentachlorobiphenyl	55312-69-1	RPC-038	10 mg	RPC-038S	RPC-038AS
87	2,2',3,4,5'-pentachlorobiphenyl	38380-02-8	RPC-099	10 mg	RPC-099S	RPC-099AS
88	2,2',3,4,6-pentachlorobiphenyl	55215-17-3	RPC-041	5 mg	RPC-041S	RPC-041AS
89	2,2',3,4,6'-pentachlorobiphenyl	73575-57-2	–		RPC-195S	RPC-195AS
90	2,2',3,4',5-pentachlorobiphenyl	68194-07-0	–		RPC-196S	RPC-196AS
91	2,2',3,4',6-pentachlorobiphenyl	58194-05-8	–		RPC-197S	RPC-197AS
92	2,2',3,5,5'-pentachlorobiphenyl	52663-61-3	–		RPC-198S	RPC-198AS
93	2,2',3,5,6-pentachlorobiphenyl	73575-56-1	RPC-069	5 mg	RPC-069S	RPC-069AS
94	2,2',3,5,6'-pentachlorobiphenyl	73575-55-0	–		RPC-199S	RPC-199AS
95	2,2',3,5',6-pentachlorobiphenyl	38379-99-6	RPC-130	5 mg	RPC-130S	RPC-130AS
96	2,2',3,6,6'-pentachlorobiphenyl	73575-54-9	–		RPC-200S	RPC-200AS
97	2,2',3',4,5-pentachlorobiphenyl	41464-51-1	RPC-087	10 mg	RPC-087S	RPC-087AS
98	2,2',3',4,6-pentachlorobiphenyl	60233-25-2	RPC-141	5 mg	RPC-141S	RPC-141AS
99	2,2',4,4',5-pentachlorobiphenyl	38380-01-7	RPC-171	5 mg	RPC-171S	RPC-171AS
100	2,2',4,4',6-pentachlorobiphenyl	39485-83-1	RPC-042	5 mg	RPC-042S	RPC-042AS
101	2,2',4,5,5'-pentachlorobiphenyl	37680-73-2	RPC-039	10 mg	RPC-039S	RPC-039AS
102	2,2',4,5,6'-pentachlorobiphenyl	68194-06-9	RPC-172	5 mg	RPC-172S	RPC-172AS
103	2,2',4,5',6-pentachlorobiphenyl	60145-21-3	RPC-040	10 mg	RPC-040S	RPC-040AS
104	2,2',4,6,6'-pentachlorobiphenyl	56558-16-8	RPC-043	5 mg	RPC-043S	RPC-043AS
105	2,3,3',4,4'-pentachlorobiphenyl	32598-14-4	RPC-098	5 mg	RPC-098S	RPC-098AS
106	2,3,3',4,5-pentachlorobiphenyl	70424-69-0	RPC-142	5 mg	RPC-142S	RPC-142AS
107	2,3,3',4',5-pentachlorobiphenyl	70424-68-9	–		RPC-201S	RPC-201AS

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BZ #	Compound	CAS #	Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
			Catalog #	Unit Size	in hexane	in isoctane
108	2,3,3',4,5'-pentachlorobiphenyl	70362-41-3	RPC-131	5 mg	RPC-131S	RPC-131AS
109	2,3,3',4,6-pentachlorobiphenyl	74472-35-8	RPC-150	5 mg	RPC-150S	RPC-150AS
110	2,3,3',4',6-pentachlorobiphenyl	38380-03-9	RPC-133	5 mg	RPC-133S	RPC-133AS
111	2,3,3',5,5'-pentachlorobiphenyl	39635-32-0	–		RPC-202S	RPC-202AS
112	2,3,3',5,6-pentachlorobiphenyl	74472-36-9	RPC-070	5 mg	RPC-070S	RPC-070AS
113	2,3,3',5',6-pentachlorobiphenyl	68194-10-5	–		RPC-203S	RPC-203AS
114	2,3,4,4',5-pentachlorobiphenyl	74472-37-0	RPC-108	5 mg	RPC-108S	RPC-108AS
115	2,3,4,4',6-pentachlorobiphenyl	74472-38-1	RPC-071	5 mg	RPC-071S	RPC-071AS
116	2,3,4,5,6-pentachlorobiphenyl	18259-05-7	RPC-037	10 mg	RPC-037S	RPC-037AS
117	2,3,4',5,6-pentachlorobiphenyl	68194-11-6	RPC-147	5 mg	RPC-147S	RPC-147AS
118	2,3',4,4',5-pentachlorobiphenyl	31508-00-6	RPC-106	5 mg	RPC-106S	RPC-106AS
119	2,3',4,4',6-pentachlorobiphenyl	56558-17-9	RPC-044	5 mg	RPC-044S	RPC-044AS
120	2,3',4,5,5'-pentachlorobiphenyl	68194-12-7	–		RPC-204S	RPC-204AS
121	2,3',4,5',6-pentachlorobiphenyl	56558-18-0	RPC-045	5 mg	RPC-045S	RPC-045AS
122	2',3,3',4,5-pentachlorobiphenyl	76842-07-4	RPC-117	5 mg	RPC-117S	RPC-117AS
123	2',3,4,4',5-pentachlorobiphenyl	65510-44-3	RPC-156	5 mg	RPC-156S	RPC-156AS
124	2',3,4,5,5'-pentachlorobiphenyl	70424-70-3	RPC-134	5 mg	RPC-134S	RPC-134AS
125	2',3,4,5,6'-pentachlorobiphenyl	74472-39-2	–		RPC-205S	RPC-205AS
126	3,3',4,4',5-pentachlorobiphenyl	57465-28-8	RPC-102	5 mg	RPC-102S	RPC-102AS
127	3,3',4,5,5'-pentachlorobiphenyl	39635-33-1	RPC-132	5 mg	RPC-132S	RPC-132AS
128	2,2',3,3',4,4'-hexachlorobiphenyl	38380-07-3	RPC-049	20 mg	RPC-049S	RPC-049AS
129	2,2',3,3',4,5-hexachlorobiphenyl	55215-18-4	RPC-052	5 mg	RPC-052S	RPC-052AS
130	2,2',3,3',4,5'-hexachlorobiphenyl	52663-66-8	–		RPC-206S	RPC-206AS
131	2,2',3,3',4,6-hexachlorobiphenyl	61798-70-7	RPC-152	5 mg	RPC-152S	RPC-152AS
132	2,2',3,3',4,6'-hexachlorobiphenyl	38380-05-1	RPC-143	5 mg	RPC-143S	RPC-143AS
133	2,2',3,3',5,5'-hexachlorobiphenyl	35694-04-3	RPC-114	5 mg	RPC-114S	RPC-114AS
134	2,2',3,3',5,6-hexachlorobiphenyl	52704-70-8	RPC-153	5 mg	RPC-153S	RPC-153AS
135	2,2',3,3',5,6'-hexachlorobiphenyl	52744-13-5	–		RPC-207S	RPC-207AS
136	2,2',3,3',6,6'-hexachlorobiphenyl	38411-22-2	RPC-067	20 mg	RPC-067S	RPC-067AS
137	2,2',3,4,4',5-hexachlorobiphenyl	35694-06-5	RPC-053	5 mg	RPC-053S	RPC-053AS
138	2,2',3,4,4',5'-hexachlorobiphenyl	35065-28-2	RPC-088	5 mg	RPC-088S	RPC-088AS
139	2,2',3,4,4',6-hexachlorobiphenyl	56030-56-9	RPC-056	5 mg	RPC-056S	RPC-056AS
140	2,2',3,4,4',6'-hexachlorobiphenyl	59291-64-4	RPC-151	5 mg	RPC-151S	RPC-151AS
141	2,2',3,4,5,5'-hexachlorobiphenyl	52712-04-6	RPC-050	5 mg	RPC-050S	RPC-050AS
142	2,2',3,4,5,6-hexachlorobiphenyl	41411-61-4	RPC-158	5 mg	RPC-158S	RPC-158AS
143	2,2',3,4,5,6'-hexachlorobiphenyl	68194-15-0	RPC-054	5 mg	RPC-054S	RPC-054AS

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BZ #	Compound	CAS #	Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
			Catalog #	Unit Size	in hexane	in isoootane
144	2,2',3,4,5',6'-hexachlorobiphenyl	68194-14-9	RPC-155	5 mg	RPC-155S	RPC-155AS
145	2,2',3,4,6,6'-hexachlorobiphenyl	74472-40-5	RPC-160	5 mg	RPC-160S	RPC-160AS
146	2,2',3,4',5,5'-hexachlorobiphenyl	51908-16-8	–		RPC-146S	RPC-146AS
147	2,2',3,4',5,6'-hexachlorobiphenyl	68194-13-8	RPC-154	5 mg	RPC-154S	RPC-154AS
148	2,2',3,4',5,6'-hexachlorobiphenyl	74472-41-6	–		RPC-208S	RPC-208AS
149	2,2',3,4',5',6'-hexachlorobiphenyl	38380-04-0	RPC-149	5 mg	RPC-149S	RPC-149AS
150	2,2',3,4',6,6'-hexachlorobiphenyl	68194-08-1	–		RPC-209S	RPC-209AS
151	2,2',3,5,5',6'-hexachlorobiphenyl	52663-63-5	RPC-051	5 mg	RPC-051S	RPC-051AS
152	2,2',3,5,6,6'-hexachlorobiphenyl	68194-09-2	RPC-161	5 mg	RPC-161S	RPC-161AS
153	2,2',4,4',5,5'-hexachlorobiphenyl	35065-27-1	RPC-047	10 mg	RPC-047S	RPC-047AS
154	2,2',4,4',5,6'-hexachlorobiphenyl	60145-22-4	RPC-048	5 mg	RPC-048S	RPC-048AS
155	2,2',4,4',6,6'-hexachlorobiphenyl	33979-03-2	RPC-046	50 mg	RPC-046S	RPC-046AS
156	2,3,3',4,4',5'-hexachlorobiphenyl	38380-08-4	RPC-055	5 mg	RPC-055S	RPC-055AS
157	2,3,3',4,4',5'-hexachlorobiphenyl	69782-90-7	RPC-164	5 mg	RPC-164S	RPC-164AS
158	2,3,3',4,4',6'-hexachlorobiphenyl	74472-42-7	RPC-109	5 mg	RPC-109S	RPC-109AS
159	2,3,3',4,5,5'-hexachlorobiphenyl	39635-35-3	RPC-113	5 mg	RPC-113S	RPC-113AS
160	2,3,3',4,5,6'-hexachlorobiphenyl	41411-62-5	RPC-157	5 mg	RPC-157S	RPC-157AS
161	2,3,3',4,5',6'-hexachlorobiphenyl	74474-43-8	RPC-144	5 mg	RPC-144S	RPC-144AS
162	2,3,3',4',5,5'-hexachlorobiphenyl	39635-34-2	–		RPC-210S	RPC-210AS
163	2,3,3',4',5,6'-hexachlorobiphenyl	74472-44-9	RPC-163	5 mg	RPC-163S	RPC-163AS
164	2,3,3',4',5',6'-hexachlorobiphenyl	74472-45-0	–		RPC-211S	RPC-211AS
165	2,3,3',5,5',6'-hexachlorobiphenyl	74472-46-1	RPC-159	5 mg	RPC-159S	RPC-159AS
166	2,3,4,4',5,6'-hexachlorobiphenyl	41411-63-6	RPC-115	5 mg	RPC-115S	RPC-115AS
167	2,3',4,4',5,5'-hexachlorobiphenyl	52663-72-6	RPC-100	10 mg	RPC-100S	RPC-100AS
168	2,3',4,4',5,6'-hexachlorobiphenyl	59291-65-5	RPC-145	5 mg	RPC-145S	RPC-145AS
169	3,3',4,4',5,5'-hexachlorobiphenyl	32774-16-6	RPC-090	5 mg	RPC-090S	RPC-090AS
170	2,2',3,3',4,4',5'-heptachlorobiphenyl	35065-30-6	RPC-110	5 mg	RPC-110S	RPC-110AS
171	2,2',3,3',4,4',6'-heptachlorobiphenyl	52663-71-5	RPC-072	5 mg	RPC-072S	RPC-072AS
172	2,2',3,3',4,5,5'-heptachlorobiphenyl	52663-74-8	–		RPC-212S	RPC-212AS
173	2,2',3,3',4,5,6'-heptachlorobiphenyl	68194-16-1	RPC-166	5 mg	RPC-166S	RPC-166AS
174	2,2',3,3',4,5,6'-heptachlorobiphenyl	38411-25-5	–		RPC-213S	RPC-213AS
175	2,2',3,3',4,5',6'-heptachlorobiphenyl	40186-70-7	–		RPC-214S	RPC-214AS
176	2,2',3,3',4,6,6'-heptachlorobiphenyl	52663-65-7	–		RPC-215S	RPC-215AS
177	2,2',3,3',4',5,6'-heptachlorobiphenyl	52663-70-4	–		RPC-216S	RPC-216AS
178	2,2',3,3',5,5',6'-heptachlorobiphenyl	52663-67-9	–		RPC-217S	RPC-217AS
179	2,2',3,3',5,6,6'-heptachlorobiphenyl	52663-64-6	–		RPC-218S	RPC-218AS

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BZ #	Compound	CAS #	Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
			Catalog #	Unit Size	in hexane	in isoctane
180	2,2',3,4,4',5,5'-heptachlorobiphenyl	35065-29-3	RPC-094	5 mg	RPC-094S	RPC-094AS
181	2,2',3,4,4',5,6-heptachlorobiphenyl	74472-47-2	RPC-077	5 mg	RPC-077S	RPC-077AS
182	2,2',3,4,4',5,6'-heptachlorobiphenyl	60145-23-5	RPC-162	5 mg	RPC-162S	RPC-162AS
183	2,2',3,4,4',5',6-heptachlorobiphenyl	52663-69-1	RPC-073	5 mg	RPC-073S	RPC-073AS
184	2,2',3,4,4',6,6'-heptachlorobiphenyl	74472-48-3	RPC-168	5 mg	RPC-168S	RPC-168AS
185	2,2',3,4,5,5',6-heptachlorobiphenyl	52712-05-7	RPC-057	5 mg	RPC-057S	RPC-057AS
186	2,2',3,4,5,6,6'-heptachlorobiphenyl	74472-49-4	RPC-116	5 mg	RPC-116S	RPC-116AS
187	2,2',3,4',5,5',6-heptachlorobiphenyl	52663-68-0	RPC-111	5 mg	RPC-111S	RPC-111AS
188	2,2',3,4',5,6,6'-heptachlorobiphenyl	74487-85-7	RPC-103	5 mg	RPC-103S	RPC-103AS
189	2,3,3',4,4',5,5'-heptachlorobiphenyl	39635-31-9	RPC-137	5 mg	RPC-137S	RPC-137AS
190	2,3,3',4,4',5,6-heptachlorobiphenyl	41411-64-7	RPC-135	5 mg	RPC-135S	RPC-135AS
191	2,3,3',4,4',5',6-heptachlorobiphenyl	74472-50-7	RPC-167	5 mg	RPC-167S	RPC-167AS
192	2,3,3',4,5,5',6-heptachlorobiphenyl	74472-51-8	RPC-165	5 mg	RPC-165S	RPC-165AS
193	2,3,3',4',5,5',6-heptachlorobiphenyl	69782-91-8	RPC-169	5 mg	RPC-169S	RPC-169AS
194	2,2',3,3',4,4',5,5'-octachlorobiphenyl	35694-08-7	RPC-058	5 mg	RPC-058S	RPC-058AS
195	2,2',3,3',4,4',5,6-octachlorobiphenyl	52663-78-2	RPC-074	5 mg	RPC-074S	RPC-074AS
196	2,2',3,3',4,4',5,6'-octachlorobiphenyl	42740-50-1	RPC-170	5 mg	RPC-170S	RPC-170AS
197	2,2',3,3',4,4',6,6'-octachlorobiphenyl	33091-17-7	–		RPC-219S	RPC-219AS
198	2,2',3,3',4,5,5',6-octachlorobiphenyl	68194-17-2	RPC-075	5 mg	RPC-075S	RPC-075AS
199	2,2',3,3',4,5,6,6'-octachlorobiphenyl	52663-73-7	RPC-095	5 mg	RPC-095S	RPC-095AS
200	2,2',3,3',4,5',6,6'-octachlorobiphenyl	40186-71-8	RPC-082	5 mg	RPC-082S	RPC-082AS
201	2,2',3,3',4,5,5',6'-octachlorobiphenyl	52663-75-9	–		RPC-220S	RPC-220AS
202	2,2',3,3',5,5',6,6'-octachlorobiphenyl	2136-99-4	RPC-068	5 mg	RPC-068S	RPC-068AS
203	2,2',3,4,4',5,5',6-octachlorobiphenyl	52663-76-0	RPC-174	5 mg	RPC-174S	RPC-174AS
204	2,2',3,4,4',5,6,6'-octachlorobiphenyl	74472-52-9	RPC-078	5 mg	RPC-078S	RPC-078AS
205	2,3,3',4,4',5,5',6-octachlorobiphenyl	74472-53-0	RPC-140	5 mg	RPC-140S	RPC-140AS
206	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	40186-72-9	RPC-059	5 mg	RPC-059S	RPC-059AS
207	2,2',3,3',4,4',5,6,6'-nonachlorobiphenyl	52663-79-3	RPC-080	5 mg	RPC-080S	RPC-080AS
208	2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	52663-77-1	RPC-081	5 mg	RPC-081S	RPC-081AS
209	decachlorobiphenyl	2051-24-3	RPC-060	10 mg	RPC-060S	RPC-060AS

PCB CONGENER MIXTURES

PCB PURITIES

The response factors for individual PCB congeners vary greatly when measured using an electron capture detector (ECD). For this reason, ULTRA determines purity for these compounds using a flame ionization detector (FID), GC-FID, or GC-MS.

BZ NUMBERS

BZ# represents the Ballschmimer number used to identify each specific congener. These numbers are equivalent to the IUPAC numbers for PCBs, with three exceptions. Congeners BZ# 199, 200, and 201 have the IUPAC numbers 200, 201, and 199, respectively. Both usages are found in the literature.

SIM Calibration Standard Mixture

12 Analytes

Congener	µg/mL
2-chlorobiphenyl	10
2,3-dichlorobiphenyl	10
2,4,5-trichlorobiphenyl	10
2,2',4,6,6'-pentachlorobiphenyl	20
2,2',3,4,5'-pentachlorobiphenyl	20
2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	40
2,2',4,6-tetrachlorobiphenyl	20
decachlorobiphenyl	50
3,3',4,4'-tetrachlorobiphenyl	20
2,2',3,3',4,4',5,5',6,6'-octachlorobiphenyl	30
2,2',3,4,5,6'-heptachlorobiphenyl	30
2,2',4,4',5,6'-hexachlorobiphenyl	20

in hexane

CB-683M-1 1 x 1 mL

Dry Color Manufacturer's Association (DCMA) Mixture

10 Analytes

Congener	µg/mL
2-chlorobiphenyl	100
3,3'-dichlorobiphenyl	100
2,4,5-trichlorobiphenyl	10
2,2',4,4'-tetrachlorobiphenyl	10
2,3',4,5',6-pentachlorobiphenyl	10
2,2',3,3',6,6'-hexachlorobiphenyl	10
2,2',3,4,5,5',6-heptachlorobiphenyl	5
2,2',3,3',4,4',5,5'-octachlorobiphenyl	5
2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	5
decachlorobiphenyl	5

in hexane

RPC-DMC-1 1 x 1 mL

EPA PCB Congener Calibration Check Solution

20 Analytes

Congener	BZ#
2,4'-dichlorobiphenyl	8
2,2',5-trichlorobiphenyl	18
2,4,4'-trichlorobiphenyl	28
2,2',3,5'-tetrachlorobiphenyl	44
2,2',5,5'-tetrachlorobiphenyl	52
2,3',4,4'-tetrachlorobiphenyl	66
3,3',4,4'-tetrachlorobiphenyl	77
2,2',4,5,5'-pentachlorobiphenyl	101
2,3,3',4,4'-pentachlorobiphenyl	105
2,3',4,4',5-pentachlorobiphenyl	118
3,3',4,4',5-pentachlorobiphenyl	126
2,2',3,3',4,4'-hexachlorobiphenyl	128
2,2',3,4,4',5'-hexachlorobiphenyl	138
2,2',4,4',5,5'-hexachlorobiphenyl	153
2,2',3,3',4,4',5-heptachlorobiphenyl	170
2,2',3,4,4',5,5'-heptachlorobiphenyl	180
2,2',3,4,5,5',6-heptachlorobiphenyl	187
2,2',3,3',4,4',5,6-octachlorobiphenyl	195
2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	206
decachlorobiphenyl	209

@ 0.2 µg/mL in isoctane

RPC-EPA-1 1 x 1 mL

@ 100 µg/mL in acetone

RPC-EPA2-1 1 x 1 mL

PCB Locator Mixture

5 Analytes

2-chlorobiphenyl	0.1 ng/µL
3-chlorobiphenyl	0.1 ng/µL
Aroclor 1242	0.5 ng/µL
Aroclor 1260	0.5 ng/µL
Aroclor 1268	0.2 ng/µL

in hexane

LMPK-1 1 x 1 mL

PCB By-Product Test Kit

EPA has recommended a group of PCB congeners which can be used to analyze for PCB by-products formed in the production of various commercial products. The following kits contain solutions of each congener, as well as a mixture of all the congeners.

Congener	BZ#
2-chlorobiphenyl	1
4-chlorobiphenyl	3
2,4-dichlorobiphenyl	7
2,4,6-trichlorobiphenyl	30
2,2',4,6-tetrachlorobiphenyl	50
2,2',3',4,5-pentachlorobiphenyl	97
2,2',3,4,5,6'-hexachlorobiphenyl	143
2,2',3,4,4',5',6-heptachlorobiphenyl	183
2,2',3,3',5,5',6,6'-octachlorobiphenyl	202
2,2',3,3',4,4',5,6,6'-nonachlorobiphenyl	207
decachlorobiphenyl	209

Each kit contains twelve ampules:

1 x 1 mL of each Congener

plus

1 x 1 mL of the Congener Mixture

@ 1000 µg/mL in hexane

RPCBR-1 Kit

@ 100 µg/mL in hexane

RPCBR-2 Kit

@ 50 µg/mL in hexane

RPCBR-3 Kit

EPA METHOD 680

PCBs by GC/MS

Internal Standard Mixture

2 Analytes

chrysene-d12
phenanthrene-d10

@ 40 µg/mL in hexane

ISM-565-1 1 x 1 mL

@ 75 µg/mL in hexane/toluene (1:1)

ISM-566-1 1 x 1 mL

@ 750 µg/mL in hexane/methylene chloride

ISM-567-1 1 x 1 mL

Internal and Surrogate Standards

chrysene-d₁₂

@ 2000 µg/mL in methylene chloride

ATS-120-1 1 x 1 mL

@ 250 µg/mL in toluene

ATS-122-1 1 x 1 mL

phenanthrene-d10

@ 1000 µg/mL in methylene chloride

IST-230-1 1 x 1 mL

@ 200 µg/mL in Methylene Chloride

IST-231-1 1 x 1 mL

Chrysene-d₁₂ Solution

chrysene-d12

@ 250 µg/mL in toluene

ATS-122-1 1 x 1 mL

EPA Method 680 Kit

Kit - contains four ampules:

1 x 1 mL of each of the following solutions

Concentration Mixture (CB-681MN-1)
Retention Time Mixture (CB-682MN-1)
Chrysene-d12 Solution (ATS-120-1)
Phenanthrene-d10 Solution (IST-230-1)

CBK-680A Kit

Concentration Calibration Standard Mixture

9 Analytes

2-chlorobiphenyl (BZ # 1) 100 µg/mL
2,3-dichlorobiphenyl (BZ # 5) 100 µg/mL
2,4,5-trichlorobiphenyl (BZ # 29) 100 µg/mL
2,2,4,6-tetrachlorobiphenyl (BZ # 50) 200 µg/mL
2,2,3,4,5-pentachlorobiphenyl (BZ # 87) 200 µg/mL
2,2,4,4,5,6-hexachlorobiphenyl (BZ # 154) 200 µg/mL
2,2,3,4,5,6,6-heptachlorobiphenyl (BZ # 188) 300 µg/mL
2,2,3,3,4,5,6,6-octachlorobiphenyl (BZ # 200) 300 µg/mL
decachlorobiphenyl (BZ # 209) 500 µg/mL

in hexane/toluene (1:1)

CB-680-1 1 x 1 mL

Concentration Calibration Standard Mixture

9 Analytes

Congener	µg/mL
2-chlorobiphenyl	50
2,3-dichlorobiphenyl	50
2,4,5-trichlorobiphenyl	50
2,2',4,6-tetrachlorobiphenyl	100
2,2',3,4,5'-pentachlorobiphenyl	100
2,2',4,4',5,6'-hexachlorobiphenyl	100
2,2',3,4',5,6,6'-heptachlorobiphenyl	150
2,2',3,3',4,5',6,6'-octachlorobiphenyl	150
decachlorobiphenyl	250

in hexane

CB-681MN-1 1 x 1 mL

Concentration Calibration Standard Mixture

9 Analytes

2-chlorobiphenyl (BZ # 1)
2,3-dichlorobiphenyl (BZ # 5)
2,4,5-trichlorobiphenyl (BZ # 29)
2,2,4,6-tetrachlorobiphenyl (BZ # 50)
2,2,3,4,5-pentachlorobiphenyl (BZ # 87)
2,2,4,4,5,6-hexachlorobiphenyl (BZ # 154)
2,2,3,4,5,6,6-heptachlorobiphenyl (BZ # 188)
2,2,3,3,4,5,6,6-octachlorobiphenyl (BZ # 200)
decachlorobiphenyl (BZ # 209)

@ 500 µg/mL in hexane/toluene (1:1)

CB-684-1 1 x 1 mL

Retention Time Calibration Standard Mixture

3 Analytes

Congener	µg/mL
3,3',4,4'-tetrachlorobiphenyl	100
2,2',4,6,6'-pentachlorobiphenyl	100
2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	200

in hexane

CB-682MN-1 1 x 1 mL

Retention Time Calibration Standard Mixture

4 Analytes

3,3,4,4-tetrachlorobiphenyl (BZ # 77)
2,2,4,6,6-pentachlorobiphenyl (BZ # 104)
2,3,3,4,4,5,5-heptachlorobiphenyl (BZ # 189)
2,2,3,3,5,5,6,6-octachlorobiphenyl (BZ # 202)

@ 2.5 µg/mL in hexane

CB-685-1 1 x 1 mL

Internal and Surrogate Standards for Method 625

@ 250 µg/mL in toluene 1 x 1 mL Ampules

chrysene-d₁₂ ATS-122-1

EPA METHOD 8082

Polychlorinated Biphenyl (PCBS)

See page 379 for Aroclor solutions

Method 8082 PCB Congeners Mixture

19 Analytes

Congener	BZ#
2-chlorobiphenyl	1
2,3-dichlorobiphenyl	5
2,2',5-trichlorobiphenyl	18
2,4',5-trichlorobiphenyl	31
2,2',3,5'-tetrachlorobiphenyl	44
2,2',5,5'-tetrachlorobiphenyl	52
2,3',4,4'-tetrachlorobiphenyl	66
2,2',3,4,5'-pentachlorobiphenyl	87
2,2',4,5,5'-pentachlorobiphenyl	101
2,3,3',4',6-pentachlorobiphenyl	110
2,2',3,4,4',5'-hexachlorobiphenyl	138
2,2',3,4,5,5'-hexachlorobiphenyl	141
2,2',3,5,5',6-hexachlorobiphenyl	151
2,2',4,4',5,5'-hexachlorobiphenyl	153
2,2',3,3',4,4',5-heptachlorobiphenyl	170
2,2',3,4,4',5,5'-heptachlorobiphenyl	180
2,2',3,4,4',5,6-heptachlorobiphenyl	183
2,2',3,4',5,5',6-heptachlorobiphenyl	187
2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	206

@ 100 µg/mL in iso-octane

RPCM-8082-1 1 x 1 mL

Recommended Method 8082 Calibration Stock Solution

2 Analytes

Aroclor 1016
Aroclor 1260
@ 1000 µg/mL in iso-octane
PPM-8082-1 1 x 1 mL

Internal and Surrogate Standards

decachlorobiphenyl
@ 1000 µg/mL in toluene
PPS-150-1 1 x 1 mL
@ 5000 µg/mL in MTBE
RPC-060B5000 1 x 1 mL
2,4,5,6-tetrachloro-*m*-xylene
@ 2000 µg/mL in acetone
IST-440-1 1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
Order 20 or more ampules of the same item and receive a **30% DISCOUNT**

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EUROPEAN PCB CONGENER MIXTURES

NEN 5734/VPR C85-16 PCB Mixture

7 Analytes

Congener	BZ#
2,4,4'-trichlorobiphenyl	28
2,2',5,5'-tetrachlorobiphenyl	52
2,2',4,5,5'-pentachlorobiphenyl	101
2,3,4,4',5-pentachlorobiphenyl	114
2,2',3,4,4',5'-hexachlorobiphenyl	138
2,2',4,4',5,5'-hexachlorobiphenyl	153
2,2',3,4,4',5,5'-heptachlorobiphenyl	180

@ 10 µg/mL in isoctane

RPCM-200-1 1 x 1 mL

EN 12766/CEN EN 61619 PCB Calibration Mixture

14 Analytes

Congener	BZ#
2,2',5-trichlorobiphenyl	18
2,4,4'-trichlorobiphenyl	28
2,4',5-trichlorobiphenyl	31
2,2',3,5'-tetrachlorobiphenyl	44
2,2',5,5'-tetrachlorobiphenyl	52
2,2',4,5,5'-pentachlorobiphenyl	101
2,3,4,4',5-pentachlorobiphenyl	114
2,2',3,4,4',5'-hexachlorobiphenyl	138
2,2',3,4',5,6-hexachlorobiphenyl	149
2,2',4,4',5,5'-hexachlorobiphenyl	153
2,2',3,3',4,4',5-heptachlorobiphenyl	170
2,2',3,4,4',5,5'-heptachlorobiphenyl	180
2,2',3,3',4,4',5,5'-octachlorobiphenyl	194
decachlorobiphenyl	209

@ 10 µg/mL in isoctane

RPCM-210-1 1 x 1 mL

WHO PCB Calibration Mixture

12 Analytes

Congener	BZ#
3,3',4,4'-tetrachlorobiphenyl	77
3,4,4',5-tetrachlorobiphenyl	81
2,3,3',4,4'-pentachlorobiphenyl	105
2,3,4,4',5-pentachlorobiphenyl	114
2,3',4,4',5-pentachlorobiphenyl	118
2',3,4,4',5-pentachlorobiphenyl	123
3,3',4,4',5-pentachlorobiphenyl	126
2,3,3',4,4',5-hexachlorobiphenyl	156
2,3,3',4,4',5'-hexachlorobiphenyl	157
2,3',4,4',5,5'-hexachlorobiphenyl	167
3,3',4,4',5,5'-hexachlorobiphenyl	169
2,3,3',4,4',5,5'-heptachlorobiphenyl	189

@ 10 µg/mL in isoctane

RPCM-220-1 1 x 1 mL

ISS PCB Calibration Mixture

18 Analytes

Congener	BZ#
2,4,4'-trichlorobiphenyl	28
2,2',5,5'-tetrachlorobiphenyl	52
2,2',3,5',6-pentachlorobiphenyl	95
2,2',4,4',5-pentachlorobiphenyl	99
2,2',4,5,5'-pentachlorobiphenyl	101
2,3,3',4,4'-pentachlorobiphenyl	105
2,3,3',4',6-pentachlorobiphenyl	110
2,3',4,4',5-pentachlorobiphenyl	118
2,2',3,4,4',5'-hexachlorobiphenyl	138
2,2',3,4',5,5'-hexachlorobiphenyl	146
2,2',3,4',5,6-hexachlorobiphenyl	149
2,2',3,5,5',6-hexachlorobiphenyl	151
2,2',4,4',5,5'-hexachlorobiphenyl	153
2,2',3,3',4,4',5-heptachlorobiphenyl	170
2,2',3,3',4,4',5,6-heptachlorobiphenyl	177
2,2',3,4,4',5,5'-heptachlorobiphenyl	180
2,2',3,4,4',5,6-heptachlorobiphenyl	183
2,2',3,4',5,5',6-heptachlorobiphenyl	187

@ 10 µg/mL in isoctane

RPCM-230-1 1 x 1 mL

WHO/ISS PCB Calibration Mixture

32 Analytes

Congener	BZ#	Congener	BZ#
2,2',5-trichlorobiphenyl	18	2,2',3,3',4,4'-hexachlorobiphenyl	128
2,4,4'-trichlorobiphenyl	28	2,2',3,4,4',5'-hexachlorobiphenyl	138
2,4',5-trichlorobiphenyl	31	2,2',3,4',5,5'-hexachlorobiphenyl	146
2,2',3,5'-tetrachlorobiphenyl	44	2,2',3,4',5,6-hexachlorobiphenyl	149
2,2',5,5'-tetrachlorobiphenyl	52	2,2',3,5,5',6-hexachlorobiphenyl	151
3,3',4,4'-tetrachlorobiphenyl	77	2,2',4,4',5,5'-hexachlorobiphenyl	153
3,4,4',5-tetrachlorobiphenyl	81	2,3,3',4,4',5-hexachlorobiphenyl	156
2,2',3,5',6-pentachlorobiphenyl	95	2,3,3',4,4',5'-hexachlorobiphenyl	157
2,2',4,4',5-pentachlorobiphenyl	99	2,3',4,4',5,5'-hexachlorobiphenyl	167
2,2',4,5,5'-pentachlorobiphenyl	101	3,3',4,4',5,5'-hexachlorobiphenyl	169
2,3,3',4,4'-pentachlorobiphenyl	105	2,2',3,3',4,4',5-heptachlorobiphenyl	170
2,3,3',4',6-pentachlorobiphenyl	110	2,2',3,3',4,4',5,6-heptachlorobiphenyl	177
2,3,4,4',5-pentachlorobiphenyl	114	2,2',3,4,4',5,5'-heptachlorobiphenyl	180
2,3',4,4',5-pentachlorobiphenyl	118	2,2',3,4,4',5,6-heptachlorobiphenyl	183
2',3,4,4',5-pentachlorobiphenyl	123	2,2',3,4',5,5',6-heptachlorobiphenyl	187
3,3',4,4',5-pentachlorobiphenyl	126	2,3,3',4,4',5,5'-heptachlorobiphenyl	189

@ 10 µg/mL in isoctane

RPCM-240-1 1 x 1 mL

PCB WINDOWING MIXTURES

PCB Elution Window Mixtures

ULTRA Scientific has prepared a series of mixtures containing the first and last eluting isomers (based on a DB-5 capillary column) for each PCB isomer group, from the monochlorobiphenyls to the nonachlorobiphenyls.

All Solutions @ 100 µg/mL in Hexane

First Eluting Congener	RRt*	Last Eluting Congener	RRt*	Catalog #
biphenyl	0.0997	–	–	RPCW-100-1
2-chlorobiphenyl	0.1544	4-chlorobiphenyl	0.1975	RPCW-101-1
2,6-dichlorobiphenyl	0.2243	4,4'-dichlorobiphenyl	0.3387	RPCW-102-1
2,2',6-trichlorobiphenyl	0.3045	3,4,4'-trichlorobiphenyl	0.4858	RPCW-103-1
2,2',6,6'-tetrachlorobiphenyl	0.38	3,3',4,4'-tetrachlorobiphenyl	0.6295	RPCW-104-1
2,2',4,6,6'-pentachlorobiphenyl	0.4757	3,3',4,4',5-pentachlorobiphenyl	0.7512	RPCW-105-1
2,2',4,4',6,6'-hexachlorobiphenyl	0.5666	3,3',4,4',5,5'-hexachlorobiphenyl	0.8625	RPCW-106-1
2,2',3,4',5,6,6'-heptachlorobiphenyl	0.692	2,3,3',4,4',5,5'-heptachlorobiphenyl	0.9142	RPCW-107-1
2,2',3,3',5,5',6,6'-octachlorobiphenyl	0.8089	2,3,3',4,4',5,5',6-octachlorobiphenyl	0.9678	RPCW-108-1
2,2',3,3',4,5,5',6,6'-nonachlorobiphenyl	0.932	2,2',3,3',4,4',5,5',6-nonachlorobiphenyl	1.0103	RPCW-109-1
decachlorobiphenyl	1.0496	–	–	RPCW-110-1
octachloronaphthalene	1.0000	–	–	RPCW-111-1

* Relative retention time versus octachloronaphthalene; see M. D. Mullin, et al., Environ. Sci. Technol., 18, 468(1984).

PCB Elution Window Kit

Kit contains eleven ampules:

1 x 1 mL of each of the PCB Windowing mixtures, RPCW-100 through RPCW-110.

RPCWK Kit

PCB Locator Mixture

5 Analytes

2-chlorobiphenyl	0.1 ng/µL
3-chlorobiphenyl	0.1 ng/µL
Aroclor 1242	0.5 ng/µL
Aroclor 1260	0.5 ng/µL
Aroclor 1268	0.2 ng/µL

in hexane

LMPK-1 **1 x 1 mL**

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



AROCLORS® – COMMERCIAL PCBs

AROCLORS®

Industrial PCBs were generally prepared by treating molten biphenyl with anhydrous chlorine in the presence of a catalyst (iron filings or ferric chloride). The crude material was then treated with alkali to remove traces of hydrogen chloride, then distilled to remove color. Varying the reaction conditions gave rise to a family of products of various compositions as shown below.

Aroclor®	% Cl	Density
1221	20.5-21.5	1.18
1232	31.5-32.5	1.26
1016	41	1.37
1242	42	1.38
1248	48	1.44
1254	54	1.54
1260	60	1.62
1262	61.5-62.5	1.64
1268	68	1.81

The Aroclors are examples of technical mixtures composed of many compounds. Due to variations in the manufacturing process, the exact composition of these mixtures varies from lot to lot.

Aroclor Solution Kits

Each kit contains nine ampules:

1 x 1 mL of each each Aroclor

Aroclor 1016	Aroclor 1254
Aroclor 1221	Aroclor 1260
Aroclor 1232	Aroclor 1262
Aroclor 1242	Aroclor 1268
Aroclor 1248	

@ 100 µg/mL in hexane:

RPCK-1A Kit

@ 100 µg/mL in Methanol:

RPCK-3A Kit

@ 100 µg/mL in isoctane:

RPCK-4A Kit

High Concentration Aroclor Solutions

Compound	Neat Material		@ 1000 µg/mL in Isooctane	
	Catalog #	Unit Size	Catalog #	Unit Size
Aroclor 1016	RPC-1016	50 mg	EPA-1282-1	1 x 1 mL
Aroclor 1221	RPC-1221	50 mg	EPA-1292-1	1 x 1 mL
Aroclor 1232	RPC-1232	10 mg	EPA-1302-1	1 x 1 mL
Aroclor 1242	RPC-1242	50 mg	EPA-1312-1	1 x 1 mL
Aroclor 1248	RPC-1248	50 mg	EPA-1342-1	1 x 1 mL
Aroclor 1254	RPC-1254	50 mg	EPA-1352-1	1 x 1 mL
Aroclor 1260	RPC-1260	50 mg	EPA-1362-1	1 x 1 mL
Aroclor 1262	RPC-1262	50 mg	EPA-1372-1	1 x 1 mL
Aroclor 1268	RPC-1268	50 mg	EPA-1382-1	1 x 1 mL

Aroclor Standards

1 x 1 mL Ampules

@ 100 µg/mL in Methanol

Aroclor 1016	PP-280-1
Aroclor 1221	PP-290-1
Aroclor 1232	PP-300-1
Aroclor 1242	PP-310-1
Aroclor 1248	PP-340-1
Aroclor 1254	PP-350-1
Aroclor 1260	PP-360-1
Aroclor 1262	PP-370-1
Aroclor 1268	PP-380-1

@ 100 µg/mL in Hexane

Aroclor 1016	PP-281-1
Aroclor 1221	PP-291-1
Aroclor 1232	PP-301-1
Aroclor 1242	PP-311-1
Aroclor 1248	PP-341-1
Aroclor 1254	PP-351-1
Aroclor 1260	PP-361-1
Aroclor 1262	PP-371-1
Aroclor 1268	PP-381-1

@ 100 µg/mL in Isooctane

Aroclor 1016	PP-282-1
Aroclor 1221	PP-292-1
Aroclor 1232	PP-302-1
Aroclor 1242	PP-312-1
Aroclor 1248	PP-342-1
Aroclor 1254	PP-352-1
Aroclor 1260	PP-362-1
Aroclor 1262	PP-372-1
Aroclor 1268	PP-382-1

Aroclors in Transformer Oil Kits (wt/vol)**Each kit contains four ampules:***3 x 2 mL of Aroclor @100 µg/mL in PCB Free Transformer Oil, plus**1 x 2 mL of PCB Free Transformer Oil*

Description	Catalog #
Aroclor 1016 Kit	1016TK
Aroclor 1221 Kit	1221TK
Aroclor 1232 Kit	1232TK
Aroclor 1242 Kit	1242TK
Aroclor 1248 Kit	1248TK
Aroclor 1254 Kit	1254TK
Aroclor 1260 Kit	1260TK
Aroclor 1262 Kit	1262TK
Aroclor 1268 Kit	1268TK

PCB Contaminant Kits (wt/wt)**Each kit contains four ampules:***2 x 1 mL of Aroclor @ 50 µg/gm in PCB Free Transformer Oil, plus**2 x 1 mL of Aroclor @ 500 µg/gm in PCB Free Transformer Oil*

Description	Catalog #
Aroclor 1242 Kit	1242TK-B
Aroclor 1248 Kit	1248TK-B
Aroclor 1254 Kit	1254TK-B
Aroclor 1260 Kit	1260TK-B

PCB Contaminant Kits (wt/vol)**Each kit contains four ampules:***2 x 1 mL of Aroclor @ 50 µg/mL in PCB Free Transformer Oil, plus**2 x 1 mL of Aroclor @ 500 µg/mL in PCB Free Transformer Oil*

Description	Catalog #
Aroclor 1242 Kit	1242TK-A
Aroclor 1254 Kit	1254TK-A
Aroclor 1260 Kit	1260TK-A

Aroclors in Transformer Oil (wt/wt)

Aroclor 1242

*@ 50 µg/gm in PCB Free Transformer Oil***1242TK-B1** 1 x 1 mL*@ 500 µg/gm in PCB Free Transformer Oil***1242TK-B2** 1 x 1 mL

Aroclor 1248

*@ 50 µg/gm in PCB Free Transformer Oil***1248TK-B1** 1 x 1 mL*@ 500 µg/gm in PCB Free Transformer Oil***1248TK-B2** 1 x 1 mL

Aroclor 1254

*@ 50 µg/gm in PCB Free Transformer Oil***1254TK-B1** 1 x 1 mL*@ 500 µg/gm in PCB Free Transformer Oil***1254TK-B2** 1 x 1 mL

Aroclor 1260

*@ 50 µg/gm in PCB Free Transformer Oil***1260TK-B1** 1 x 1 mL*@ 500 µg/gm in PCB Free Transformer Oil***1260TK-B2** 1 x 1 mL**PCB Free Transformer Oil**

transformer oil

*PCB free***TK-OIL** 4 x 2 mL**TK-OIL-2** 1 x 2 mL**TK-OIL-25** 25 mL**TK-OIL-100** 100 mL

HYDROXYLATED BIPHENYLS

PCB Metabolites

Hydroxylated Chlorobiphenyls and Biphenyls		95 - 99% Pure
Compound	Catalog #	Unit Size
2-chloro-4-biphenylol	RPM-001	5 mg
3-chloro-4-biphenylol	RPM-003	10 mg
4'-chloro-4-biphenylol	RPM-004	10 mg
2',5'-dichloro-4-biphenylol	RPM-009	10 mg
2',5'-dichloro-3-biphenylol	RPM-010	10 mg
3,5-dichloro-2-biphenylol	RPM-011	10 mg
4,4'-dichloro-3-biphenylol	RPM-013	10 mg
2,2',5'-trichloro-4-biphenylol	RPM-017	10 mg
2',3,5'-trichloro-2-biphenylol	RPM-018	10 mg
2',5,5'-trichloro-2-biphenylol	RPM-020	10 mg
3,4',5-trichloro-4-biphenylol	RPM-021	5 mg
2',3',4',5'-tetrachloro-4-biphenylol	RPM-022	10 mg
2',3',4',5'-tetrachloro-3-biphenylol	RPM-023	10 mg
3,3',5,5'-tetrachloro-4,4'-biphenyldiol	RPM-024	10 mg
2',3',4',5,5'-pentachloro-2-biphenylol	RPM-025	5 mg
2-biphenylol	RPM-027	100 mg
3-biphenylol	RPM-028	100 mg
4-biphenylol	RPM-029	100 mg
2,2'-biphenyldiol	RPM-030	100 mg
4,4'-biphenyldiol	RPM-032	100 mg
2,5-biphenyldiol	RPM-033	100 mg
3,4-biphenyldiol	RPM-034	100 mg

POLYCHLORINATED TERPHENYLS

Chlorinated Terphenyls 95 - 99% Pure

Compound	Catalog #	Unit Size
4-chloro- <i>o</i> -terphenyl	RTP-019	10 mg
4-chloro- <i>p</i> -terphenyl	RTP-002	20 mg
2,4-dichloro- <i>p</i> -terphenyl	RTP-014	20 mg
2,5-dichloro- <i>o</i> -terphenyl	RTP-005	10 mg
2,5-dichloro- <i>m</i> -terphenyl	RTP-004	10 mg
2,5-dichloro- <i>p</i> -terphenyl	RTP-003	20 mg
2,4,6-trichloro- <i>p</i> -terphenyl	RTP-008	20 mg
2,3,5,6-tetrachloro- <i>p</i> -terphenyl	RTP-015	10 mg
2,4,4'',6-tetrachloro- <i>p</i> -terphenyl	RTP-010	10 mg
2,3,4,5,6-pentachloro- <i>p</i> -terphenyl	RTP-016	10 mg
tetradecachloro- <i>m</i> -terphenyl	RTP-011	25 mg
2,2''',5,5''''-tetrachloro- <i>p,p</i> -quaterphenyl	RTP-018	5 mg

Industrial Terphenyl Solution Kit

Kit - contains three ampules:

1 x 1 mL of each Aroclor @ 100 µg/mL in Hexane:

Aroclor 5442

Aroclor 5460

Aroclor 5060

RTP-1A

Kit

POLYBROMINATED BIPHENYLS – PBBS

Bromobiphenyls 97 - 99% Pure

Compound	Neat Material		Solution @ 100 µg/mL in Hexane	
	Catalog #	Unit Size	Catalog #	Unit Size
2-bromobiphenyl	RBF-076	50 mg	RBF-076S	1 x 2 mL
3-bromobiphenyl	RBF-077	50 mg	RBF-077S	1 x 2 mL
4-bromobiphenyl	RBF-078	50 mg	RBF-078S	1 x 2 mL
2,6-dibromobiphenyl	–		RBF-079S	1 x 2 mL
4,4'-dibromobiphenyl	RBF-080	50 mg	RBF-080S	1 x 2 mL
2,2'-dibromobiphenyl	RBF-081	50 mg	RBF-081S	1 x 2 mL
2,4-dibromobiphenyl	RBF-082	15 mg	RBF-082S	1 x 2 mL
2,5-dibromobiphenyl	RBF-083	15 mg	RBF-083S	1 x 2 mL
2,4,6-tribromobiphenyl	RBF-084	15 mg	RBF-084S	1 x 2 mL
2,2',5-tribromobiphenyl	RBF-085	10 mg	RBF-085S	1 x 2 mL
2,3',5-tribromobiphenyl	RBF-086	10 mg	RBF-086S	1 x 2 mL
2,4',5-tribromobiphenyl	RBF-087	10 mg	RBF-087S	1 x 2 mL
2,4,5-tribromobiphenyl	RBF-097	10 mg	RBF-097S	1 x 2 mL
3,4,5-tribromobiphenyl	RBF-098	10 mg	RBF-098S	1 x 2 mL
2,2',4,5'-tetrabromobiphenyl	–		RBF-088S	1 x 2 mL
2,2',5,5'-tetrabromobiphenyl	RBF-089	20 mg	RBF-089S	1 x 2 mL
3,3',5,5'-tetrabromobiphenyl	RBF-090	20 mg	RBF-090S	1 x 2 mL
2,2',5,6'-tetrabromobiphenyl	RBF-091	20 mg	RBF-091S	1 x 2 mL
2,2',4,5',6-pentabromobiphenyl	RBF-092	10 mg	RBF-092S	1 x 2 mL
2,2',4,4',6,6'-hexabromobiphenyl	RBF-093	5 mg	RBF-093S	1 x 2 mL
2,2',4,4',5,5'-hexabromobiphenyl (95%)	–		RBF-094S	1 x 2 mL
decabromobiphenyl (95%)	RBF-102	50 mg	RBF-102S	1 x 2 mL
octabromobiphenyl (tech) (FR250 BA, Dow Chemical)	RBF-074	50 mg	–	
hexabromobiphenyl (tech) (Firemaster BP-6, Michigan Chemical)	RBF-075	10 mg	–	

ORDERING IS EASY

Online

www.ultrasci.com
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Phone

800-338-1754
Monday – Friday
8:30 a.m. - 5:00 p.m. ET

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401-295-2330

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ULTRA Scientific
250 Smith Street
No. Kingstown, RI
02852



POLYCHLORINATED DIPHENYL ETHERS

Dioxin and Furan Precursors

Chlorinated Diphenyl Ethers		97 - 99% Pure
Compound	Catalog #	Unit Size
diphenyl ether	RPE-020	100 mg
2-chlorodiphenyl ether	RPE-002	10 mg
4-chlorodiphenyl ether	RPE-001	10 mg
2,4-dichlorodiphenyl ether	RPE-005	10 mg
2,4'-dichlorodiphenyl ether	RPE-004	10 mg
4,4'-dichlorodiphenyl ether	RPE-003	10 mg
2,2',4-trichlorodiphenyl ether	RPE-006	10 mg
2',3,4-trichlorodiphenyl ether	RPE-008	10 mg
2,4,4'-trichlorodiphenyl ether	RPE-007	10 mg
2,3',4,4'-tetrachlorodiphenyl ether	RPE-009	10 mg
2,4,4',5-tetrachlorodiphenyl ether	RPE-011	10 mg
3,3',4,4'-tetrachlorodiphenyl ether	RPE-010	10 mg
2,3',4,4',5-pentachlorodiphenyl ether	RPE-012	10 mg
decachlorodiphenyl ether	RPE-014	10 mg
4-phenoxybiphenyl	RPE-021	25 mg
2,4,4'-trichloro-2'-hydroxydiphenyl ether	RPE-024	50 mg

POLYBROMINATED DIPHENYL ETHERS

Brominated Diphenyl Ethers in Solution 97 - 99% Pure

@ 100 µg/mL in Isooctane

Compound	Catalog #	Unit Size
2,2',4,4'-tetrabromodiphenyl ether	RPE-080S-1	1 x 1 mL
2,2',4,4',5-pentabromodiphenyl ether	RPE-082S-1	1 x 1 mL
2,2',4,4',6-pentabromodiphenyl ether	RPE-081S-1	1 x 1 mL
2,2',4,4',5,5'-hexabromodiphenyl ether	RPE-083S-1	1 x 1 mL

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**
 Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



POLYCHLORINATED DIBENZO-*p*-DIOXINSChlorinated Dibenzo-*p*-dioxins 97 - 99% Pure

Compound	Neat Material		Solutions @ 50 µg/mL in Toluene	
	Catalog #	Unit Size	Catalog #	Unit Size
dibenzo- <i>p</i> -dioxin	RPE-023	25 mg	RPE-023S-1	1 x 1 mL
1-chlorodibenzo-...	RPE-015	25 mg	RPE-015S-1	1 x 1 mL
2-chlorodibenzo- <i>p</i> -dioxin	RPE-016	25 mg	RPE-016S-1	1 x 1 mL
2,3-dichlorodibenzo- <i>p</i> -dioxin	RPE-051	5 mg	RPE-051S-1	1 x 1 mL
2,7-dichlorodibenzo- <i>p</i> -dioxin	RPE-025	5 mg	RPE-025S-1	1 x 1 mL
2,8-dichlorodibenzo-.	RPE-052	5 mg	RPE-052S-1	1 x 1 mL
1,2,3-trichlorodibenzo- <i>p</i> -dioxin	RPE-059	5 mg	RPE-059S-1	1 x 1 mL
1,2,4-trichlorodibenzo- <i>p</i> -dioxin	RPE-026	5 mg	RPE-026S-1	1 x 1 mL
2,3,7-trichlorodibenzo- <i>p</i> -dioxin	RPE-053A	5 mg	RPE-053S-1	1 x 1 mL
1,2,3,4-tetrachlorodibenzo- <i>p</i> -dioxin	RPE-027	25 mg	RPE-027S-1	1 x 1 mL
1,3,6,8-tetrachlorodibenzo- <i>p</i> -dioxin	RPE-054A	5 mg	RPE-054S-1	1 x 1 mL
1,3,7,8-tetrachlorodibenzo- <i>p</i> -dioxin	RPE-060A	5 mg	RPE-060S-1	1 x 1 mL
2,3,7,8-tetrachlorodibenzo- <i>p</i> -dioxin *	-	-	RPE-029S-1 *	1 x 1 mL
1,2,3,4,7-pentachlorodibenzo- <i>p</i> -dioxin	RPE-055A	5 mg	RPE-055S-1	1 x 1 mL
1,2,3,7,8-pentachlorodibenzo- <i>p</i> -dioxin	RPE-056A	5 mg	RPE-056S-1	1 x 1 mL
1,2,4,7,8-pentachlorodibenzo- <i>p</i> -dioxin	RPE-057A	5 mg	RPE-057S-1	1 x 1 mL
1,2,3,4,7,8-hexachlorodibenzo- <i>p</i> -dioxin	RPE-058A	5 mg	RPE-058S-1	1 x 1 mL
1,2,3,4,6,7,8-heptachlorodibenzo- <i>p</i> -dioxin	-	-	RPE-063S-1	1 x 1 mL
octachlorodibenzo- <i>p</i> -dioxin	RPE-017A	50 mg	RPE-017S-1	1 x 1 mL

* The 2,3,7,8-tetrachlorodibenzo-*p*-dioxin solution (RPE-029S) is at a concentration of 10 µg/mL in Toluene.

Chlorinated Dibenzo-*p*-dioxin Mixture

4 Analytes

1,2,3,4-tetrachlorodibenzo-*p*-dioxin
 1,2,3,4,7-pentachlorodibenzo-*p*-dioxin
 1,2,3,4,7,8-hexachlorodibenzo-*p*-dioxin
 1,2,3,4,6,7,8-heptachlorodibenzo-*p*-dioxin

@ 50 µg/mL in toluene

RPE-064M-1 1 x 1 mL

Chlorinated Dibenzo-*p*-dioxin Solution

5 Analytes

2,3,7,8-tetrachlorodibenzo-*p*-dioxin
 1,2,3,7,8-pentachlorodibenzo-*p*-dioxin
 1,2,3,4,7,8-hexachlorodibenzo-*p*-dioxin
 1,2,3,4,6,7,8-heptachlorodibenzo-*p*-dioxin
 octachlorodibenzo-*p*-dioxin

@ 10 µg/mL in toluene

RPE-065M-1 1 x 1 mL

POLYCHLORINATED DIBENZOFURANS

Chlorinated Dibenzofurans 97 - 99% Pure

Compound	Neat Material		Solutions @ 50 µg/mL in Toluene	
	Catalog #	Unit Size	Catalog #	Unit Size
dibenzofuran	RPE-022	50 mg	RPE-022S-1	1 x 1 mL
2-chlorodibenzofuran	RPE-030	5 mg	RPE-030S-1	1 x 1 mL
2,4-dichlorodibenzofuran	RPE-032	5 mg	RPE-032S-1	1 x 1 mL
2,6-dichlorodibenzofuran	RPE-033	5 mg	RPE-033S-1	1 x 1 mL
2,8-dichlorodibenzofuran	RPE-018	10 mg	RPE-018S-1	1 x 1 mL
2,3,8-trichlorodibenzofuran	RPE-036	5 mg	RPE-036S-1	1 x 1 mL
2,4,6-trichlorodibenzofuran	RPE-034	5 mg	RPE-034S-1	1 x 1 mL
2,4,8-trichlorodibenzofuran	RPE-035	5 mg	RPE-035S-1	1 x 1 mL
1,2,3,4-tetrachlorodibenzofuran	RPE-039A	5 mg	RPE-039S-1	1 x 1 mL
1,3,7,8-tetrachlorodibenzofuran	RPE-040A	5 mg	RPE-040S-1	1 x 1 mL
2,3,7,8-tetrachlorodibenzofuran	RPE-037	1 mg	RPE-037S-1	1 x 1 mL
1,2,3,4,8-pentachlorodibenzofuran	RPE-041A	5 mg	RPE-041S-1	1 x 1 mL
1,2,3,7,8-pentachlorodibenzofuran	-	-	RPE-042S-1	1 x 1 mL
1,2,3,4,7,8-hexachlorodibenzofuran	-	-	RPE-043S-1	1 x 1 mL
1,2,3,4,6,7,8-heptachlorodibenzofuran	-	-	RPE-044S-1	1 x 1 mL
octachlorodibenzofuran	RPE-019A	50 mg	RPE-019S-1	1 x 1 mL

Chlorinated Dibenzofuran Mixture

5 Analytes

2,3,7,8-tetrachlorodibenzofuran
 1,2,3,7,8-pentachlorodibenzofuran
 1,2,3,4,7,8-hexachlorodibenzofuran
 1,2,3,4,6,7,8-heptachlorodibenzofuran
 octachlorodibenzofuran

@ 10 µg/mL in toluene

RPE-045M-1

1 x 1 mL

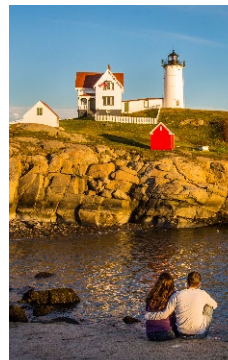
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- ✓ EPA Methods
- ✓ And more!





Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**

Order 20 or more ampules of the same item and receive a **30% DISCOUNT**



NEAT ORGANIC REFERENCE MATERIALS

Compounds of Environmental Interest

ULTRA Scientific manufactures and stocks more than 1500 neat organic compounds of environmental interest. All of these materials are manufactured under ULTRA's ISO 9001 quality system. A certificate showing the purity of the compound is available for each standard.

Compound classes include:

- ✓ pesticides
- ✓ aliphatic hydrocarbons
- ✓ aromatic hydrocarbons
- ✓ polynuclear aromatic hydrocarbons (PAHs)
- ✓ heteronuclear aromatic hydrocarbons
- ✓ nitroaromatic hydrocarbons
- ✓ halogenated benzenes
- ✓ halogenated phenols and anisoles
- ✓ halogenated naphthalenes
- ✓ halogenated alkanes and alkenes
- ✓ chlorinated benzoic acids and anilines
- ✓ nitrosamines
- ✓ phthalates

In addition, ULTRA also catalogs a large selection of PCBs, dioxins, furans, and related compounds, as well as a selection of lipids, which may be found in separate sections of this catalog.



NEAT REFERENCE MATERIALS

● PESTICIDES	390
● PAHS	409
● ADDITIONAL NEAT COMPOUNDS	411
● NEAT REFERENCE MATERIALS KITS	423

PAGE WORKING WITH SMALL QUANTITIES

When neat chemical standards are packaged in very small quantities (100 milligrams or less), the volume of chemical contained in the vial is very small compared to the size of the vial. For example, 5 milligrams of a liquid PCB occupies about 4.2 microliters of volume. Thus it is difficult to remove the material from the vial without wasting some of it.

To avoid this problem, ULTRA Scientific uses analytical balances and strict weigh tolerances to dispense these materials. The actual amount of material contained in the vial is never less than the stated value, nor more than 1% higher than the stated value. Thus, the analyst can simply rinse the material out of the vial using an appropriate solvent, and still be assured of the amount dispensed.

NEAT & SINGLE ANALYTE SOLUTIONS

Pesticides and Related Compounds

ULTRA Scientific offers over a thousand pesticide and related compounds as either high purity Neat Reference Materials (RM) or as Single Analyte Solutions. This section provides a listing of these products, per compound. All products are furnished with a Certificate of Analysis and are available to ship same-day.


Catalog Neat RM are offered in standard packaging sizes of 10mg, 25mg, 50mg and 100mg. The analytical weight is reported directly on the product label and the purity is listed on the Certificate of Analysis. Custom fill amounts and bulk requests are always available.

Single Analyte Solutions are typically formulated at either 100 µg/mL or 1000 µg/mL concentrations in suitable organic solvents, chosen with regard to solubility and stability. Our Part Number Convention key is helpful to identify solvents and concentrations across our product line. If our offering does not meet your needs, please contact ULTRA for an expedited product quotation.

ULTRAgrade® Quality

- ✓ Manufactured in accordance with ISO Guide 34 and under our ISO 9001 registered Quality System
- ✓ High purity solvents and pre-analyzed components, most with >99% purity
- ✓ Gravimetric weigh-in precision of ± 0.5%
- ✓ Analyte concentrations verified by our ISO 17025 Accredited Laboratory

PRODUCT PACKAGING & LABELING




250 Smith Street • N. Kingstown, RI 02882
tel: 401.294.9400 • fax: 401.295.2330
www.ultrascientific.com

Heptachlor Solution

Item: PST-571K1000
Lot: CM-2464
Expires: 06/30/2017

Store at Room Temp (15° to 30°C), Do Not Refrigerate
Made in U.S.A.



DANGER
Acetone

Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness. Repeated exposure may cause skin dryness or cracking.

Keep away from heat, hot surfaces, sparks, open flames, and all other ignition sources. No smoking. Store container tightly closed. Wash thoroughly after handling. Wear protective gloves / eye protection / face protection. InHALED: remove person to fresh air and keep comfortable. Call a POISON CENTER or doctor if you feel unwell.


Item: PST-571K1000
Lot: CM-2464
Expires: 06/30/2017

Heptachlor Solution

Item: PST-571K1000
Lot: CM-2464
Expires: 06/30/2017

FOR LAB USE ONLY
Made in U.S.A.






250 Smith Street • N. Kingstown, RI 02882
tel: 401.294.9400 • fax: 401.295.2330
www.ultrascientific.com

Heptachlor Neat

Item: PST-571
Lot: NT052329
Expires: 09/30/2018

Store at Room Temp (15° to 30°C)
Made in U.S.A.



DANGER
Heptachlor

Supposed of causing cancer. Toxic if swallowed. Toxic in contact with skin. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

Obtain special instructions before use. Avoid release to the environment. Wear protective gloves / protective clothing / eye protection / face protection.

IF SWALLOWED: Immediately call a POISON CENTER or doctor. ORAL: Wash with plenty of water.

Item: PST-571
Lot: NT052329
Expires: 09/30/2018

Heptachlor Neat

Item: PST-571
Lot: NT052329
Expires: 09/30/2018
CAS #: 8006-16-4-8
Serial #: 8007
Weight: 303 mg

FOR LAB USE ONLY
Made in U.S.A.



Level II – Certificate of Analysis

- Producer Name
- Part Number
- Lot Number
- Material Name
- General Description
- Formulation
- Storage Conditions
- Traceability
- Uncertainty
- Homogeneity
- Lot Specific Chromatogram



Certificate of Analysis

ISO Guide 34 Reference Material



Product Number: PSI-0106500
Lot Number: CM-2063

Product Name: Aldrin Solution

Description:
 This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	CAS#	Analyte Lot	True Value
aldrin	000309-00-2	RM00635	502.1 ± 2.5 µg/mL

Solvent: Acetone

Storage: Store at 15° to 30°C, Do Not Refrigerate


Traceability:
 Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
 The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
 This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.


Chromatogram:





Certificate of Analysis

ISO Guide 34 Reference Material



Product Number: PSI-0106500
Lot Number: CM-2063

Intended Use:
 This RM is intended for the preparation of working reference standards for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
 Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainty. Each unit contains slightly more than the stated base weight to facilitate transfer of the entire lot for testing.


Should crystallization occur after refrigeration, gentle warming (40°C) and shaking of the container is usually sufficient to re-dissolve the material. If this is unsuccessful, an ultrasonic bath may be used. Solutions containing volatile components (such as gases) should be sealed prior to opening to minimize headspace problems.

Hazards:
 Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
 The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is null and void if the RM is re-weighed, contaminated, or otherwise modified.

Maintenance of Certification:
 The recommended long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.


 W. J. Kelly
 Vice President, ULTRA



ISO 9001 Registered Quality System – IUV USA


Page 2 of 2

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ISO 9001 Registered Quality System – IUV USA Page 1 of 2

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- Intended Use
- Instructions for Proper Use
- Period of Validity
- Certified by ULTRA Scientific



ULTRA Scientific Catalog Products are Level II – ISO Guide 34 Reference Materials, unless otherwise specified.

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

The customer speaks and we listen. Different laboratories have different requirements for pesticide solutions. So ULTRA created “catalog customs”, solutions tailored to your needs, but at catalog prices and with “off the shelf” shipping times. Available in ampules or CERTAN vials, you can have it packaged the way you need it, either for immediate use or for long-term storage.

For best results, analytical standards should be used immediately upon opening, and never transferred for use later. Should you need to store standards, the CERTAN bottle is the most secure, innovative package for that purpose. Please see page 439 for ordering information

Each component in a reference standard is pre-analyzed, and the solvents are of the highest quality available. Neat standards are shipped with a certificate showing the purity of the compound is available for each standard. Solution standards are gravimetrically prepared to a precision of $\pm 0.5\%$, and are shipped with a certificate showing the true concentration of the pesticide in the standard.



Pesticides 95 - 99% Pure

See *ULTRA Scientific Pesticides Catalog* for more information on p/n & pricing

Pesticide	CAS #	Catalog #
<i>AAtrex</i>	<i>see Atrazine</i>	
Abamectin	71751-41-2	PST-1870
Abate (Temephos)	3383-96-8	PST-1875
<i>AC 26691</i>	<i>see Cythioate</i>	
<i>Acarben</i>	<i>see Chlorobenzilate</i>	
Acephate	30560-19-1	PST-1210
Acetochlor	34256-82-1	PST-1880
Acequinocyl	57960-19-7	PST-3655
Acetamiprid	135410-20-7	PST-3355
Acibenzolar-S-methyl	135158-54-2	PST-3660
Acifluorfen	50594-66-6	PST-1755
Acifluorfen methyl ester	50594-67-7	PST-4095
Aclonifen	74070-46-5	PST-2055
Acrinathrin	101007-06-1	PST-2060
Akton	1757-18-2	PST-6485
Alachlor (Lasso)	15972-60-8	PST-625
Aldicarb (Temik)	116-06-3	PST-940
Aldicarb sulfone (Aldoxycarb)	1646-88-4	PST-1215
Aldicarb sulfoxide	1646-87-3	PST-1760
Aldrin (Octalene)	309-00-2	PST-010
<i>Alkron</i>	<i>see Parathion</i>	
Allethrin (Allyl cinerin) (tech)	584-79-2	PST-020
Allidochlor (Radox)	93-71-0	PST-867
Alloxydim-sodium	66003-55-2	PST-6585
<i>Allyl cinerin</i>	<i>see Allethrin</i>	
Ametryn (EVIK)	834-12-8	PST-024
<i>Amiben</i>	<i>see Chloramben</i>	
Aminocarb (Matacil)	2032-59-9	PST-660
4-Aminopyridine	504-24-5	PST-4670
Aminopyralid	150114-71-9	PST-6190
Amitraz	33089-61-1	PST-1895
Amitrole (Amizol)	61-82-5	PST-030
<i>Amizol</i>	<i>see Amitrole</i>	
Ancymidol	12771-68-5	PST-5090
Anilazine (Dryene)	101-05-3	PST-2995
Anthraquinone	84-65-1	PST-4360

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
<i>Aprocarb</i>	<i>see Propoxur</i>	
<i>Arathane</i>	<i>see Dinocap</i>	
Aramite (total)	140-57-8	PST-4000
Aspon	3244-90-4	PST-2755
Asana	66230-04-4	PST-1900
Atraton	1610-17-9	PST-1220
Atrazine (AAtrex)	1912-24-9	PST-005
Atrazine-desethyl	6190-65-4	PST-4010
Atrazine-desethyl-2-hydroxy	19988-24-0	PST-1005
Atrazine-desisopropyl	1007-28-9	PST-4005
<i>Avadex</i>	<i>see Diallate</i>	
<i>Avolin</i>	<i>see Dimethyl phthalate</i>	
Azaconazole	60207-31-0	PST-2065
Azadirachtin	11141-17-6	PST-5085
Azamethiphos	035575-96-3	PST-5370
Azinphos-methyl (Guthion)	86-50-0	PST-560
Aziprotryne	4658-28-0	PST-2760
Azinphos-ethyl (Guthion Ethyl)	2642-71-9	PST-1225
Azobenzene	103-33-3	PST-4480
Azocyclotin	41083-11-8	PST-3675
Azoxystrobin	131860-33-8	PST-1905
<i>Azodrin</i>	<i>see Monocrotophos</i>	
Azolamide (Isocarbamid)	30979-48-7	PST-2765
Azoxystrobin	131860-33-8	PST-1905
<i>Banvel D</i>	<i>see Dicamba</i>	
Barban	101-27-9	PST-1230
<i>Basudin</i>	<i>see Diazinon</i>	
Baycor (Bitertanol)	55179-31-2	PST-2070
<i>Baygon</i>	<i>see Propoxur</i>	
<i>Baytex</i>	<i>see Fenthion</i>	
Baythroid (Cyfluthrin)	68359-37-5	PST-1910
BDMC	672-99-1	PST-4015
<i>Beam</i>	<i>see Tricyclazole</i>	
Benalaxyl	71626-11-4	PST-2075
Benazolin	3813-05-6	PST-2770
Benazolin-ethyl ester	25059-80-7	PST-5240
Bendiocarb	22781-23-3	PST-1235
Benefin (Benfluralin)	1861-40-1	PST-1240
<i>Benfluralin</i>	<i>see Benefin</i>	
Benfuracarb	82560-54-1	PST-2775
Benodanil	15310-01-7	PST-2780
Benomyl	17804-35-2	PST-1245
Benoxacor	98730-04-2	PST-2785
Bensulfuron-methyl	83055-99-6	PST-2790
Bensulide	741-58-2	PST-1250
Bensultap	17606-31-4	PST-5165
Bentazon	25057-89-0	PST-1255
Bentazon methyl derivative	61592-45-8	PST-4070
Benzoaminopurine	1214-39-7	PST-4795
Benzoximate	29104-30-1	PST-2795
Benzoylprop ethyl	22212-55-1	PST-1260
Benzthiazuron	1929-88-0	PST-2800
Benzyl benzoate	120-51-4	PST-4555
BHC-mix (tech)	608-73-1	PST-070

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
α -BHC (α -HCH)	319-84-6	PST-071
β -BHC (β -HCH)	319-85-7	PST-072
δ -BHC (δ -HCH)	319-86-8	PST-073
<i>g</i> -BHC	<i>see Lindane</i>	
Bifenazate	149877-41-8	PST-3690
Bifenox	42576-02-3	PST-2805
Bifenthrin	82657-04-3	PST-1915
Binapacryl	485-31-4	PST-4650
Bioallethrin	28057-48-9	PST-2080
S-Bioallethrin (Esbiol)	28434-00-6	PST-5290
Bioresmethrin	28434-01-7	PST-2650
Biphenyl	92-52-4	PST-4405
Bispyribac-Sodium	125401-92-5	PST-6060
Bis(tributyltin)oxide	56-35-9	PST-4240
<i>Bitertanol</i>	<i>see Baycor</i>	
Boscalid	188425-85-6	PST-3365
<i>Botran</i>	<i>see Dichloran</i>	
Brodifacoum	056073-10-0	PST-5525
Bromacil	314-40-9	PST-1265
Bromadiolone	28772-56-7	PST-1270
<i>Brominil</i>	<i>see Bromoxynil</i>	
<i>Bromofume</i>	<i>see EDB</i>	
Bromophos-ethyl	4824-78-6	PST-2085
Bromophos-methyl	2104-96-3	PST-2815
Bromopropylate	18181-80-1	PST-2090
Bromoxynil (<i>Brominil</i>)	1689-84-5	PST-1050
Bromoxynil octanoate	1689-99-2	PST-2820
Bromuconazole	116255-48-2	PST-2095
Bronopol	52-51-7	PST-4225
Bupirimate	41483-43-6	PST-2100
Buprofezin	69327-76-0	PST-2105
Butachlor	23184-66-9	PST-1275
<i>Butacide</i>	<i>see Piperonyl butoxide</i>	
Butocarboxim	34681-10-2	PST-2825
Butralin	33269-47-9	PST-2830
Buturon	3766-60-7	PST-2835
Butylate	2008-41-5	PST-1280
Cadusafos	95465-99-9	PST-3375
Carbetamide	16118-49-3	PST-2840
<i>Caparol</i>	<i>see Prometryn</i>	
Captafol (<i>Difolatan</i>)	2425-06-1	PST-410
Captan (<i>Orthocide 406</i>)	133-06-2	PST-090
Carbaryl (<i>Sevin</i>)	63-25-2	PST-100
Carbendazim	10605-21-7	PST-1285
Carbofuran (<i>Furadan</i>)	1563-66-2	PST-1295
Carbofuran phenol	1563-38-8	PST-6710
Carbophenothion (<i>Trithion</i>)	786-19-6	PST-990
<i>Carbophos</i>	<i>see Malathion</i>	
Carbosulfan	55285-14-8	PST-2655
Carboxin	5234-68-4	PST-1305
Carfentrazone-ethyl	128639-02-1	PST-6075
Cartap hydrochloride	15263-52-2	PST-4035
Chinomethionate (<i>Quinomethionate</i>)	2439-01-2	PST-2845
Chloramben (<i>Amiben</i>)	133-90-4	PST-025

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides 95 - 99% Pure		
Pesticide	CAS #	Catalog #
Chloramben methyl ester	7286-84-2	PST-4135
Chlorbenside	103-17-3	PST-2850
Chlorbromuron	13360-45-7	PST-2110
Chlorbufam	1967-16-4	PST-2115
Chlordimeform	6164-98-3	PST-2855
Chlorethoxyfos	54593-83-8	PST-5495
Chlorfenprop-methyl	14437-17-3	PST-2860
Chlorfluazuron	71422-67-8	PST-3385
Chlorflurecol-methyl ester	2536-31-4	PST-4900
Chloridazon	1698-60-8	PST-2125
Chlorimuron ethyl	90982-32-4	PST-1920
Chlordane (<i>Octachlor</i>) (tech)	57-74-9	PST-110
α -Chlordane (<i>cis-Chlordane</i>)	5103-71-9	PST-111
γ -Chlordane (<i>trans-Chlordane</i>)	5103-74-2	PST-112
Chlordecone	see <i>Kepone</i>	
Chlordene	3734-48-3	PST-1310
Chlorfenapyr	122453-73-0	PST-2120
Chlorfenson	see <i>Ovex</i>	
Chlorfenvinphos	470-90-6	PST-1325
Chlormephos	24934-91-6	PST-2865
Chlormequat chloride	999-81-5	PST-2870
Chloroacetic acid	79-11-8	PST-4315
Chlorobenzilate (<i>Acarben</i>)	510-15-6	PST-120
Chloroneb	2675-77-6	PST-1330
Chlorophacinone	3691-35-8	PST-4975
4-Chlorophenoxyacetic acid	122-88-3	PST-4020
Chlorophos	see <i>Trichlorfon</i>	
Chloropicrin	76-06-2	PST-1335
Chloropropylate	5836-10-2	PST-2660
Chlorothalonil	1897-45-6	PST-1340
Chlorotoluron	15545-48-9	PST-2130
Chloroxuron	1982-47-4	PST-2135
Chlorpropham	101-21-3	PST-1345
Chlorpyrifos	2921-88-2	PST-480
Chlorsulfuron	64902-72-3	PST-2875
Chlorthiamid	1918-13-4	PST-2880
Chlorthion	500-28-7	PST-2885
Chlorpyrifos (<i>Dursban</i>)	2921-88-2	PST-480
Chlorpyrifos methyl	5598-13-0	PST-1350
Chlozolate	84332-86-5	PST-2890
Cinosulfuron	94593-91-6	PST-5850
Clethodim	99129-21-2	PST-1925
Clodinafop-propargyl ester	105512-06-9	PST-5920
Clofentezine	74115-24-5	PST-2145
Clomazone (<i>Command</i>)	81777-89-1	PST-2900
Cloprop	101-10-0	PST-4475
Clopyralid	see <i>Lontrel</i>	
Cloransulam-methyl	147150-35-4	PST-6175
Clothianidin	210880-92-5	PST-3395
Co-Ral	see <i>Coumaphos</i>	
Coumaphene	see <i>Warfarin</i>	
Coumatetralyl	5836-29-3	PST-5035
Coumaphos (<i>Co-Ral</i>)	56-72-4	PST-130
Crimidine	535-89-7	PST-2905

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
Crotoxyphos	7700-17-6	PST-1355
Crufomate (Ruelene) (93+%)	299-86-5	PST-900
Cyanazine	21725-46-2	PST-1360
Cyanofenphos	13067-93-1	PST-2910
Cyanophos	2636-26-2	PST-2915
Cyazofamid	120116-88-3	PST-3400
Cyclanilide	113136-77-9	PST-5950
Cycloate	1134-23-3	PST-1365
Cycloheximide	66-81-9	PST-1930
2-cyclohexyl-4,6-dinitrophenol	131-89-5	PST-2725
Cyclosulfamuron	136849-15-5	PST-3905
Cycluron	2163-69-1	PST-2920
<i>Cygon</i>	<i>see Dimethoate</i>	
Cyhalofop-butyl	122008-85-9	PST-3410
<i>lambda</i>-Cyhalothrin	91465-08-6	PST-1990
Cymoxanil	57966-95-7	PST-2925
α-Cypermethrin	67375-30-8	PST-1890
Cypermethrin (Methyl Dursban)	52315-07-8	PST-1370
Cyphenothrin	39515-40-7	PST-5410
Cyprazine	22936-86-3	PST-4025
Cyproconazole	94361-06-5	PST-2150
Cyprodinil	121552-61-2	PST-2155
Cyromazine	66215-27-8	PST-1935
Cythioate (AC 26691)	115-93-5	PST-1380
<i>Cythion</i>	<i>see Malathion</i>	
2,4-D	94-75-7	PST-140
2,4-D butoxyethyl ester	1929-73-3	PST-4860
2,4-D butyl ester	94-80-4	PST-2720
2,4-D ethyl ester	533-23-3	PST-4685
2,4-D isooctyl ester (mix)	25168-26-7	PST-5245
2,4-D isopropyl ester	94-11-1	PST-4420
2,4-D methyl ester	1928-38-7	PST-150
<i>Dacthal</i>	<i>see DCPA</i>	
<i>Dalf</i>	<i>see Methyl parathion</i>	
Dalapon (Dowpon)	75-99-0	PST-170
Dalapon Methyl Ester	17640-02-7	PST-171
Daminozide	1596-84-5	PST-4045
<i>DATC</i>	<i>see Diallate</i>	
Dazomet	533-74-4	PST-2930
2,4-DB	94-82-6	PST-1170
2,4-DB Methyl Ester	18625-12-2	PST-1171
DBCP (Fumazone)	96-12-8	PST-180
<i>DCNA</i>	<i>see Dichloran</i>	
DCPA (Dacthal)	1861-32-1	PST-160
DDA	83-05-6	PST-200
2,4'-DDD (<i>o,p'</i>-DDD)	53-19-0	PST-210
4,4'-DDD (<i>p,p'</i>-DDD)	72-54-8	PST-220
2,4'-DDE (<i>o,p'</i>-DDE)	3424-82-6	PST-241
4,4'-DDE (<i>p,p'</i>-DDE)	72-55-9	PST-250
4,4'-DDMU	1022-22-6	PST-2740
DDT-mix (tech)	50-29-3	PST-260
2,4'-DDT (<i>o,p'</i>-DDT)	789-02-6	PST-271
4,4'-DDT (<i>p,p'</i>-DDT)	50-29-3	PST-280
<i>DDVP</i>	<i>see Dichlorvos</i>	

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides 95 - 99% Pure		
Pesticide	CAS #	Catalog #
<i>Decamethrin</i>	<i>see Deltamethrin</i>	
Deet	134-62-3	PST-298
DEF (94+%)	78-48-8	PST-300
<i>Delnav</i>	<i>see Dioxathion</i>	
Deltamethrin (Decamethrin)	52918-63-5	PST-1385
Demeton O	298-03-3	PST-4620
Demeton (Systox)	8065-48-3	PST-920
Demeton S	126-75-0	PST-1940
<i>Demeton S-Methyl</i>	<i>see Metasystox I</i>	
Demeton S-Methyl Sulfone	17040-19-6	PST-2665
Desmedipham	13684-56-5	PST-5105
Desmetryne	1014-69-3	PST-2160
<i>Devrinol</i>	<i>see Napropamide</i>	
<i>Dexon</i>	<i>see Fenaminosulf</i>	
Diafenthuron	80060-09-9	PST-3910
Dialifos	10311-84-9	PST-2165
Diallate (Avadex)	2303-16-4	PST-035
Diazinon (Basudin) (92+%)	333-41-5	PST-320
Diazinon-O-analog	962-58-3	PST-2935
<i>Dibrom</i>	<i>see Naled</i>	
Dibutyl chlorendate	1770-80-5	PST-1160
Dicamba (Banvel D)	1918-00-9	PST-050
Dicamba Methyl Ester	6597-78-0	PST-051
Dicaphon (Dicaptan)	2463-84-5	PST-1070
Dichlobenil	1194-65-6	PST-2170
Dichlofenthion	97-17-6	PST-1390
Dichlofluanid	1085-98-9	PST-2175
Dichlone	117-80-6	PST-1395
Dichloran (DCNA)	99-30-9	PST-190
Dichlormid	37764-25-3	PST-5385
Dichlorobenzamide	2008-58-4	PST-2180
1,2-Dichlorobenzene	95-50-1	PST-4435
1,4-Dichlorobenzene	106-46-7	PST-4490
Dichlorophen	97-23-4	PST-2940
1,2-Dichloropropane	78-87-5	PST-4310
1,3-Dichloro-1-propene (mix)	542-75-6	PST-4700
Dichlorprop (2,4-DP)	120-36-5	PST-370
Dichlorprop methyl ester	57153-17-0	PST-371
Dichlorprop-P	15165-67-0	PST-5315
Dichlorvos (DDVP)	62-73-7	PST-380
Diclobutrazol	75736-33-3	PST-2945
Dicofol (Kelthane) (92+%)	115-32-2	PST-391
Diclofop	40843-25-2	PST-2950
Diclofop methyl	51338-27-3	PST-2955
Dicrotophos	141-66-2	PST-2960
Dieldrin (HEOD)	60-57-1	PST-400
Dienochlor	2227-17-0	PST-2965
Diethofencarb	87130-20-9	PST-2185
Diethyl-ethyl	38727-55-8	PST-5400
Diethyl dithiobis(thionoformate)	502-55-6	PST-4665
Difenacoum	56073-07-5	PST-5520
Difenoconazole	119446-68-3	PST-2190
Difenoخورون	14214-32-5	PST-2195
Difenzoquat methylsulfate	43222-48-6	PST-5450

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
Diflubenzuron	35367-38-5	PST-1400
Diiflufenican	83164-33-4	PST-2200
Diiflufenzopyr	109293-97-2	PST-5935
<i>Difolatan</i>	<i>see Captafol</i>	
<i>Dimecron</i>	<i>see Phosphamidon</i>	
Dimehypo	52207-48-4	PST-5470
Dimethachlon	24096-53-5	PST-6795
Dimethachlor	50563-36-5	PST-2970
Dimethenamid	87674-68-8	PST-2205
Dimethenamid-P	163515-14-8	PST-6205
Dimethipin	55290-64-7	PST-2670
Dimethirimol	5221-53-4	PST-2975
Dimethoate (Cygon)	60-51-5	PST-421
Dimethomorph	110488-70-5	PST-2210
Dimethylarsinic acid	75-60-5	PST-4285
Dimethyl phthalate (DMP)	131-11-3	PST-430
Dimethyl-<i>p</i>-nitrophenylphosphate	950-35-6	PST-1945
Di-<i>n</i>-butyl phthalate	84-74-2	PST-4365
Diniconazole	83657-24-3	PST-2215
2-Methyl-4,6-Dinitrophenol	534-52-1	PST-4690
Dinocap (Karathane) (tech)	39300-45-3	PST-610
Dinoseb (DNBP)	88-85-7	PST-450
Dinoseb Methyl Ether	6099-79-2	PST-451
Dinotefuran	165252-70-0	PST-3695
Dinoterb	1420-07-1	PST-2980
Dioxacarb	6988-21-2	PST-1765
Dioxathion	78-34-2	PST-455
Dioxathion (Delnav) (tech)	78-34-2	PST-455
Diphacinone	82-66-6	PST-4345
Diphenamid	957-51-7	PST-1405
Diphenylamine	122-39-4	PST-460
Dipropetryn	4147-51-7	PST-4995
<i>Dipterex</i>	<i>see Trichlorfon</i>	
Diquat dibromide	85-00-7	PST-4370
Disodium methyl arsenate (DSMA)	144-21-8	PST-2220
Disulfoton (Di-Syston)	298-04-4	PST-470
Disulfoton sulfone	2497-06-5	PST-2985
Disulfoton-sulfoxide	2497-07-6	PST-1085
<i>Di-Syston</i>	<i>see Disulfoton</i>	
Ditalimfos	5131-24-8	PST-2990
<i>Dithane M-22</i>	<i>see Maneb</i>	
Dithianon	3347-22-6	PST-3680
Dithiopyr	97886-45-8	PST-3425
Diuron	330-54-1	PST-1415
<i>DMDT</i>	<i>see Methoxychlor</i>	
<i>DMP</i>	<i>see Dimethyl phthalate</i>	
DMSA	4710-17-2	PST-6440
DMST	66840-71-9	PST-2225
<i>DNBP</i>	<i>see Dinoseb</i>	
Dodemorph	1593-77-7	PST-2230
Dodine	2439-10-3	PST-1095
<i>Dowco-132</i>	<i>see Crufomate</i>	
<i>Dowco-139</i>	<i>see Mexacarbate</i>	
<i>Dowco-179</i>	<i>see Chlorpyrifos</i>	

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
<i>Dowpon</i>	<i>see Dalapon</i>	
<i>2,4-DP</i>	<i>see Dichlorprop</i>	
<i>Duphar</i>	<i>see Tetradifon</i>	
<i>Dursban</i>	<i>see Chlorpyrifos</i>	
<i>Dyfonate</i>	<i>see Fonofos</i>	
<i>Dylox</i>	<i>see Trichlorfon</i>	
Dyrene	101-05-3	PST-2995
EDB (Ethylene Dibromide)	106-93-4	PST-1040
Edifenphos	17109-49-8	PST-3000
Emamectin	119791-41-2	PST-6000
Endosulfan (Thiodan) (tech)	115-29-7	PST-500
Endosulfan I (Thiodan I)	959-98-8	PST-501
Endosulfan II (Thiodan II)	33213-65-9	PST-502
Endosulfan sulfate	1031-07-8	PST-503
Endothall	145-73-3	PST-1845
Endrin	72-20-8	PST-510
Endrin aldehyde	7421-93-4	PST-512
Endrin ketone	53494-70-5	PST-513
<i>Entex</i>	<i>see Fenthion</i>	
EPN	2104-64-5	PST-520
Epoxiconazole	133855-98-8	PST-2235
EPTC	759-94-4	PST-1420
<i>Estonmite</i>	<i>see Ovex</i>	
Etaconazole	60207-93-4	PST-3010
Ethalfuralin	55283-68-6	PST-3015
Ethametsulfuron-methyl	97780-06-8	PST-5865
Ethephon	16672-87-0	PST-5160
Ethidimuron	30043-49-3	PST-5320
Ethiofencarb	29973-13-5	PST-2240
Ethiofencarb Sulfone	53380-23-7	PST-2245
Ethiofencarb Sulfoxide	53380-22-6	PST-2250
Ethion (Nialate)	563-12-2	PST-530
Ethofumasate	26225-79-6	PST-2255
Ethoprop (Prophos)	13194-48-4	PST-1425
Ethoxysulfuron	126801-58-9	PST-6065
Ethoxyquin	91-53-2	PST-2675
Ethylenethiourea (imidazolidinethione)	96-45-7	PST-6530
<i>Ethylene dibromide</i>	<i>see EDB</i>	
Etofenprox	80844-07-1	PST-2260
Etoxazol	153233-91-1	PST-2265
Etridiazole (Terrazole)	2593-15-9	PST-1770
Etrimfos	38260-54-7	PST-2270
<i>EVIK</i>	<i>see Ametryn</i>	
<i>Famophos</i>	<i>see Famphur</i>	
Famoxadone	131807-57-3	PST-2275
Famphur (Famophos)	52-85-7	PST-1430
Fenac	85-34-7	PST-4375
Fenamidone	161326-34-7	PST-2280
Fenamiosulf (Dexon) (tech)	140-56-7	PST-310
Fenamiphos	22224-92-6	PST-1435
Fenamiphos sulfone	31972-44-8	PST-3020
Fenamiphos-sulfoxide	31972-43-7	PST-6385
Fenarimol	60168-88-9	PST-1775
Fenazaquin	120928-09-8	PST-2285

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
Fenbuconazole	114369-43-6	PST-2290
Fenbutatin-oxide	13356-08-6	PST-3705
<i>Fenclorphos</i>	<i>see Ronnel</i>	
Fenclorphos-oxon	3983-45-7	PST-6435
Fenfuram	24691-80-3	PST-3025
Fenhexamid	126833-17-8	PST-2295
Fenitrothion	122-14-5	PST-1080
Fenobucarb	3766-81-2	PST-3435
Fenoxaprop ethyl	66441-23-4	PST-3030
Fenoxaprop-p	95617-09-7	PST-3035
Fenoxaprop-p-ethyl (R-enantiomer)	71283-80-2	PST-6395
Fenoxycarb	79127-80-3	PST-2300
Fenpiclonil	74738-17-3	PST-2305
Fenpropathrin	39515-41-8	PST-2310
Fenpropidin	67306-00-7	PST-2315
Fenpropimorph	67306-03-0	PST-2320
Fenpyroximate	111812-58-9	PST-3040
Fenson	80-38-6	PST-3045
Fensulfothion	115-90-2	PST-1440
Fenthion (<i>Baytex</i>)	55-38-9	PST-540
Fenthion-ethyl	1716-09-2	PST-4845
Fenthion-sulfone	3761-42-0	PST-6365
Fenthion-sulfoxide	3761-41-9	PST-3050
Fenthion oxon	6552-12-1	PST-6475
Fentin hydroxide	76-87-9	PST-4300
Fenuron	101-42-8	PST-1780
Fenuron TCA	4482-55-7	PST-5010
Fenvalerate (<i>Sanmarton</i>)	51630-58-1	PST-1445
Ferbam	14484-64-1	PST-5125
Fipronil	120068-37-3	PST-1950
Fipronil-sulfone	120068-36-2	PST-6445
Fipronil-sulfide	120067-83-6	PST-6720
Flamprop	58667-63-3	PST-3055
Flamprop-isopropyl	52756-22-6	PST-3060
Flamprop-methyl	52756-25-9	PST-5480
Flocoumafen	90035-08-8	PST-5825
Flonicamid	158062-67-0	PST-3710
Fluazifop	69335-91-7	PST-5645
Fluazifop-butyl	69806-50-4	PST-2325
Fluazifop-p-butyl	79241-46-6	PST-3065
Fluazinam	79622-59-6	PST-3670
Flubendiamide	272451-65-7	PST-3460
Flucarbazono-sodium	181274-17-9	PST-6230
Fluchloralin	33245-39-5	PST-3070
Flucycloxuron	113036-88-7	PST-2330
Flucythrinate	70124-77-5	PST-2335
Fludioxonil	131341-86-1	PST-2340
Flufenacet	142459-58-3	PST-3925
Flufenoxuron	101463-69-8	PST-2345
Flumetralin	62924-70-3	PST-5595
Flumetsulam	98967-40-9	PST-3075
Flumiclorac-pentyl	87546-18-7	PST-5810
Fluometuron	2164-17-2	PST-1450
Fluorodifon	15457-05-3	PST-5140

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides 95 - 99% Pure		
Pesticide	CAS #	Catalog #
Fluoroglycofen-ethyl	77501-90-7	PST-2350
Fluquinconazole	136426-54-5	PST-2355
Fluridone (<i>Sonar</i>)	59756-60-4	PST-1785
Fluroxypyr	69377-81-7	PST-3080
Fluroxypyr-meptyl	81406-37-3	PST-5740
Flurprimidol	56425-91-3	PST-5530
Flusilazole	85509-19-9	PST-2360
Flutolanil	66332-96-5	PST-2365
Flutriafol	76674-21-0	PST-2680
<i>tau</i> -Fluvalinate (<i>Mavrik</i>)	102851-06-9	PST-2580
<i>Folex</i>	<i>see Merphos</i>	
Folicur (<i>Tebuconazole</i>)	107534-96-3	PST-1955
<i>Folidol</i>	<i>see Parathion</i>	
Folpet (<i>Phaltan</i>)	133-07-3	PST-550
Fomesafen	72178-02-0	PST-3085
Fonofos (<i>Dyfonate</i>)	944-22-9	PST-1090
Foramsulfuron	173159-57-4	PST-6220
Forchlorfenuron (<i>CPPU</i>)	68157-60-8	PST-3475
Formetanate hydrochloride	23422-53-9	PST-5220
Formothion	2540-82-1	PST-3090
Fosetyl-Aluminum	39148-24-8	PST-5405
Fosthiazate	98886-44-3	PST-3480
Fuberidazole	3878-19-1	PST-2370
<i>Fumazone</i>	<i>see DBCP</i>	
<i>Furadan</i>	<i>see Carbofuran</i>	
Furalaxyl	57646-30-7	PST-2375
Furathiocarb	65907-30-4	PST-3095
Furilazole	141980-03-2	PST-3100
<i>Garrathion</i>	<i>see Carbophenothion</i>	
<i>Gesagard</i>	<i>see Prometryn</i>	
<i>Gesamil</i>	<i>see Propazine</i>	
<i>Gesapram</i>	<i>see Prometon</i>	
<i>Gesaprim</i>	<i>see Atrazine</i>	
<i>Gesatop</i>	<i>see Simazine</i>	
Gibberellic acid	77-06-5	PST-3930
Glufosinate-ammonium	77182-82-2	PST-1960
Glyodin	556-22-9	PST-4705
Glyphosate	1071-83-6	PST-1850
Glyphosate-isopropyl Ammonium Salt	38641-94-0	PST-1965
<i>Guthion</i>	<i>see Azinphos-methyl</i>	
<i>Guthion Ethyl</i>	<i>see Azinphosethyl</i>	
<i>HCB</i>	<i>see Hexachlorobenzene</i>	
<i>HCH</i>	<i>see BHC</i>	
α - <i>HCH</i>	<i>see α-BHC</i>	
β - <i>HCH</i>	<i>see β-BHC</i>	
δ - <i>HCH</i>	<i>see δ-BHC</i>	
γ - <i>HCH</i>	<i>see Lindane</i>	
<i>HEOD</i>	<i>see Dieldrin</i>	
Halofenozide	112226-61-6	PST-5940
Halosulfuron-methyl	100784-20-1	PST-3935
Heptachlor	76-44-8	PST-571
Heptachlor epoxide (Isomer A)	28044-83-9	PST-581
Heptachlor epoxide (Isomer B)	1024-57-3	PST-582
Heptenophos	23560-59-0	PST-2380

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
Hexachlorobenzene (HCB)	118-74-1	PST-590
<i>Hexachlorocyclohexane</i>	<i>see BHC-mix</i>	
Hexachlorophene	70-30-4	PST-4260
Hexaconazole	79983-71-4	PST-2385
Hexaflumuron	86479-06-3	PST-3105
Hexythiazox	78587-05-0	PST-3110
Hexazinone (Velpar)	51235-04-2	PST-1460
Hydramethylnon	67485-29-4	PST-5635
Hydroprene-S	65733-18-8	PST-5630
3-Hydroxycarbofuran	16655-82-6	PST-1290
Hymexazol	10004-44-1	PST-3715
Imazalil	35554-44-0	PST-1970
Imazamethabenz-methyl	81405-85-8	PST-2390
Imazamox	14311-32-9	PST-3115
Imazapic	104098-48-8	PST-5910
Imazapyr	81334-34-1	PST-3120
Imazaquin	81335-37-7	PST-3125
Imazethapyr	81335-77-5	PST-1975
Imidacloprid	138261-41-3	PST-1980
<i>Imidan</i>	<i>see Phosmet</i>	
Indoxacarb	173584-44-6	PST-2685
Iodofenphos (Jodfenphos)	18181-70-9	PST-3130
loxynil	1689-83-4	PST-3135
loxynil-octanoate	3861-47-0	PST-4990
loxynil methyl	3336-40-1	PST-4055
Iprobenfos	26087-47-8	PST-3500
Iprodione	36734-19-7	PST-1985
Isoprothiolane	50512-35-1	PST-3510
Isazophos	42509-80-8	PST-3140
Isodrin	465-73-6	PST-1855
Isofenphos	25311-71-1	PST-2690
Isoproc carb	2631-40-5	PST-1470
Isopropalin	33820-53-0	PST-1475
Isoproturon	34123-59-6	PST-2395
Isoxaben	82558-50-7	PST-5755
Isoxaflutole	141112-29-0	PST-6150
Ivermectine	70288-86-7	PST-5680
<i>Karathane</i>	<i>see Dinocap</i>	
<i>Kelthane</i>	<i>see Dicofol</i>	
Kepone (Chlordecone)	143-50-0	PST-620
Kinetin	525-79-1	PST-4675
Kinoprene	42588-37-4	PST-5440
<i>Korlan</i>	<i>see Ronnel</i>	
Kresoxim-methyl	143390-89-0	PST-2405
Lactofen	77501-63-4	PST-5725
lambda-Cyhalothrin	91465-08-6	PST-1990
<i>Lannate</i>	<i>see Methomyl</i>	
<i>Lasso</i>	<i>see Alachlor</i>	
Lenacil	2164-08-1	PST-2410
Leptophos (Phosvel)	21609-90-5	PST-1480
Lethane 384	112-56-1	PST-1485
Lindane (γ-BHC)	58-89-9	PST-630
Linuron	330-55-2	PST-1490
Lontrel (Clopyralid)	1702-17-6	PST-1995

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
Lufenuron	103055-07-8	PST-3515
Malathion (<i>Carbophos</i>)	121-75-5	PST-641
Malaoxon	1634-78-2	PST-3145
Maleic hydrazide (3,6-dihydroxypyridazine)	123-33-1	PST-4565
Mancozeb	8018-01-7	PST-3150
Maneb (<i>Dithane M-22</i>)	12427-38-2	PST-650
<i>Manzate</i>	<i>see Maneb</i>	
<i>Marlate</i>	<i>see Methoxychlor</i>	
<i>Matacil</i>	<i>see Aminocarb</i>	
<i>Mavrik</i>	<i>see tau-Fluvalinate</i>	
MCPA	94-74-6	PST-1180
MCPA methyl ester	2436-73-9	PST-1181
MCPB	94-81-5	PST-3155
MCPB methyl ester	57153-18-1	PST-5540
MCPP (<i>Mecoprop</i>)	93-65-2	PST-1190
MCPP methyl ester	23844-56-6	PST-1191
Mecarbam	2595-54-2	PST-2415
Mecoprop-P	16484-77-8	PST-5150
<i>Mediben</i>	<i>see Dicamba</i>	
Mefenacet	73250-68-7	PST-3525
Mefenpyr-diethyl	135590-91-9	PST-6120
Mefluidide	53780-34-0	PST-5485
Mepanipyrim	110235-47-7	PST-2420
Mephosfolan	950-10-7	PST-4785
Mepiquat chloride	24307-26-4	PST-5230
Mepronil	55814-41-0	PST-2425
Mercaptobenzothiazole	149-30-4	PST-1860
Merphos (<i>Folex</i>)	150-50-5	PST-1500
Mesotrione	104206-82-8	PST-5915
Metalaxyl-M	70630-17-0	PST-3970
Metaldehyde	9002-91-9	PST-6420
Metconazole	125116-23-6	PST-2440
<i>Meta-Delphene</i>	<i>see Deet</i>	
Metalaxyl	57837-19-1	PST-2000
Metamitron	41394-05-2	PST-2430
Metasystox I (<i>Demeton-S-methyl</i>)	919-86-8	PST-2005
<i>Metasystox R</i>	<i>see Oxydemeton-methyl</i>	
Metazachlor	67129-08-2	PST-2435
Methabenzthiazuron	18691-97-9	PST-2445
Methacrifos	62610-77-9	PST-2695
Metham sodium	137-42-8	PST-1505
Methamidophos (<i>Monitor</i>)	10265-92-6	PST-1510
Methidathion	950-37-8	PST-1520
Methiocarb	2032-65-7	PST-1525
Methiocarb Sulfone	2179-25-1	PST-2450
Methiocarb Sulfoxide	2635-10-1	PST-2455
Methomyl (<i>Lannate</i>)	16752-77-5	PST-680
Methoprene	40596-69-8	PST-3160
Methoprotryne	841-06-5	PST-4755
Methoxychlor (<i>DMDT</i>)	72-43-5	PST-691
4,4'-Methoxychlor olefin	2132-70-9	PST-6375
Methoxyfenozide	161050-58-4	PST-3530
4-Methoxy-1,3-phenylenediamine	615-05-4	PST-2745
Methyl 3,5-Dichlorobenzoate	2905-67-1	PST-4110

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
<i>Methyl Dursban</i>	<i>see Cypermethrin</i>	
Methyl parathion (Dalf)	298-00-0	PST-700
Metobromuron	3060-89-7	PST-3165
Metolachlor	51218-45-2	PST-1530
Metolachlor OA	152019-73-3	PST-6660
S-Metolachlor	87392-12-9	PST-5805
Metolcarb	1129-41-5	PST-3535
Metoxuron	19937-59-8	PST-2460
Metribuzin	21087-64-9	PST-1535
Metsulfuron methyl	74223-64-6	PST-3170
Mevinphos (Phosdrin) (tech)	7786-34-7	PST-710
Mexacarbate (Zectran) (94+%)	315-18-4	PST-1010
MGK-264, mixed isomers	113-48-4	PST-1790
<i>Mildex</i>	<i>see Dinocap</i>	
<i>Milogard</i>	<i>see Propazine</i>	
<i>Mintacol</i>	<i>see Paraoxon</i>	
Mirex	2385-85-5	PST-720
<i>Mitotane</i>	<i>see 2,4'-DDD</i>	
Molinate	2212-67-1	PST-1540
<i>Monitor</i>	<i>see Methamidophos</i>	
Monocrotophos (Azodrin)	6923-22-4	PST-040
Monolinuron	1746-81-2	PST-2465
Monosodium acid methanearsonate sesquihydrate	2163-80-6	PST-4875
Monuron	150-68-5	PST-1545
Monuron TCA	140-41-0	PST-1550
Myclobutanil	88671-89-0	PST-2470
Nabam	142-59-6	PST-4605
Naled (Dibrom) (93+%)	300-76-5	PST-730
<i>Nankor</i>	<i>see Ronnel</i>	
Napropamide (Devrinol)	15299-99-7	PST-1555
1,8-Naphthalic anhydride	000081-84-5	PST-4340
β-Naphthoxyacetic acid	120-23-0	PST-2810
1-Naphthylacetamide	86-86-2	PST-4380
1-Naphthylacetic acid	86-87-3	PST-2710
N-1-Naphthylphthalamic acid	132-66-1	PST-2010
Neburon	555-37-3	PST-1560
<i>Nemafume, Nemagone</i>	<i>see DBCP</i>	
<i>Nialate</i>	<i>see Ethion</i>	
Niclosamide	50-65-7	PST-4215
Nicosulfuron	111991-09-4	PST-3180
Nicotine	54-11-5	PST-4230
<i>Niran</i>	<i>see Parathion</i>	
Nitralin	4726-14-1	PST-5015
Nitrapyrin	1929-82-4	PST-4865
Nitrofen	1836-75-5	PST-1565
Nitrothal-isopropyl	10552-74-6	PST-2475
<i>Nitrox 80</i>	<i>see Methyl parathion</i>	
cis-Nonachlor	5103-73-1	PST-1200
trans-Nonachlor	39765-80-5	PST-1201
Norflurazon	27314-13-2	PST-1795
Novaluron	116714-46-6	PST-3540
Nuarimol	63284-71-9	PST-2480
<i>Nuvacron</i>	<i>see Monocrotophos</i>	
<i>Octachlor</i>	<i>see Chlordane</i>	

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
<i>Octalene</i>	<i>see Aldrin</i>	
Octachlorostyrene	29082-74-4	PST-3185
Omethoate	1113-02-6	PST-2015
Orbencarb	34622-58-7	PST-3190
<i>Orthocide 406</i>	<i>see Captan</i>	
Oryzalin	19044-88-3	PST-1570
Ovex (Chlorfenson)	80-33-1	PST-1100
Oxadiazon	19666-30-9	PST-1575
Oxadixyl	77732-09-3	PST-2485
Oxamyl	23135-22-0	PST-1580
Oxolinic acid	14698-29-4	PST-3720
Oxycarboxin	5259-88-1	PST-5025
Oxychlordane	027304-13-8	PST-2705
Oxydemeton methyl	301-12-2	PST-3195
Oxyfluorfen	42874-03-3	PST-1590
Oxytetracycline hydrochloride	2058-46-0	PST-4870
Paclobutrazole	76738-62-0	PST-2490
<i>Palatinol M</i>	<i>see Dimethyl phthalate</i>	
Paraoxon (Mintacol)	311-45-5	PST-1110
Paraquat dichloride	1910-42-5	PST-740
Parathion (Alkron)	56-38-2	PST-761
<i>PCNB</i>	<i>see Quintozene</i>	
PCP (Pentachlorophenol)	87-86-5	PST-780
Pebulate	1114-71-2	PST-1595
Penconazole	66246-88-6	PST-2495
Pencycuron	66063-05-6	PST-3555
Pendimethalin (Prowl)	40487-42-1	PST-1600
Pentachloroaniline	527-20-8	PST-3610
Pentachloroanisole	1825-21-4	PST-4190
Pentachloronitrobenzene	82-68-8	PST-770
<i>Pentachlorophenol</i>	<i>see PCP</i>	
Permethrin, mixed isomers	52645-53-1	PST-1605
cis-Permethrin	61949-76-6	PST-2895
trans-Permethrin	61949-77-7	PST-3965
Perthane	72-56-0	PST-790
<i>Phaltan</i>	<i>see Folpet</i>	
<i>Phenacide</i>	<i>see Toxaphene</i>	
Phenmedipham	13684-63-4	PST-5110
Phenothrin (tech)	26002-80-2	PST-2700
Phenthoate	2597-03-7	PST-2020
Phenyl mercuric chloride	100-56-1	PST-4470
o-Phenylphenol	90-43-7	PST-1610
Phorate-sulfone	2588-04-7	PST-6550
Phorate oxon	2600-69-3	PST-3200
Phorate sulfoxide	2588-03-6	PST-1455
Phorate (Thimet) (tech)	298-02-2	PST-800
Phosalone	2310-17-0	PST-2500
<i>Phosdrin</i>	<i>see Mevinphos</i>	
Phosfolan	947-02-4	PST-4780
Phosmet (Imidan)	732-11-6	PST-600
Phosphamidon (Dimecron)	13171-21-6	PST-810
Phoxim	14816-18-3	PST-3205
<i>Phosvel</i>	<i>see Leptophos</i>	
Picloram	1918-02-1	PST-1620

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
Picloram methyl ester	14143-55-6	PST-4145
Pinoxaden	243973-20-8	PST-6280
Piperalin	3478-94-2	PST-4960
Piperonyl butoxide (<i>Butacide</i>)	51-03-6	PST-820
Pirimicarb	23103-98-2	PST-2505
Pirimiphos-ethyl	23505-41-1	PST-2510
Pirimphos-methyl	29232-93-7	PST-1625
Plifenate	21757-82-4	PST-3210
Potassium cyanate	590-28-3	PST-4710
Prallethrin	23031-36-9	PST-5215
<i>Pramitol</i>	<i>see Prometon</i>	
Pretilachlor	51218-49-6	PST-5455
<i>Primatol</i>	<i>see Simazine</i>	
<i>Primatol A</i>	<i>see Atrazine</i>	
Probenazole	27605-76-1	PST-3565
Prochloraz	67747-09-5	PST-2515
Procyazine	32889-48-8	PST-5340
Procymidone	32809-16-8	PST-2520
Prodiamine	29091-21-2	PST-5310
Profenophos	41198-08-7	PST-1635
Profluralin	26399-36-0	PST-1640
Prohexadione	88805-35-0	PST-5820
Prohexadione-Calcium	127277-53-6	PST-6070
<i>Prolate</i>	<i>see Phosmet</i>	
Promecarb	2631-37-0	PST-1645
Prometon (<i>Gesapram</i>)	1610-18-0	PST-830
Prometryn (<i>Caparol</i>)	7287-19-6	PST-840
Pronamide	23950-58-5	PST-1650
Propachlor (<i>Ramrod</i>)	1918-16-7	PST-865
Propamocarb	24579-73-5	PST-3215
Propamocarb Hydrochloride	25606-41-1	PST-5260
Propanil	709-98-8	PST-1655
Propaquizafop	111479-05-1	PST-3220
Propargite	2312-35-8	PST-1660
Propazine (<i>Gesamil</i>)	139-40-2	PST-850
Propetamphos	31218-83-4	PST-3225
Propham	122-42-9	PST-1665
<i>Prophos</i>	<i>see Ethoprop</i>	
<i>Propiconazole</i>	<i>see Tilt</i>	
Propineb	12071-83-9	PST-3950
Propoxur (<i>Baygon</i>)	114-26-1	PST-060
Prosulfocarb	52888-80-9	PST-2525
Prosulfuron	94125-34-5	PST-5845
<i>Prowl</i>	<i>see Pendimethalin</i>	
Pymetrozine	123312-89-0	PST-3725
Pyraclufos	89784-60-1	PST-3570
Pyraclostrobin	175013-18-0	PST-3575
Pyraflufen-ethyl	129630-19-9	PST-6090
Pyrazosulfuron-ethyl	93697-74-6	PST-5835
Pyrazophos	13457-18-6	PST-2530
Pyrazoxyfen	71561-11-0	PST-5685
<i>Pyresyn</i>	<i>see Allethrin</i>	
Pyrethrins	8003-34-7	PST-2535
Pyridaben	96489-71-3	PST-2540

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides 95 - 99% Pure		
Pesticide	CAS #	Catalog #
Pyridaphenthion	119-12-0	PST-2545
Pyridate	55512-33-9	PST-5510
Pyrifenox	88283-41-4	PST-2550
Pyrimethanil	53112-28-0	PST-2555
Pyriproxyfen	95737-68-1	PST-2560
Pyrithiobac-Sodium	123343-16-8	PST-6035
Quinalphos	13593-03-8	PST-1675
Quinclorac	84087-01-4	PST-3230
Quinmerac	90717-03-6	PST-3235
Quinomethionate	see Chinomethionate	
Quinoxiphen	124495-18-7	PST-2565
Quintozene (PCNB)	82-68-8	PST-770
Quizalofop	76578-12-6	PST-5715
Quizalofop-P ethyl	100646-51-3	PST-5885
Quizalofop-ethyl	76578-14-8	PST-2570
Ramrod	see Propachlor	
Randox	see Allidochlor	
Resmethrin	10453-86-8	PST-870
Rhothane	see 4,4'-DDD	
Rimsulfuron	122931-48-0	PST-6030
Ronnel (Fenclorphos)	299-84-3	PST-880
Rotenone	83-79-4	PST-890
Ruelene	see Crufomate	
Sanmarton	see Fenvalerate	
Santophen 20	see PCP	
Sarolex	see Diazinon	
Sebuthylazine	7286-69-3	PST-3240
Secbumeton	26259-45-0	PST-1800
Sethoxydim	74051-80-2	PST-5705
Sevin	see Carbaryl	
Siduron	1982-49-6	PST-1680
Silvex (2,4,5-TP)	93-72-1	PST-911
Silvex methyl ester	4841-20-7	PST-912
Simazine (Primatol)	122-34-9	PST-1130
Simetryn	1014-70-6	PST-1805
Sonar	see Fluridone	
Spectracide	see Diazinon	
Spinosad	168316-95-8	PST-3735
Spirodiclofen	148477-71-8	PST-3630
Spiromesifen	283594-90-1	PST-3635
Spiroxamine	118134-30-8	PST-2575
Stirotos	see Tetrachlorvinphos	
Streptomycin sulfate salt	3810-74-0	PST-4985
Strobane (tech)	8001-50-1	PST-1140
Succinic acid di-n-butyl ester	141-03-7	PST-4600
Sulfaquinoxaline	59-40-5	PST-6845 *
Sulfathiazole	72-14-0	PST-6410
Sulfentrazone	122836-35-5	PST-6025
Sulfometuron methyl	74222-97-2	PST-2030
Sulfosulfuron	141776-32-1	PST-6155
Sulfotepp	3689-24-5	PST-1810
Sulfoxide	120-62-7	PST-4560
Sulprophos	35400-43-2	PST-1685
Swep	1918-18-9	PST-1815

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
<i>Systox</i>	<i>see Demeton</i>	
2,4,5-T	93-76-5	PST-930
2,4,5-T butoxyethyl ester	2545-59-7	PST-4905
2,4,5-T n-butyl ester	93-79-8	PST-4410
2,4,5-T methyl ester	1928-37-6	PST-931
TCMTB	21564-17-0	PST-5195
<i>TCNB</i>	<i>see Tecnazene</i>	
Tebufenozide	112410-23-8	PST-3245
Tebufenpyrad	119168-77-3	PST-2585
Tebupirimphos	96182-53-5	PST-3250
Tebutame	35256-85-0	PST-3255
Tebuthiuron	34014-18-1	PST-1820
Tecnazene (TCNB)	117-18-0	PST-1690
<i>Tedion</i>	<i>see Tetradifon</i>	
Teflubenzuron	83121-18-0	PST-3260
Tefluthrin	79538-32-2	PST-2590
Telodrin	297-78-9	PST-3265
<i>Temephos</i>	<i>see Abate</i>	
<i>Temik</i>	<i>see Aldicarb</i>	
TEPP	107-49-3	PST-3270
Terbacil	5902-51-2	PST-1695
Terbucarb	1918-11-2	PST-6730
Terbumeton	33693-04-8	PST-3280
Terbutryn	886-50-0	PST-1710
Terbutylazine	5915-41-3	PST-1705
<i>Terraclor</i>	<i>see Quintozene</i>	
<i>Terrazole</i>	<i>see Etridiazole</i>	
2,3,4,6-Tetrachlorophenol	58-90-2	PST-950
Tetrachlorvinphos (Stirofos)	22248-79-9	PST-1715
Tetraconazole	112281-77-3	PST-2595
Tetradifon (Duphar)	116-29-0	PST-960
cis-1,2,3,6-Tetrahydrophthalimide	27813-21-4	PST-2140
Tetramethrin	7696-12-0	PST-2035
<i>Tetramethylthiuram Disulfide</i>	<i>see Thiram</i>	
Thiabendazole	148-79-8	PST-1720
Thiacloprid	111988-49-9	PST-3285
Thiamethoxam	153719-23-4	PST-3290
Thiazopyr	117718-60-2	PST-3640
Thidiazuron	51707-55-2	PST-5465
Thifensulfuron methyl	79277-27-3	PST-3300
<i>Thimet</i>	<i>see Phorate</i>	
Thiobencarb	28249-77-6	PST-1725
<i>Thiodan</i>	<i>see Endosulfan</i>	
Thiodicarb	59669-26-0	PST-3305
Thiometon	640-15-3	PST-2600
Thionazin (Zinophos)	297-97-2	PST-1030
Thiophanate methyl	23564-05-8	PST-1730
Thiram (Tetramethylthiuram Disulfide)	137-26-8	PST-3310
Tilt (Propiconazole)	60207-90-1	PST-2040
Tiocarbazil	36756-79-3	PST-3315
Tokuthion	34643-46-4	PST-1825
Tolclofos-methyl	57018-04-9	PST-2605
Tolfenpyrad	129558-76-5	PST-6080
Tolyfluanid	731-27-1	PST-2610

* available in solution only

PESTICIDE STANDARDS – NEAT AND IN SOLUTION

Pesticides	95 - 99% Pure	
Pesticide	CAS #	Catalog #
Topramezone	210631-68-8	PST-6250
Toxaphene (<i>Phenacide</i>) (tech)	8001-35-2	PST-970
2,4,5-TP	<i>see Silvex</i>	
Tralkoxydim	87820-88-0	PST-5815
Tralomethrin	66841-25-6	PST-3320
Transfluthrin	118712-89-3	PST-5985
Triadimefon	43121-43-3	PST-1830
Triadimenol	55219-65-3	PST-2615
Triallate	2303-17-5	PST-2620
Triasulfuron	82097-50-5	PST-5745
1,2,4-Triazole	288-88-0	PST-6495
Triazophos	24017-47-8	PST-2045
Tribenuron methyl (<i>tech</i>)	101200-48-0	PST-5890
Tribromoacetic acid	75-96-7	PST-3325
Trichlorfon (<i>Dylox</i>)	52-68-6	PST-490
Trichloroacetic acid	76-03-9	PST-4290
Trichloronate	327-98-0	PST-1835
2,4,6-Trichlorophenol	88-06-2	PST-980
Triclopyr	55336-06-3	PST-1735
Triclopyr-2-butoxyethyl ester	64700-56-7	PST-5620
Triclopyr methyl ester	60825-26-5	PST-3330
Tricyclazole (<i>Beam</i>)	41814-78-2	PST-1840
Trietazine	1912-26-1	PST-3335
O,O,O-Triethyl Phosphorothioate	126-68-1	PST-1865
Trifloxystrobin	141517-21-7	PST-2630
Trifloxysulfuron sodium salt	199119-58-9	PST-3980
Triflumizole	68694-11-1	PST-2635
Triflumuron	64628-44-0	PST-3340
Trifluralin	1582-09-8	PST-1740
Triflusulfuron methyl	126535-15-7	PST-2730
Triforine	26644-46-2	PST-3745
2,3,5-Trimethacarb	2655-15-4	PST-2715
Trinexapac	95266-40-3	PST-3985
Trithion	<i>see Carbophenothion</i>	
Unden	<i>see Propoxur</i>	
Uniconazole-P	83657-17-4	PST-5775
Vamidothion	2275-23-2	PST-2645
Vapona	<i>see Dichlorvos</i>	
Velpar	<i>see Hexazinone</i>	
Vegadex	95-06-7	PST-3345
Vernolate	1929-77-7	PST-1745
Vinclozolin	50471-44-8	PST-2050
Warfarin (<i>Coumaphene</i>) (tech)	81-81-2	PST-1000
Weedazol	<i>see Amitrole</i>	
Zectran	<i>see Mexacarbate</i>	
Zineb	12122-67-7	PST-1020
Ziram	137-30-4	PST-1750

NEAT PESTICIDE KITS

Pesticide Standards Kit

Kit - contains twenty vials:

1 x 10 mg of each compound listed below

aldrin	dieldrin
α -BHC	heptachlor
β -BHC	heptachlor epoxide (B)
δ -BHC	lindane (γ -BHC)
<i>o,p'</i> -DDD	malathion
<i>p,p'</i> -DDD	methoxychlor
<i>o,p'</i> -DDE	mirex
<i>p,p'</i> -DDE	parathion
<i>o,p'</i> -DDT	carbaryl (<i>sevin</i>)
<i>p,p'</i> -DDT	toxaphene

FRSP-180

Kit

Pesticide Standards Kit

Kit - contains fifteen vials:

1 x 10 mg of each compound listed below

aldrin	<i>o,p'</i> -DDT
α -BHC	<i>p,p'</i> -DDT
β -BHC	heptachlor
dieldrin	heptachlor epoxide
<i>o,p'</i> -DDD	lindane (γ -BHC)
<i>p,p'</i> -DDD	malathion
<i>o,p'</i> -DDE	parathion
<i>p,p'</i> -DDE	

KPST-102

Kit

Solid Waste Pesticides Kit

Kit - contains six vials:

1 x 100 mg of each compound listed below

2,4-D
endrin
lindane (γ -BHC)
methoxychlor
silvex (2,4,5-TP)
toxaphene

FRSP-181

Kit

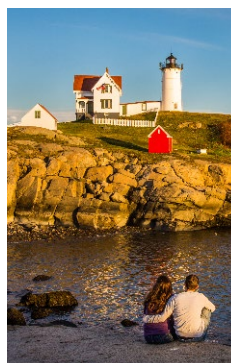
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- ✓ And more!



Part Number Convention

Compounds are assigned unique PST Roots.
Single Analyte Part Numbers are derived as follows:

NEATS: PST Root + Fill Amount
(i.e. PST-2500-100MG)

SOLUTIONS: PST Root + Solvent Code + Concentration
(i.e. PST-2500-K1000)

SOLVENT CODES:

A = Acetonitrile	E = Ethanol	L = Chloroform
B = MTBE	H = Hexane	M = Methanol
C = Cyclohexane	I = Isooctane	W = Water
D = DMSO	K = Acetone	

CONCENTRATION: 1000 = 1000 μ g/mL
100A01 = 100 μ g/mL

POLYNUCLEAR AROMATIC HYDROCARBON (PAH) STANDARDS

PAHs are widespread persistent pollutants. Some have toxic and/or carcinogenic properties. All of these materials are manufactured under ULTRA's ISO 9001 quality system. A certificate showing the purity of the compound is available for each standard.

Polynuclear Aromatic Hydrocarbons 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
acenaphthene	83-32-9	RAH-001	100 mg
acenaphthylene	208-96-8	RAH-064	100 mg
anthanthrene (<i>dibenzo[def,mno]chrysene</i>)	191-26-4	RAH-082	10 mg
anthracene	120-12-7	RAH-002	100 mg
azulene	275-51-4	RAH-003	10 mg
benz[a]anthracene (<i>tetraphene</i>)	56-55-3	RAH-004	20 mg
benzo[b]fluoranthene (<i>benz[e]acephenanthrylene</i>)	205-99-2	RAH-072	10 mg
benzo[k]fluoranthene	207-08-9	RAH-073	10 mg
benzo[a]fluorene (<i>1,2-benzofluorene</i>)	30777-18-5	RAH-005	10 mg
benzo[b]fluorene (<i>2,3-benzofluorene</i>)	243-17-4	RAH-006	10 mg
benzo[ghi]perylene (<i>1,12-benzoperylene</i>)	191-24-2	RAH-009	10 mg
benzo[a]pyrene	50-32-8	RAH-010	10 mg
benzo[e]pyrene	192-97-2	RAH-081	10 mg
1,1'-binaphthyl	604-53-5	RAH-012	50 mg
2,2'-binaphthyl	612-78-2	RAH-013	50 mg
biphenyl	92-52-4	RPC-001	500 mg
chrysene (<i>benzo[a]phenanthrene</i>)	218-01-9	RAH-007	100 mg
coronene	191-07-1	RAH-015	10 mg
4H-cyclopenta[def]phenanthrene (<i>4,5-methylenephenanthrene</i>)	203-64-5	RAH-088	10 mg
decacyclene	191-48-0	RAH-016	100 mg
decahydronaphthalene (mixture of isomers)	91-17-8	RAH-017	100 mg
<i>trans</i> -decahydronaphthalene	493-02-7	RAH-075	100 mg
<i>cis</i> -decahydronaphthalene	493-01-6	RAH-074	100 mg
dibenz[a,c]anthracene (<i>1,2,3,4-dibenzanthracene</i>)	215-58-7	RAH-018	10 mg
dibenz[a,h]anthracene (<i>1,2,5,6-dibenzanthracene</i>)	53-70-3	RAH-019	10 mg
dibenzo[a,l]pentacene (<i>1,2,8,9-dibenzopentacene</i>)	227-09-8	RAH-083	10 mg
9,10-dihydroanthracene	613-31-0	RAH-021	100 mg
1,2-dihydronaphthalene	447-53-0	RAH-022	100 mg
1,4-dihydronaphthalene	612-17-9	RAH-023	100 mg
diindeno[1,2,3-cd:1',2',3'-lm]perylene (<i>periflanthene</i>)	188-94-3	RAH-084	5 mg
9,10-dimethylantracene	781-43-1	RAH-024	10 mg
7,12-dimethylbenz[a]anthracene	57-97-6	RAH-025	10 mg
2,2'-dimethylbiphenyl	605-39-0	RAH-071	10 mg
3,3'-dimethylbiphenyl	612-75-9	RAH-062	20 mg
4,4'-dimethylbiphenyl	613-33-2	RAH-026	100 mg
1,2-dimethylnaphthalene	573-98-8	RAH-068	100 mg
1,3-dimethylnaphthalene	575-41-7	RAH-066	50 mg
1,4-dimethylnaphthalene	571-48-4	RAH-027	100 mg
1,5-dimethylnaphthalene	571-61-9	RAH-029	100 mg
1,6-dimethylnaphthalene	575-43-9	RAH-028	100 mg
2,3-dimethylnaphthalene	581-40-8	RAH-067	100 mg
2,6-dimethylnaphthalene	581-42-0	RAH-030	100 mg
2,7-dimethylnaphthalene	582-16-1	RAH-097	10 mg
3,6-dimethylphenanthrene	1576-67-6	RAH-085	10 mg
9,10-diphenylantracene	1499-10-1	RAH-086	100 mg
1,2-diphenylethane (<i>bibenzyl</i>)	103-29-7	RAH-020	100 mg
dodecahydrotriphenylene	1610-39-5	RAH-087	100 mg
fluoranthene	206-44-0	RAH-031	100 mg

POLYNUCLEAR AROMATIC HYDROCARBON (PAH) STANDARDS

Polynuclear Aromatic Hydrocarbons 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
fluorene	86-73-7	RAH-032	100 mg
9-fluorenone	486-25-9	RAH-033	100 mg
indane	496-11-7	RAH-065	100 mg
1,3-indanedione	606-23-5	RAH-034	100 mg
indene	95-13-6	RAH-035	100 mg
indeno[1,2,3-cd]pyrene (<i>o</i> -phenylenepylene)	193-39-5	RAH-077	5 mg
1-methylanthracene	610-48-0	RAH-098	10 mg
2-methylanthracene	613-12-7	RAH-036	100 mg
9-methylanthracene	779-02-2	RAH-037	100 mg
2-methylbiphenyl (<i>2</i> -phenyltoluene)	643-58-3	RAH-038	100 mg
3-methylbiphenyl (<i>3</i> -phenyltoluene)	643-93-6	RAH-039	100 mg
4-methylbiphenyl (<i>4</i> -phenyltoluene)	644-08-6	RAH-040	100 mg
3-methylcholanthrene (<i>20</i> -methylcholanthrene)	56-49-5	RAH-041	10 mg
1-methylfluorene	1730-37-6	RAH-043	100 mg
1-methylnaphthalene	90-12-0	RAH-044	500 mg
2-methylnaphthalene	91-57-6	RAH-045	500 mg
1-methylphenanthrene	832-69-9	RAH-046	10 mg
naphthacene (<i>benz</i> [<i>b</i>]anthracene, <i>tetracene</i>)	92-24-0	RAH-078	10 mg
naphthalene	91-20-3	RAH-080	100 mg
pentacene	135-48-8	RAH-049	10 mg
perylene	198-55-0	RAH-050	10 mg
phenanthrene	85-01-8	RAH-051	100 mg
9-phenylanthracene	602-55-1	RAH-089	100 mg
1-phenylnaphthalene	605-02-7	RAH-099	100 mg
pyrene (<i>benzo</i> [<i>def</i>]phenanthrene)	129-00-0	RAH-008	100 mg
<i>p</i> -quaterphenyl	135-70-6	RAH-054	100 mg
<i>m</i> -quinquephenyl	16716-13-5	RAH-063	10 mg
<i>p</i> -quinquephenyl	3073-05-0	RAH-100	10 mg
rubrene	517-51-1	RAH-055	10 mg
<i>o</i> -terphenyl	84-15-1	RAH-056	100 mg
<i>m</i> -terphenyl	92-06-8	RAH-057	100 mg
<i>p</i> -terphenyl	92-94-4	RAH-058	100 mg
1,2,3,4-tetrahydrofluoranthene	42429-92-5	RAH-091	10 mg
1,2,3,4-tetrahydronaphthalene (<i>tetralin</i>)	119-64-2	RAH-079	100 mg
1,2,3,4-tetraphenylnaphthalene	751-38-2	RAH-092	10 mg
2,3,5-trimethylnaphthalene	2245-38-7	RAH-069	10 mg
triphenylene (<i>9,10</i> -benzophenanthrene)	217-59-4	RAH-059	10 mg
triptycene	477-75-8	RAH-060	10 mg
truxene	548-35-6	RAH-061	100 mg

Volume discounts for individual solutions

Order 4–19 ampules of the same item and receive a **20% DISCOUNT**Order 20 or more ampules of the same item and receive a **30% DISCOUNT**

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

All of these materials are manufactured under ULTRA's ISO 9001 quality system, and include a certificate showing the purity of the standard.

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
acenaphthene	83-32-9	RAH-001	100 mg
acenaphthylene	208-96-8	RAH-064	100 mg
2-acetamidofluorene	53-96-3	RCC-002	100 mg
2-acetamidonaphthalene	581-97-5	RCC-025	100 mg
acetone	67-64-1	RCC-200	1 gm
acetonitrile	75-05-8	RCC-201	100 mg
acetophenone	98-86-2	RCC-202	100 mg
acridine	260-94-6	HAH-003	100 mg
acrolein	107-02-8	RCC-150	100 mg
acrylamide	79-06-1	RCC-203	100 mg
acrylonitrile	107-13-1	RCC-204	100 mg
allyl alcohol	107-18-6	RCC-136	100 mg
allyl bromide	<i>see 3-bromopropene</i>		
allyl chloride	<i>see 3-chloropropene</i>		
1-aminoanthracene (90%)	610-49-1	RCC-026	100 mg
2-aminoanthracene (90%)	613-13-8	RCC-027	100 mg
2-aminobiphenyl	90-41-5	RCC-003	100 mg
4-aminobiphenyl	92-67-1	RCC-004	100 mg
6-aminochrysene	2642-98-0	RCC-028	100 mg
1-aminonaphthalene	<i>see α-naphthylamine</i>		
2-aminonaphthalene	<i>see β-naphthylamine</i>		
1-amino-4-nitronaphthalene	776-34-1	RNH-111	100 mg
aniline	62-53-3	RCC-137	1 gm
anthanthrene	191-26-4	RAH-082	10 mg
anthracene	120-12-7	RAH-002	100 mg
Aroclor 1016 (PCB 1016)	12674-11-2	RPC-1016	50 mg
Aroclor 1221 (PCB 1221)	11104-28-2	RPC-1221	50 mg
Aroclor 1232 (PCB 1232)	11141-16-5	RPC-1232	10 mg
Aroclor 1242 (PCB 1242)	53469-21-9	RPC-1242	50 mg
Aroclor 1248 (PCB 1248)	12672-29-6	RPC-1248	50 mg
Aroclor 1254 (PCB 1254)	11097-69-1	RPC-1254	50 mg
Aroclor 1260 (PCB 1260)	11096-82-5	RPC-1260	50 mg
Aroclor 1262 (PCB 1262)	37324-23-5	RPC-1262	50 mg
Aroclor 1268 (PCB 1268)	11100-14-4	RPC-1268	50 mg
7-azaindole	271-63-6	HAH-010	100 mg
azobenzene	103-33-3	RCC-043	100 mg
azoxybenzene	495-48-7	RCC-044	100 mg
azulene	275-51-4	RAH-003	10 mg
benzal chloride	98-87-3	RCB-042	100 mg
benz[a]anthracene	56-55-3	RAH-004	20 mg
benzene	71-43-2	RAB-041	100 mg
benzidine	92-87-5	RCC-005	20 mg
benzo[c]cinnoline	230-17-1	HAH-009	100 mg
benzo[b]fluoranthene	205-99-2	RAH-072	10 mg
benzo[k]fluoranthene	207-08-9	RAH-073	10 mg
benzo[a]fluorene	238-84-6	RAH-005	10 mg
benzo[b]fluorene	243-17-4	RAH-006	10 mg
benzoic acid	65-85-0	RCC-143	100 mg
benzo[ghi]perylene	191-24-2	RAH-009	10 mg
benzo[a]pyrene	50-32-8	RAH-010	10 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
benzo[e]pyrene	192-97-2	RAH-081	10 mg
<i>benzo[c]quinoline</i>	<i>see phenanthridine</i>		
benzo[f]quinoline	85-02-9	HAH-004	100 mg
benzo[h]quinoline	230-27-3	HAH-005	100 mg
benzothiazole	95-16-9	HAH-008	100 mg
benzyl alcohol	100-51-6	RCC-144	100 mg
<i>benzyl chloride</i>	<i>see α-chlorotoluene</i>		
1,1'-binaphthyl	604-53-5	RAH-012	50 mg
2,2'-binaphthyl	612-78-2	RAH-013	50 mg
biphenyl	92-52-4	RPC-001	500 mg
2,2'-biquinoline	119-91-5	RCC-129	100 mg
bis(2-chloroethoxy)methane	111-91-1	RCC-145	100 mg
bis(chloromethyl) ether	542-88-1	RCC-006	100 mg
bis(2-ethylhexyl) phthalate	117-81-7	DMP-019	100 mg
bromobenzene	108-86-1	RBF-001	100 mg
1-bromo-1-chloroethane	593-96-4	RHH-029	1 gm
1-bromo-2-chloroethane	107-04-0	RHH-030	1 gm
bromochloromethane	74-97-5	RHH-007	1 gm
bromodichloromethane	75-27-4	RHH-008	1 gm
bromoethane	74-96-4	RHH-024	1 gm
bromoethene (<i>vinyl bromide</i>)	593-60-2	RHH-025	1 gm
bromoform	75-25-2	RHH-005	1 gm
1-bromonaphthalene	90-11-9	RBF-011	100 mg
2-bromonaphthalene	580-13-2	RBF-012	100 mg
1-bromo-2-naphthol	573-97-7	RBF-015	100 mg
6-bromo-2-naphthol	15231-91-1	RBF-016	100 mg
2-bromophenol	95-56-7	RBF-006A	100 mg
3-bromophenol	591-20-8	RBF-006B	100 mg
4-bromophenol	106-41-2	RBF-006C	100 mg
4-bromophenyl phenyl ether	101-55-3	RCC-148	100 mg
1-bromopropane	106-94-5	RHH-048	1 gm
2-bromopropane	75-26-3	RHH-049	1 gm
2-bromopropene	557-93-7	RHH-052	1 gm
3-bromopropene (<i>allyl bromide</i>)	106-95-6	RHH-053	1 gm
bromotrichloromethane	75-62-7	RHH-009	1 gm
1,2:3,4-diepoxybutane	1464-53-5	RCC-153	100 mg
2-butanone (<i>MEK</i>)	78-93-3	RCC-205	1 gm
<i>n</i> -butylbenzene	104-51-8	RAB-016	100 mg
<i>sec</i> -butylbenzene	135-98-8	RAB-017	100 mg
<i>tert</i> -butylbenzene	98-06-6	RAB-018	100 mg
butyl benzyl phthalate	85-68-7	DMP-037	100 mg
<i>tert</i> -butyl methyl ether (<i>MTBE</i>)	1634-04-4	RCC-149	1 gm
carbazole	86-74-8	HAH-022	100 mg
carbon disulfide	75-15-0	RCC-175	1 gm
carbon tetrabromide	558-13-4	RHH-006	1 gm
carbon tetrachloride	56-23-5	RHH-003	1 gm
2-chloroaniline	95-51-2	RCA-001	100 mg
3-chloroaniline	108-42-9	RCA-002	100 mg
4-chloroaniline	106-47-8	RCA-003	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
2-chloroanisole	766-51-8	RCP-032	100 mg
3-chloroanisole	2845-89-8	RCP-033	100 mg
4-chloroanisole	623-12-1	RCP-034	100 mg
chlorobenzene	108-90-7	RCP-020	100 mg
2-chlorobenzoic acid	118-91-2	RBA-001	100 mg
3-chlorobenzoic acid	535-80-8	RBA-002	100 mg
4-chlorobenzoic acid	74-11-3	RBA-003	100 mg
1-chlorobutane	109-69-3	RHH-063	100 mg
4-chloro- <i>m</i> -cresol	<i>see 4-chloro-3-methylphenol</i>		
2-chloroethanol	107-07-3	RCC-176	100 mg
2-chloroethyl ether	111-44-4	RCC-088	1 gm
2-chloroethyl vinyl ether	110-75-8	RCC-177	100 mg
chloroform	67-66-3	RHH-002	1 gm
1-chlorohexane	544-10-5	RHH-055	100 mg
4-chloro-3-methylphenol	59-50-7	RCC-154	100 mg
1-chloronaphthalene	90-13-1	RCN-002	100 mg
2-chloronaphthalene	91-58-7	RCN-003	100 mg
4-chloro-1-naphthol	604-44-4	RCN-013	100 mg
2-chlorophenol	95-57-8	RCP-001	20 mg
3-chlorophenol	108-43-0	RCP-002	20 mg
4-chlorophenol	106-48-9	RCP-003	20 mg
4-chlorophenyl phenyl ether	7005-72-3	RPE-001	10 mg
1-chloropropane	540-54-5	RHH-035	1 gm
2-chloropropane	75-29-6	RHH-036	1 gm
3-chloropropene (<i>allyl chloride</i>)	107-05-1	RHH-044	1 gm
2-chlorotoluene	95-49-8	RCB-001	100 mg
3-chlorotoluene	108-41-8	RCB-002	100 mg
4-chlorotoluene	106-43-4	RCB-003	100 mg
α -chlorotoluene (<i>benzyl chloride</i>)	100-44-7	RCB-004	100 mg
6-chrysenamine	<i>see 6-aminochrysene</i>		
chrysene	218-01-9	RAH-007	100 mg
coronene	191-07-1	RAH-015	10 mg
<i>o</i> -cresol (<i>2-methylphenol</i>)	95-48-7	RCC-155	100 mg
<i>m</i> -cresol (<i>3-methylphenol</i>)	108-39-4	RCC-156	100 mg
<i>p</i> -cresol (<i>4-methylphenol</i>)	106-44-5	RCC-157	100 mg
cumene	<i>see isopropylbenzene</i>		
4H-cyclopenta[def]phenanthrene	203-64-5	RAH-088	10 mg
decacyclene	191-48-0	RAH-016	100 mg
decahydronaphthalene (mix)	91-17-8	RAH-017	100 mg
<i>cis</i> -decahydronaphthalene	493-01-6	RAH-074	100 mg
<i>trans</i> -decahydronaphthalene	493-02-7	RAH-075	100 mg
<i>n</i> -decane	124-18-5	RNA-001	1 gm
<i>n</i> -decylbenzene (<i>phenyldecane</i>)	104-72-3	RAB-027	100 mg
2,7-diacetamidofluorene	304-28-9	RCC-029	100 mg
3,3'-diaminobenzidine	91-95-2	RCC-030	20 mg
4,4'-diaminodiphenylmethane	101-77-9	RCC-031	20 mg
2,7-diaminofluorene	525-64-4	RCC-032	100 mg
1,2-diaminonaphthalene	938-25-0	RCC-033	100 mg
2,4-diaminotoluene	95-80-7	RCC-034	100 mg
diamyl phthalate	131-18-0	DMP-016	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
dibenz[a,c]anthracene	215-58-7	RAH-018	10 mg
dibenz[a,h]anthracene	53-70-3	RAH-019	10 mg
dibenzofuran	132-64-9	RPE-022	50 mg
dibenzo[a,l]pentacene	227-09-8	RAH-083	10 mg
dibenzo[a,e]pyrene	192-65-4	P-801-1 §	1 x 1 mL
dibenzo[a,h]pyrene	189-64-0	RAH-076	10 mg
dibenzo[a,h]pyrene	189-64-0	P-821-1 §	1 x 1 mL
dibenzo[a,i]pyrene	189-55-9	P-811-1 §	1 x 1 mL
dibenzo[a,l]pyrene	191-30-0	P-791-1 §	1 x 1 mL
dibenzothiophene	132-65-0	HAH-020	100 mg
1,3-dibromobenzene	108-36-1	RBF-002B	100 mg
1,2-dibromobenzene	583-53-9	RBF-002A	100 mg
1,4-dibromobenzene	106-37-6	RBF-002C	100 mg
dibromochloromethane	124-48-1	RHH-010	1 gm
1,2-dibromo-3-chloropropane	96-12-8	RHH-034	1 gm
1,2-dibromo-1,1-dichloroethane	75-81-0	RHH-032	1 gm
1,2-dibromo-1,2-dichloroethane	683-68-1	RHH-033	1 gm
dibromodichloromethane	594-18-3	RHH-011	1 gm
1,2-dibromoethane	106-93-4	RHH-026	1 gm
1,2-dibromoethene	540-49-8	RHH-027	1 gm
dibromomethane	74-95-3	RHH-004	1 gm
1,4-dibromonaphthalene	83-53-4	RBF-014	100 mg
2,3-dibromonaphthalene	13214-70-5	RBF-013	50 mg
1,6-dibromo-2-naphthol	16239-18-2	RBF-017	100 mg
2,4-dibromophenol	615-58-7	RBF-007	100 mg
2,6-dibromophenol	608-33-3	RBF-008	100 mg
1,2-dibromopropane	78-75-1	RHH-050	1 gm
1,3-dibromopropane	109-64-8	RHH-051	1 gm
dibutyl phthalate	84-74-2	DMP-015	100 mg
1,3-dichloro-2-propanol	96-23-1	RCC-178	100 mg
2,3-dichloroaniline	608-27-5	RCA-004	100 mg
2,4-dichloroaniline	554-00-7	RCA-005	100 mg
2,5-dichloroaniline	95-82-9	RCA-006	100 mg
2,6-dichloroaniline	608-31-1	RCA-007	100 mg
3,4-dichloroaniline	95-76-1	RCA-008	100 mg
3,5-dichloroaniline	626-43-7	RCA-009	100 mg
2,3-dichloroanisole	1984-59-4	RCP-035	100 mg
2,4-dichloroanisole	553-82-2	RCP-036	100 mg
2,5-dichloroanisole	1984-58-3	RCP-046	50 mg
2,6-dichloroanisole	1984-65-2	RCP-037	100 mg
3,4-dichloroanisole	36404-30-5	RCP-047	50 mg
3,5-dichloroanisole	33719-74-3	RCP-038	100 mg
a,4-dichloroanisole	21151-56-4	RCP-042	100 mg
1,2-dichlorobenzene	95-50-1	RCP-021	100 mg
1,3-dichlorobenzene	541-73-1	RCP-022	100 mg
1,4-dichlorobenzene	106-46-7	RCP-023	100 mg
3,3'-dichlorobenzidine	91-94-1	RCC-007	100 mg
2,3-dichlorobenzoic acid	50-45-3	RBA-008	100 mg
2,4-dichlorobenzoic acid	50-84-0	RBA-009	100 mg

§ - @ 200 µg/mL in Methylene Chloride

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
2,5-dichlorobenzoic acid	50-79-3	RBA-007	100 mg
2,6-dichlorobenzoic acid	50-30-6	RBA-006	100 mg
3,4-dichlorobenzoic acid	51-44-5	RBA-004	100 mg
3,5-dichlorobenzoic acid	51-36-5	RBA-005	100 mg
<i>cis</i> -1,4-dichloro-2-butene	1476-11-5	RHH-064	100 mg
<i>trans</i> -1,4-dichloro-2-butene	110-57-6	RHH-056	100 mg
1,1-dichloroethane	75-34-3	RHH-012	1 gm
1,2-dichloroethane	107-06-2	RHH-013	1 gm
1,1-dichloroethene	75-35-4	RHH-020	1 gm
<i>cis</i> -1,2-dichloroethene	156-59-2	RHH-057	100 mg
<i>trans</i> -1,2-dichloroethene	156-60-5	RHH-021	1 gm
dichloromethane	75-09-2	RHH-001	1 gm
1,4-dichloronaphthalene	1825-31-6	RCN-005	25 mg
1,5-dichloronaphthalene	1825-30-5	RCN-006	25 mg
2,3-dichloronaphthalene	2050-75-1	RCN-008	5 mg
2,4-dichloro-1-naphthol	2050-76-2	RCN-014	100 mg
2,3-dichlorophenol	576-24-9	RCP-004	20 mg
2,4-dichlorophenol	120-83-2	RCP-005	20 mg
2,5-dichlorophenol	583-78-8	RCP-006	20 mg
2,6-dichlorophenol	87-65-0	RCP-007	20 mg
3,4-dichlorophenol	95-77-2	RCP-008	20 mg
3,5-dichlorophenol	591-35-5	RCP-009	20 mg
1,2-dichloropropane	78-87-5	RHH-037	1 gm
1,3-dichloropropane	142-28-9	RHH-038	1 gm
2,2-dichloropropane	594-20-7	RHH-058	100 mg
1,1-dichloropropene	563-58-6	RHH-059	100 mg
1,3-dichloro-1-propene (mix)	542-75-6	RHH-054	1 gm
2,3-dichloro-1-propene	78-88-6	RHH-045	1 gm
2,4-dichlorotoluene	95-73-8	RCB-005	100 mg
2,5-dichlorotoluene	19398-61-9	RCB-006	100 mg
2,6-dichlorotoluene	118-69-4	RCB-007	100 mg
3,4-dichlorotoluene	95-75-0	RCB-008	100 mg
α ,2-dichlorotoluene	611-19-8	RCB-009	100 mg
α ,3-dichlorotoluene	620-20-2	RCB-010	100 mg
α ,4-dichlorotoluene	104-83-6	RCB-011	100 mg
dicyclohexyl phthalate	84-61-7	DMP-017	100 mg
1,2-diethylbenzene	135-01-3	RAB-038	100 mg
1,3-diethylbenzene	141-93-5	RAB-039	100 mg
1,4-diethylbenzene	105-05-5	RAB-040	100 mg
diethylhexyl adipate	<i>see dioctyl adipate</i>		
diethylhexyl maleate	<i>see dioctyl maleate</i>		
diethylhexyl phthalate	<i>see bis(2-ethylhexyl) phthalate</i>		
diethyl phthalate	84-66-2	DMP-012	100 mg
9,10-dihydroanthracene	613-31-0	RAH-021	100 mg
6,13-dihydrodibenzo[b,i]phenazine	10350-06-8	RCC-138	100 mg
1,2-dihydronaphthalene	447-53-0	RAH-022	100 mg
1,4-dihydronaphthalene	612-17-9	RAH-023	100 mg
diindeno[1,2,3-cd:1',2',3'-lm]perylene	188-94-3	RAH-084	5 mg
diisooctyl adipate	1330-86-5	DMP-027	100 mg
diisopropyl phthalate	605-45-8	DMP-014	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
3,3'-dimethoxybenzidine	119-90-4	RCC-117	100 mg
9,10-dimethylanthracene	781-43-1	RAH-024	10 mg
7,12-dimethylbenz[a]anthracene	57-97-6	RAH-025	10 mg
1,2-dimethylbenzene	<i>see o-xylene</i>		
1,3-dimethylbenzene	<i>see m-xylene</i>		
1,4-dimethylbenzene	<i>see p-xylene</i>		
3,3'-dimethylbenzidine	<i>see o-tolidine</i>		
2,2'-dimethylbiphenyl	605-39-0	RAH-071	10 mg
3,3'-dimethylbiphenyl	612-75-9	RAH-062	20 mg
4,4'-dimethylbiphenyl	613-33-2	RAH-026	100 mg
dimethylcarbamoyl chloride	79-44-7	RCC-103	1 gm
1,2-dimethyl-3-ethylbenzene (tech)	933-98-2	RAB-029	10 mg
1,2-dimethyl-4-ethylbenzene (tech)	934-80-5	RAB-030	10 mg
1,3-dimethyl-4-ethylbenzene (tech)	874-41-9	RAB-032	10 mg
1,3-dimethyl-5-ethylbenzene (tech)	934-74-7	RAB-033	10 mg
1,4-dimethyl-2-ethylbenzene (tech)	1758-88-9	RAB-034	100 mg
1,2-dimethylindole	875-79-6	HAH-029	100 mg
2,3-dimethylindole	91-55-4	HAH-030	100 mg
1,2-dimethylnaphthalene	573-98-8	RAH-068	100 mg
1,3-dimethylnaphthalene	575-41-7	RAH-066	50 mg
1,4-dimethylnaphthalene	571-58-4	RAH-027	100 mg
1,5-dimethylnaphthalene	571-61-9	RAH-029	100 mg
1,6-dimethylnaphthalene	575-43-9	RAH-028	100 mg
2,3-dimethylnaphthalene	581-40-8	RAH-067	100 mg
2,6-dimethylnaphthalene	581-42-0	RAH-030	100 mg
2,7-dimethylnaphthalene	582-16-1	RAH-097	10 mg
3,6-dimethylphenanthrene	1576-67-6	RAH-085	10 mg
2,4-dimethylphenol	105-67-9	RCC-158	100 mg
dimethyl phthalate	131-11-3	PST-430	100 mg
2,4-dimethylquinoline	1198-37-4	HAH-017	10 mg
2,6-dimethylquinoline	877-43-0	HAH-018	100 mg
9,10-dinitroanthracene	33685-60-8	RNH-134-1 †	1 x 1 mL
<i>m</i> -dinitrobenzene	99-65-0	RNH-001	100 mg
2,2'-dinitrobiphenyl	2436-96-6	RNH-135	100 mg
4,6-dinitro- <i>o</i> -cresol	<i>see 2-methyl-4,6-dinitrophenol</i>		
2,7-dinitrofluorene	5405-53-8	RNH-137	100 mg
2,7-dinitro-9-fluorenone	31551-45-8	RNH-138	100 mg
1,3-dinitronaphthalene	606-37-1	RNH-139	100 mg
1,5-dinitronaphthalene	605-71-0	RNH-140	100 mg
1,8-dinitronaphthalene	602-38-0	RNH-141	100 mg
2,4-dinitrophenol	51-28-5	RCC-159	100 mg
2,4-dinitrotoluene	121-14-2	RNH-002	100 mg
2,6-dinitrotoluene	606-20-2	RNH-003	100 mg
dioctyl adipate (<i>diethylhexyl adipate</i>)	103-23-1	DMP-028	100 mg
dioctyl maleate (<i>diethylhexyl maleate</i>)	142-16-5	DMP-036	100 mg
<i>dioctyl phthalate</i>	<i>see bis(2-ethylhexyl) phthalate</i>		
di- <i>n</i> -octyl phthalate	117-84-0	DMP-020	100 mg
1,4-dioxane	123-91-1	RCC-180	1 gm
9,10-diphenylanthracene	1499-10-1	RAH-086	100 mg

† – @ 100 µg/mL in Nitromethane

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
1,2-diphenylethane	103-29-7	RAH-020	100 mg
1,2-diphenylhydrazine	122-66-7	RCC-174	1 gm
4,7-diphenyl-1,10-phenanthroline	1662-01-7	RCC-142	50 mg
diphenyl phthalate	84-62-8	DMP-018	100 mg
di-<i>n</i>-propyl phthalate	131-16-8	DMP-013	100 mg
<i>n</i>-docosane	629-97-0	RNA-012	1 gm
dodecahydrotriphenylene	1610-39-5	RAH-087	100 mg
<i>n</i>-dodecane	112-40-3	RNA-003	1 gm
<i>n</i>-dotriacontane	544-85-4	RNA-015	1 gm
<i>durene</i>	<i>see 1,2,4,5-tetramethylbenzene</i>		
<i>n</i>-eicosane	112-95-8	RNA-011	1 gm
epichlorohydrin	106-89-8	RCC-161	100 mg
1,2-epoxybutane	106-88-7	RCC-162	100 mg
ethyl alcohol (tech)	64-17-5	RCC-181	1 gm
ethylbenzene	100-41-4	RAB-013	100 mg
<i>ethylene dibromide</i>	<i>see 1,2-dibromoethane</i>		
<i>ethylene dichloride</i>	<i>see 1,2-dichloroethane</i>		
ethylenethiourea (imidazolidinethione)	96-45-7	RCC-106	1 gm
ethyl methacrylate	97-63-2	RCC-206	100 mg
ethyl methanesulfonate	62-50-0	RCC-182	100 mg
2-ethyltoluene	611-14-3	RAB-035	100 mg
3-ethyltoluene	620-14-4	RAB-036	100 mg
4-ethyltoluene	622-96-8	RAB-037	100 mg
fluoranthene	206-44-0	RAH-031	100 mg
fluorene	86-73-7	RAH-032	100 mg
9-fluorenone	486-25-9	RAH-033	100 mg
Halowax 1000 (26% CI)	58718-66-4	HPCK-2F ‡	1 x 2 mL
Halowax 1001 (50% CI)	58718-67-5	HPCK-2G ‡	1 x 2 mL
Halowax 1013 (56% CI)	12616-35-2	HPCK-2E ‡	1 x 2 mL
Halowax 1051 (70% CI)	2234-13-1	HPCK-2C ‡	1 x 2 mL
Halowax 1099 (52% CI)	37450-05-0	HPCK-2D ‡	1 x 2 mL
<i>hemimellitene</i>	<i>see 1,2,3-trimethylbenzene</i>		
<i>n</i>-heneicosane	629-94-7	RNA-024	1 gm
<i>n</i>-hentriacontane	630-04-6	RNA-031	10 mg
<i>n</i>-heptacosane	593-49-7	RNA-028	10 mg
<i>n</i>-heptadecane	629-78-7	RNA-008	1 gm
2,2,4,4,6,8,8-heptamethylnonane	4390-04-9	RNA-023	1 gm
<i>n</i>-heptane	142-82-5	RNA-019	1 gm
<i>n</i>-heptylbenzene (phenylheptane)	1078-71-3	RAB-024	100 mg
hexabromobenzene	87-82-1	RBF-005	100 mg
hexachlorobutadiene	87-68-3	RHH-060	100 mg
hexachloroethane	67-72-1	RHH-019	1 gm
hexachlorophene	70-30-4	RCC-166	100 mg
hexachloropropene	1888-71-7	RHH-047	1 gm
<i>n</i>-hexacosane	630-01-3	RNA-027	1 gm
<i>n</i>-hexadecane (<i>n</i>-cetane)	544-76-3	RNA-007	1 gm
hexamethylbenzene	87-85-4	RAB-012	100 mg
<i>n</i>-hexane	110-54-3	RNA-018	1 gm
2-hexanone	591-78-6	RCC-207	100 mg
<i>n</i>-hexatriacontane	630-06-8	RNA-017	1 gm

‡ – @ 100 µg/mL in Hexane

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
<i>n</i> -hexylbenzene (<i>phenylhexane</i>)	1077-16-3	RAB-023	100 mg
hydroquinone	123-31-9	RCC-167	100 mg
2-hydroxypropionitrile	78-97-7	RCC-208	100 mg
imidazolidinethione	<i>see ethylenethiourea</i>		
indane	496-11-7	RAH-065	100 mg
1,3-indanedione	606-23-5	RAH-034	100 mg
indene	95-13-6	RAH-035	100 mg
indeno[1,2,3-cd]pyrene	193-39-5	RAH-077	5 mg
indole	120-72-9	HAH-024	100 mg
iodomethane	<i>see methyl iodide</i>		
isobutyl alcohol	78-83-1	RCC-183	1 gm
isobutylbenzene	538-93-2	RAB-019	100 mg
isodurene	<i>see 1,2,3,5-tetramethylbenzene</i>		
isophorone	78-59-1	RCC-209	100 mg
isopropylbenzene (<i>cumene</i>)	98-82-8	RAB-015	100 mg
4-isopropyltoluene	99-87-6	RAB-042	100 mg
isoquinoline	119-65-3	HAH-002	100 mg
isosafrole	120-58-1	RCC-184	100 mg
lepidine	<i>see 4-methylquinoline</i>		
malononitrile	109-77-3	RCC-210	100 mg
mesitylene	<i>see 1,3,5-trimethylbenzene</i>		
methyl acrylate	96-33-3	RCC-212	100 mg
1-methylanthracene	610-48-0	RAH-098	10 mg
2-methylanthracene	613-12-7	RAH-036	100 mg
9-methylanthracene	779-02-2	RAH-037	100 mg
2-methylbiphenyl	643-58-3	RAH-038	100 mg
3-methylbiphenyl	643-93-6	RAH-039	100 mg
4-methylbiphenyl	644-08-6	RAH-040	100 mg
3-methylcholanthrene	56-49-5	RAH-041	10 mg
2-methyl-4,6-dinitrophenol	534-52-1	RCC-169	100 mg
methylene chloride	<i>see dichloromethane</i>		
4,4'-methylenebis(2-chloroaniline)	101-14-4	RCC-011	100 mg
1-methylfluorene	1730-37-6	RAH-043	100 mg
3-methylhendecane	1002-43-3	FLHC-009	50 mg
3-methylheneicosane	6418-47-9	FLHC-014	50 mg
3-methylheptadecane	6418-44-6	FLHC-012	50 mg
1-methylindole	603-76-9	HAH-025	100 mg
2-methylindole	95-20-5	HAH-026	100 mg
3-methylindole	83-34-1	HAH-027	100 mg
7-methylindole	933-67-5	HAH-028	100 mg
methyl iodide (<i>iodomethane</i>)	74-88-4	RHH-062	100 mg
1-methylisoquinoline	1721-93-3	HAH-011	10 mg
methyl methacrylate	80-62-6	RCC-213	100 mg
methyl methanesulfonate	66-27-3	RCC-185	100 mg
1-methylnaphthalene	90-12-0	RAH-044	500 mg
2-methylnaphthalene	91-57-6	RAH-045	500 mg
2-methyl-1-nitronaphthalene	881-03-8	RNH-112	100 mg
4-methyl-2-pentanone (<i>MIBK</i>)	108-10-1	RCC-214	1 gm
1-methylphenanthrene	832-69-9	RAH-046	10 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
2-methylphenol	see o-cresol		
3-methylphenol	see m-cresol		
4-methylphenol	see p-cresol		
2-methylquinoline (<i>quinaldine</i>)	91-63-4	HAH-012	100 mg
3-methylquinoline	612-58-8	HAH-013	100 mg
4-methylquinoline (<i>lepidine</i>)	491-35-0	HAH-014	100 mg
6-methylquinoline	91-62-3	HAH-031	100 mg
7-methylquinoline	612-60-2	HAH-015	10 mg
8-methylquinoline	611-32-5	HAH-016	100 mg
3-methyltricosane	-	FLHC-015	50 mg
3-methyltridecane	6418-41-3	FLHC-010	50 mg
naphthacene	92-24-0	RAH-078	10 mg
naphthalene	91-20-3	RAH-080	100 mg
β -naphthoquinoline	see benzof[quinoline]		
1,4-naphthoquinone	130-15-4	RCC-215	100 mg
α -naphthylamine	134-32-7	RCC-012	100 mg
β -naphthylamine	91-59-8	RCC-013	10 mg
2-nitroaniline	88-74-4	RCC-186	100 mg
3-nitroaniline	99-09-2	RCC-187	100 mg
4-nitroaniline	100-01-6	RCC-188	100 mg
9-nitroanthracene	602-60-8	RNH-115-1 †	1 x 1 mL
nitrobenzene	98-95-3	RNH-004	100 mg
2-nitrobiphenyl	86-00-0	RNH-117	100 mg
3-nitrobiphenyl	2113-58-8	RNH-118	100 mg
4-nitrobiphenyl	92-93-3	RNH-177	200 mg
3-nitrodibenzofuran	5410-97-9	RNH-120-1 †	1 x 1 mL
2-nitrodibenzothiophene	6639-36-7	RNH-121-1 †	1 x 1 mL
2-nitrodiphenylamine	119-75-5	RNH-123	100 mg
2-nitrofluorene	607-57-8	RNH-097	200 mg
3-nitro-9-fluorenone	42135-22-8	RNH-125-1 †	1 x 1 mL
1-nitronaphthalene	86-57-7	RNH-127	100 mg
9-nitrophenanthrene	954-46-1	RNH-130-1 †	1 x 1 mL
5-nitro-1,10-phenanthroline	4199-88-6	RNH-131	100 mg
2-nitrophenol	88-75-5	RCC-170	100 mg
4-nitrophenol	100-02-7	RCC-171	100 mg
2-nitrophenyl disulfide	1155-00-6	RNH-144	100 mg
3-nitrophenyl disulfide	537-91-7	RNH-145	100 mg
4-nitrophenyl disulfide (tech)	100-32-3	RNH-146	100 mg
4-nitrophenyl phenyl ether	620-88-2	RNH-147	100 mg
4-nitrophenyl phenyl sulfide	952-97-6	RNH-148	100 mg
2-nitro- <i>p</i> -phenylenediamine	5307-14-2	RNH-099	100 mg
3-nitro- <i>o</i> -phenylenediamine	3694-52-8	RNH-166	100 mg
4-nitro- <i>o</i> -phenylenediamine	99-56-9	RNH-100	100 mg
2-nitropropane	79-46-9	RCC-189	100 mg
1-nitropyrene	5522-43-0	RNH-132-1 †	1 x 1 mL
5-nitroquinoline	607-34-1	RNH-149	100 mg
6-nitroquinoline	613-50-3	RNH-150	100 mg
8-nitroquinoline	607-35-2	RNH-151	100 mg
4-nitroquinoline-1-oxide	56-57-5	RCC-190	100 mg
N-nitrosodicyclohexylamine	947-92-2	RCC-071	100 mg

† – @ 100 μ g/mL in Nitromethane

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
N-nitrosodiethylamine	55-18-5	RCC-016	100 mg
N-nitrosodimethylamine	62-75-9	RCC-015	100 mg
N-nitrosodiphenylamine	86-30-6	RCC-017	100 mg
N-nitrosodi- <i>n</i> -propylamine	621-64-7	RCC-072	20 mg
4-nitrosomorpholine	59-89-2	RCC-077	20 mg
1-nitrosopiperidine	100-75-4	RCC-078	20 mg
1-nitrosopyrrolidine	930-55-2	RCC-080	100 mg
4-nitro- <i>p</i> -terphenyl	10355-53-0	RNH-133	100 mg
2-nitrotoluene	88-72-2	RNH-005	100 mg
3-nitrotoluene	99-08-1	RNH-006	100 mg
4-nitrotoluene	99-99-0	RNH-007	100 mg
5-nitro- <i>o</i> -toluidine	99-55-8	RCC-192	100 mg
<i>n</i> -nonacosane	630-03-5	RNA-029	10 mg
<i>n</i> -nonadecane	629-92-5	RNA-010	1 gm
<i>n</i> -nonane	111-84-2	RNA-021	1 gm
<i>n</i> -nonylbenzene (<i>phenylnonane</i>)	1081-77-2	RAB-026	100 mg
<i>norphytane</i>	<i>see 2,6,10,14-tetramethylpentadecane</i>		
octachloronaphthalene	2234-13-1	RCN-012	20 mg
octachlorostyrene	29082-74-4	RCB-045	10 mg
<i>n</i> -octacosane	630-02-4	RNA-014	1 gm
<i>n</i> -octadecane	593-45-3	RNA-009	1 gm
<i>n</i> -octane	111-65-9	RNA-020	1 gm
<i>n</i> -octatriacontane	7194-85-6	RNA-033	100 mg
<i>n</i> -octylbenzene (<i>phenyloctane</i>)	2189-60-8	RAB-025	100 mg
pentabromophenol	608-71-9	RBF-010	100 mg
pentacene	135-48-8	RAH-049	10 mg
pentachloroaniline	527-20-8	RCA-015	100 mg
pentachloroanisole	1825-21-4	RCP-041	50 mg
pentachlorobenzene	608-93-5	RCP-030	100 mg
pentachloroethane	76-01-7	RHH-018	1 gm
pentachlorophenol	87-86-5	RCP-019	20 mg
2,3,4,5,6-pentachlorotoluene	877-11-2	RCB-020	100 mg
<i>n</i> -pentacosane	629-99-2	RNA-026	100 mg
<i>n</i> -pentadecane	629-62-9	RNA-006	1 gm
pentamethylbenzene	700-12-9	RAB-011	100 mg
2,2,4,6,6-pentamethylheptane	13475-82-6	RNA-022	1 gm
<i>n</i> -pentatriacontane	630-07-9	RNA-032	100 mg
<i>n</i> -pentylbenzene (<i>n</i> - <i>amylbenzene</i>)	538-68-1	RAB-020	100 mg
<i>sec</i> -pentylbenzene (<i>sec</i> - <i>amylbenzene</i>)	2719-52-0	RAB-021	100 mg
<i>tert</i> -pentylbenzene (<i>tert</i> - <i>amylbenzene</i>)	2049-95-8	RAB-022	100 mg
perylene	198-55-0	RAH-050	10 mg
phenacetin	62-44-2	RCC-216	100 mg
phenanthrene	85-01-8	RAH-051	100 mg
phenanthridine (<i>benzo</i> [<i>c</i>]quinoline)	229-87-8	HAH-006	100 mg
1,10-phenanthroline monohydrate	5144-89-8	RCC-141	100 mg
phenol	108-95-2	RCC-172	100 mg
9-phenylanthracene	602-55-1	RAH-089	100 mg
1-phenyl-2-butene	1560-06-1	RAB-028	100 mg
<i>n</i> -phenylcarbazole	1150-62-5	RCC-126	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
<i>p</i> -phenylenediamine	106-50-3	RCC-194	100 mg
1-phenylnaphthalene	605-02-7	RAH-099	100 mg
<i>N</i> -phenyl- β -naphthylamine	135-88-6	RCC-040	100 mg
phytane	<i>see 2,6,10,14-tetramethylhexadecane</i>		
2-picoline	109-06-8	RCC-195	100 mg
prehnitene	<i>see 1,2,3,4-tetramethylbenzene</i>		
pristane	<i>see 2,6,10,14-tetramethylpentadecane</i>		
propargyl alcohol	107-19-7	RCC-196	100 mg
β -propiolactone	57-57-8	RCC-018	100 mg
propionitrile	107-12-0	RCC-217	100 mg
<i>n</i> -propylamine	107-10-8	RCC-197	100 mg
<i>n</i> -propylbenzene	103-65-1	RAB-014	100 mg
propylene oxide	75-56-9	RCC-092	100 mg
pseudocumene	<i>see 1,2,4-trimethylbenzene</i>		
pyrene	129-00-0	RAH-008	100 mg
pyridine	110-86-1	RCC-198	1 gm
<i>p</i> -quaterphenyl	135-70-6	RAH-054	100 mg
quinaldine	<i>see 2-methylquinoline</i>		
quinoline	91-22-5	HAH-001	100 mg
<i>m</i> -quinquephenyl	16716-13-5	RAH-063	10 mg
<i>p</i> -quinquephenyl	3073-05-0	RAH-100	10 mg
rubrene	517-51-1	RAH-055	10 mg
safrole	94-59-7	RCC-063	100 mg
styrene	100-42-5	RAB-043	100 mg
styrene oxide	96-09-3	RCC-093	1 gm
<i>o</i> -terphenyl	84-15-1	RAH-056	100 mg
<i>m</i> -terphenyl	92-06-8	RAH-057	100 mg
<i>p</i> -terphenyl	92-94-4	RAH-058	100 mg
1,2,4,5-tetrabromobenzene	636-28-2	RBF-004	100 mg
1,1,1,2-tetrabromoethane	79-27-6	RHH-028	1 gm
2,3,4,5-tetrachloroaniline	634-83-3	RCA-013	100 mg
2,3,5,6-tetrachloroaniline	3481-20-7	RCA-014	100 mg
2,3,4,5-tetrachloroanisole	938-86-3	RCP-050	50 mg
2,3,5,6-tetrachloroanisole	6936-40-9	RCP-052	50 mg
1,2,3,4-tetrachlorobenzene	634-66-2	RCP-027	100 mg
1,2,3,5-tetrachlorobenzene	634-90-2	RCP-028	100 mg
1,2,4,5-tetrachlorobenzene	95-94-3	RCP-029	100 mg
1,1,1,2-tetrachloroethane	630-20-6	RHH-016	1 gm
1,1,1,2-tetrachloroethane	79-34-5	RHH-017	1 gm
tetrachloroethene	127-18-4	RHH-023	1 gm
2,3,4,5-tetrachlorophenol	4901-51-3	RCP-016	20 mg
2,3,4,6-tetrachlorophenol	58-90-2	RCP-017	20 mg
2,3,5,6-tetrachlorophenol	935-95-5	RCP-018	20 mg
1,1,1,2-tetrachloropropane	812-03-3	RHH-040	1 gm
1,1,1,3-tetrachloropropane	1070-78-6	RHH-041	1 gm
1,1,2,3-tetrachloropropane	18495-30-2	RHH-042	1 gm
$\alpha,\alpha,2,6$ -tetrachlorotoluene	81-19-6	RCB-019	100 mg
$\alpha,\alpha,\alpha,4$ -tetrachlorotoluene	5216-25-1	RCB-018	100 mg
2,4,5,6-tetrachloro- <i>m</i> -xylene	877-09-8	RCB-031	100 mg
<i>n</i> -tetracontane	4181-95-7	RNA-034	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
<i>n</i> -tetracosane	646-31-1	RNA-013	1 gm
<i>n</i> -tetradecane	629-59-4	RNA-005	1 gm
1,2,3,4-tetrahydrocarbazole	942-01-8	RCC-125	100 mg
1,2,3,4-tetrahydrofluoranthene	42429-92-5	RAH-091	10 mg
tetrahydrofuran	109-99-9	RCC-199	1 gm
1,2,3,4-tetrahydronaphthalene	119-64-2	RAH-079	100 mg
1,2,3,4-tetramethylbenzene	488-23-3	RAB-009	25 mg
1,2,3,5-tetramethylbenzene	527-53-7	RAB-008	100 mg
1,2,4,5-tetramethylbenzene (<i>durene</i>)	95-93-2	RAB-010	100 mg
2,6,10,14-tetramethylhexadecane (<i>phytane</i>)	638-36-8	FLHC-017	100 mg
2,6,10,14-tetramethylpentadecane	1921-70-6	FLHC-016	100 mg
1,2,3,4-tetraphenyl-naphthalene	751-38-2	RAH-092	10 mg
<i>n</i> -tetratetracontane	7098-22-8	RNA-035	100 mg
<i>n</i> -tetratriacontane	14167-59-0	RNA-016	100 mg
thiophene	110-02-1	RCC-121	1 gm
<i>o</i> -tolidine (3,3'-dimethylbenzidine)	119-93-7	RCC-041	100 mg
toluene (<i>methylbenzene</i>)	108-88-3	RAB-001	100 mg
<i>o</i> -toluidine	95-53-4	RCC-193	100 mg
<i>n</i> -triacontane	638-68-6	RNA-030	100 mg
triethyl phosphate	1623-19-4	RCC-115	1 gm
1,3,5-tribromobenzene	626-39-1	RBF-003	100 mg
2,4,6-tribromophenol	118-79-6	RBF-009	100 mg
2,3,4-trichloroaniline	634-67-3	RCA-010	100 mg
2,4,5-trichloroaniline	636-30-6	RCA-011	100 mg
2,4,6-trichloroaniline	634-93-5	RCA-012	100 mg
2,3,4-trichloroanisole	54135-80-7	RCP-039	100 mg
2,3,5-trichloroanisole	54135-81-8	RCP-048	50 mg
2,3,6-trichloroanisole	50375-10-5	RCP-040	100 mg
2,4,5-trichloroanisole	6130-75-2	RCP-043	50 mg
2,4,6-trichloroanisole	87-40-1	RCP-044	50 mg
3,4,5-trichloroanisole	54135-82-9	RCP-049	50 mg
1,2,3-trichlorobenzene	87-61-6	RCP-024	100 mg
1,2,4-trichlorobenzene	120-82-1	RCP-025	100 mg
1,3,5-trichlorobenzene	108-70-3	RCP-026	100 mg
2,3,6-trichlorobenzoic acid (tech)	50-31-7	RBA-010	100 mg
1,1,1-trichloroethane	71-55-6	RHH-014	100 mg
1,1,2-trichloroethane	79-00-5	RHH-015	1 gm
trichloroethene	79-01-6	RHH-022	1 gm
2,3,4-trichlorophenol	15950-66-0	RCP-010	20 mg
2,3,5-trichlorophenol	933-78-8	RCP-011	20 mg
2,3,6-trichlorophenol	933-75-5	RCP-012	20 mg
2,4,5-trichlorophenol	95-95-4	RCP-013	20 mg
3,4,5-trichlorophenol	609-19-8	RCP-015	20 mg
1,2,3-trichloropropane	96-18-4	RHH-039	1 gm
2,3,6-trichlorotoluene	2077-46-5	RCB-013	100 mg
2,4,5-trichlorotoluene	6639-30-1	RCB-012	100 mg
α ,2,4-trichlorotoluene	94-99-5	RCB-015	100 mg
α ,2,6-trichlorotoluene	2014-83-7	RCB-014	100 mg
α ,3,4-trichlorotoluene	102-47-6	RCB-016	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
α,α,α -trichlorotoluene	98-07-7	RCB-017	100 mg
<i>n</i> -tricosane	638-67-5	RNA-025	1 gm
<i>n</i> -tridecane	629-50-5	RNA-004	1 gm
1,2,3-trimethylbenzene	526-73-8	RAB-006	100 mg
1,2,4-trimethylbenzene	95-63-6	RAB-005	100 mg
1,3,5-trimethylbenzene (<i>mesitylene</i>)	108-67-8	RAB-007	100 mg
2,3,5-trimethylnaphthalene	2245-38-7	RAH-069	10 mg
2,4,7-trinitro-9-fluorenone	129-79-3	RNH-106	25 mg
triphenylene	217-59-4	RAH-059	10 mg
tritycene	477-75-8	RAH-060	10 mg
truxene	548-35-6	RAH-061	100 mg
<i>n</i> -undecane	1120-21-4	RNA-002	1 gm
vinyl acetate	108-05-4	RCC-218	100 mg
<i>vinyl bromide</i>	<i>see bromoethene</i>		
4-vinylcyclohexene dioxide	4223-10-3	RCC-094	1 gm
<i>vinylidene chloride</i>	<i>see 1,1-dichloroethene</i>		
<i>o</i> -xylene (1,2-dimethylbenzene)	95-47-6	RAB-002	100 mg
<i>m</i> -xylene (1,3-dimethylbenzene)	108-38-3	RAB-003	100 mg
<i>p</i> -xylene (1,4-dimethylbenzene)	106-42-3	RAB-004	100 mg

NEAT REFERENCE MATERIALS KITS

All of these materials are manufactured under ULTRA's ISO 9001 quality system. A certificate showing the purity of the compound is available for each standard.

Volatile Halocarbons Kit

Kit - contains twenty vials:

1 x 100 mg of each compound listed below

bromochloromethane	1,2-dichloroethane
bromodichloromethane	1,1-dichloroethene
bromoethane	<i>trans</i> -1,2-dichloroethene
bromoform	dichloromethane
bromotrichloromethane	1,1,1-trichloroethane
carbon tetrachloride	trichloroethene
chloroform	1,1,2,2-tetrabromoethane
1,2-dibromoethane	1,1,1,2-tetrachloroethane
1,2-dibromoethene	1,1,2,2-tetrachloroethane
dibromomethane	tetrachloroethene

FRCK-001 Kit

Halomethanes Kit

Kit - contains eleven vials:

1 x 100 mg of each compound listed below

dichloromethane
chloroform
carbon tetrachloride
dibromomethane
bromoform
carbon tetrabromide
bromochloromethane
bromodichloromethane
bromotrichloromethane
dibromochloromethane
dibromodichloromethane

FRCK-006

Kit

NEAT REFERENCE MATERIALS KITS

Haloethanes Kit**Kit - contains fifteen vials:***1 x 100 mg of each compound listed below*

1,1-dichloroethane
 1,2-dichloroethane
 1,1,1-trichloroethane
 1,1,2-trichloroethane
 1,1,1,2-tetrachloroethane
 1,1,2,2-tetrachloroethane
 pentachloroethane
 hexachloroethane
 bromoethane
 1,2-dibromoethane
 1,1,2,2-tetrabromoethane
 1-bromo-1-chloroethane
 1-bromo-2-chloroethane
 1,2-dibromo-1,1-dichloroethane
 1,2-dibromo-1,2-dichloroethane

FRCK-007**Kit****Halopropanes Kit****Kit - contains fourteen vials:***1 x 100 mg of each compound listed below*

1-chloropropane
 2-chloropropane
 1,2-dichloropropane
 1,3-dichloropropane
 1,2,3-trichloropropane
 1,1,1,2-tetrachloropropane
 1,1,2,3-tetrachloropropane
 1,2-dibromo-3-chloropropane
 1,2,2,3-tetrachloropropane
 1-bromopropane
 2-bromopropane
 1,2-dibromopropane
 1,3-dibromopropane
 1-bromo-3-chloropropane

FRCK-002**Kit****Halobutanes Kit****Kit - contains fourteen vials:***1 x 100 mg of each compound listed below*

1-chlorobutane
 2-chlorobutane
 1,3-dichlorobutane
 1,4-dichlorobutane
 2,2-dichlorobutane
 2,3-dichlorobutane
 1-bromobutane
 2-bromobutane
 1,3-dibromobutane
 1,4-dibromobutane
 1,1,2-tribromobutane
 2,2,3-tribromobutane
 1,2,3,4-tetrabromobutane
 1-bromo-4-chlorobutane

FRCK-015**Kit****Haloethenes Kit****Kit - contains six vials:***1 x 100 mg of each compound listed below*

1,1-dichloroethene
 trans-1,2-dichloroethene
 trichloroethene
 tetrachloroethene
 bromoethene
 1,2-dibromoethene

FRCK-008**Kit****Halopropenes Kit****Kit - contains seven vials:***1 x 100 mg of each compound listed below*

3-chloropropene (allyl chloride)
 1,3-dichloro-1-propene
 (cis and trans mix)
 2,3-dichloro-1-propene
 1,1,2,3-tetrachloro-2-propene
 hexachloropropene
 2-bromopropene
 3-bromopropene (allyl bromide)

FRCK-003**Kit****Halobutenes Kit****Kit - contains eight vials:***1 x 100 mg of each compound listed below*

1-chloro-2-butene (crotyl chloride)
 3-chloro-1-butene
 1,2-dichloro-3-butene
 1,3-dichloro-2-butene
 1,4-dichloro-cis-2-butene
 hexachloro-1,3-butadiene
 1-bromo-2-butene (crotyl bromide)
 4-bromo-1-butene

FRCK-005**Kit****Volume discounts for individual solutions**Order 4–19 ampules of the same item and receive a **20% DISCOUNT**Order 20 or more ampules of the same item and receive a **30% DISCOUNT**

NEAT REFERENCE MATERIALS KITS

Polynuclear Aromatic**Hydrocarbons Kit****Kit - contains twenty vials:***1 x 5 mg of each compound listed below*

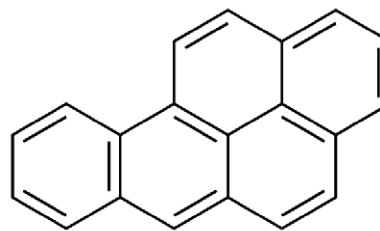
acenaphthene
 anthanthrene
 anthracene
 benz[a]anthracene
 benz[a]anthracene-7,12-dione
 benzo[ghi]perylene
 benzo[a]pyrene
 benzo[e]pyrene
 benzo[f]quinoline
 carbazole
 chrysene
 coronene
 dibenzothiophene
 4H-cyclopenta[def]phenanthrene
 fluoranthene
 naphthalene
 perylene
 phenanthrene
 pyrene
 truxene

FRNH-068**Kit****Chlorophenols Kit****Kit - contains nineteen vials:***1 x 20 mg of each compound listed below*

2-chlorophenol
 3-chlorophenol
 4-chlorophenol
 2,3-dichlorophenol
 2,4-dichlorophenol
 2,5-dichlorophenol
 2,6-dichlorophenol
 3,4-dichlorophenol
 3,5-dichlorophenol
 2,3,4-trichlorophenol
 2,3,5-trichlorophenol
 2,3,6-trichlorophenol
 2,4,5-trichlorophenol
 2,4,6-trichlorophenol
 3,4,5-trichlorophenol
 2,3,4,5-tetrachlorophenol
 2,3,4,6-tetrachlorophenol
 2,3,5,6-tetrachlorophenol
 pentachlorophenol

FRCK-013**Kit****Chlorobenzenes Kit****Kit - contains twelve vials:***1 x 100 mg of each compound listed below*

chlorobenzene
 1,2-dichlorobenzene
 1,3-dichlorobenzene
 1,4-dichlorobenzene
 1,2,3-trichlorobenzene
 1,2,4-trichlorobenzene
 1,3,5-trichlorobenzene
 1,2,3,4-tetrachlorobenzene
 1,2,3,5-tetrachlorobenzene
 1,2,4,5-tetrachlorobenzene
 pentachlorobenzene
 hexachlorobenzene

FRCK-014**Kit****Phthalate Esters Kit****Kit - contains eighteen vials:***1 x 1 gm of each compound listed below*

dimethyl phthalate
 dimethyl isophthalate
 diethyl phthalate
 dibutyl phthalate
 diisobutyl phthalate
 diallyl phthalate
 dimethoxyethyl phthalate
 diisohexyl phthalate
 (esters of branched C6 alcohols)
 dicyclohexyl phthalate
 diphenyl phthalate
 diphenyl isophthalate
 isobutyl cyclohexyl phthalate
 butyl isoocetyl phthalate
 (esters of ranched C8 alcohols)
 diisooctyl phthalate
 (esters of branched C8 alcohols)
 bis(2-ethylhexyl) isophthalate
 diisononyl phthalate
 (esters of branched C9 alcohols)
 diisodecyl phthalate
 (esters of branched C10 alcohols)
 butyl phthalyl butyl glycolate

FRCS-156 Kit**Nitroaromatics and Isophorone Kit****Kit - contains four vials:***1 x 100 mg of each compound listed below*

isophorone
 nitrobenzene
 2,4-dinitrotoluene
 2,6-dinitrotoluene

FRCK-009**Kit**

NEAT REFERENCE MATERIALS KITS

Anilines Kit**Kit - contains eighteen vials:***1 x 100 mg of each compound listed below*

aniline
 2-chloroaniline
 3-chloroaniline
 4-chloroaniline
 3,4-dichloroaniline
 2,4,5-trichloroaniline
 4-bromoaniline
 2-nitroaniline
 3-nitroaniline
 4-nitroaniline
 2,4-dinitroaniline
 2-chloro-4-nitroaniline
 4-chloro-2-nitroaniline
 2,6-dichloro-4-nitroaniline
 2-chloro-4,6-dinitroaniline
 2,6-dibromo-4-nitroaniline
 2-bromo-4,6-dinitroaniline
 2,6-dimethylaniline

FRNH-179**Kit****Nitrosamines Kit****Kit - contains ten vials:***1 x 100 mg of each compound listed below*

N-nitrosodimethylamine
 N-nitrosodiethylamine
 N-nitrosodi-n-propylamine
 N-nitrosodi-n-butylamine
 N-nitrosodiphenylamine
 N-nitrosomorpholine
 N-nitrosopiperidine
 N-nitrosopyrrolidine
 4-nitroso-N,N-diethylaniline
 N,N-dimethyl-4-nitrosoaniline

FRCK-010**Kit****Nitrosamine Solutions Kit****Kit - contains eight ampules:***1 x 1 mL of each individual compound @ 100 µg/mL in Methanol:*

N-nitrosodimethylamine
 N-nitrosodi-n-propylamine
 N-nitrosodiethylamine
 N-nitrosomethylethylamine
 N-nitrosodiphenylamine
 4-nitrosomorpholine
 1-nitrosopiperidine
 1-nitrosopyrrolidine

FRCS-275**Kit****Antioxidant Food Additives Kit****Kit - contains thirteen vials:***1 x 1 gm of each compound listed below*

ascorbic acid
 ascorbyl palmitate
 BHA (2-t-butyl-4-methoxyphenol + 3-t-butyl-4-methoxyphenol)
 BHT (2,6-di-t-butyl-4-methylphenol)
 t-butylhydroquinone
 ethoxyquin (1,2-dihydro-6-ethoxy-2,2,4-triethylquinoline)
 erythorbic acid (isoascorbic acid)
 dilauryl thiodipropionate
 4-hydroxymethyl-2,6-di-t-butyl phenol
 glycine
 propyl gallate
 thiodipropionic acid
 THBP (2,4,5-trihydroxybutyrophenone)

FLPK-007**Kit****Antimicrobial Food Additives Kit****Kit - contains thirteen vials:***1 x 1 gm of each compound listed below*

acetic acid
 benzoic acid
 butyl paraben
 caprylic acid
 ethyl paraben
 methyl paraben
 potassium sorbate
 propionic acid
 propyl paraben
 sodium benzoate
 sodium nitrate
 sodium nitrite
 sorbic acid

FLPK-002**Kit**

LIPID STANDARDS

Compounds of Biochemical Interest

ULTRA Scientific manufactures and stocks a large number of lipids of interest in the analytical laboratory. All of these materials are manufactured under ULTRA's ISO 9001 quality system. A certificate showing the purity of the compound is available for each standard.

Compound classes include:

- ✓ straight-chain fatty acids and methyl esters
- ✓ branched-chain fatty acids and methyl esters
- ✓ unsaturated fatty acids and methyl esters
- ✓ straight-chain fatty alcohols
- ✓ fatty acid and methyl ester kits



WORKING WITH SMALL QUANTITIES

When neat chemical standards are packaged in very small quantities (100 milligrams or less), the volume of chemical contained in the vial is very small compared to the size of the vial. For example, 5 milligrams of a liquid PCB occupies about 4.2 microliters of volume. Thus it is difficult to remove the material from the vial without wasting some of it.

To avoid this problem, ULTRA Scientific uses analytical balances and strict weigh tolerances to dispense these materials. The actual amount of material contained in the vial is never less than the stated value, nor more than 1% higher than the stated value. Thus, the analyst can simply rinse the material out of the vial using an appropriate solvent, and still be assured of the amount dispensed.

ORDERING IS EASY

Online

www.ultrasci.com
ultra@ultrasci.com

Phone

800-338-1754
Monday – Friday
8:30 a.m. - 5:00 p.m. ET

Fax

401-295-2330

Mail

ULTRA Scientific
250 Smith Street
No. Kingstown, RI
02852



LIPIDS

Lipid Standards 99% Pure

Compound	CAS #	Catalog #	Unit Size
acetic acid (ethanoic acid)	64-19-7	FLSA-001	1 gm
acetic acid methyl ester (methyl acetate)	79-20-9	FLSA-016	1 gm
<i>adipic acid</i>	<i>see hexanedioic acid</i>		
<i>arachidic acid</i>	<i>see eicosanoic acid</i>		
arachidonic acid	506-32-1	FLSA-098	100 mg
arachidonic acid methyl ester	2566-89-4	FLSA-107	100 mg
<i>azelaic acid</i>	<i>see nonanedioic acid</i>		
<i>behenic acid</i>	<i>see docosanoic acid</i>		
butanedioic acid (succinic acid)	110-15-6	FLSA-115	1 gm
butanedioic acid dimethyl ester	106-65-0	FLSA-132	1 gm
butanoic acid (butyric acid)	107-92-6	FLSA-002	1 gm
butanoic acid methyl ester	623-42-7	FLSA-017	1 gm
<i>capric acid</i>	<i>see decanoic acid</i>		
<i>caproic acid</i>	<i>see hexanoic acid</i>		
<i>caprylic acid</i>	<i>see octanoic acid</i>		
<i>cerotic acid</i>	<i>see hexacosanoic acid</i>		
decanedioic acid (sebacic acid)	111-20-6	FLSA-121	500 mg
decanedioic acid dimethyl ester	106-79-6	FLSA-138	500 mg
decanoic acid (capric acid)	334-48-5	FLSA-005	1 gm
decanoic acid methyl ester	110-42-9	FLSA-020	1 gm
docosahexaenoic acid (98%)	6217-54-5	FLSA-100	100 mg
docosahexaenoic acid methyl ester	301-01-9	FLSA-109	100 mg
docosanoic acid (behenic acid)	112-85-6	FLSA-011	1 gm
1-docosanol (behenyl alcohol)	661-19-8	FLMS-018	100 mg
dodecanoic acid (lauric acid)	143-07-7	FLSA-006	1 gm
dodecanoic acid methyl ester	111-82-0	FLSA-021	1 gm
11,14-eicosadienoic acid	2091-39-6	FLSA-091	100 mg
11,14-eicosadienoic acid methyl ester	2463-02-7	FLSA-094	100 mg
eicosanoic acid (arachidic acid)	506-30-9	FLSA-010	1 gm
eicosanoic acid methyl ester	1120-28-1	FLSA-025	1 gm
1-eicosanol (arachidyl alcohol)	629-96-9	FLMS-016	500 mg
11,14,17-eicosatrienoic acid	2091-27-2	FLSA-097	100 mg
11,14,17-eicosatrienoic acid methyl ester	55682-88-7	FLSA-106	100 mg
11-eicosenoic acid	5561-99-9	FLSA-072	100 mg
11-eicosenoic acid methyl ester	9/2/2390	FLSA-086	100 mg
elaidic acid	112-79-8	FLSA-066	100 mg
elaidic acid methyl ester	2462-84-2	FLSA-080	100 mg
erucic acid	112-86-7	FLSA-073	100 mg
erucic acid methyl ester	1120-34-9	FLSA-087	100 mg
ethanedioic acid (oxalic acid)	6153-56-6	FLSA-113	1 gm
ethanedioic acid dimethyl ester	553-90-2	FLSA-130	1 gm
<i>ethanoic acid (acetic acid)</i>	<i>see acetic acid</i>		
formic acid (methanoic acid)	64-18-6	FLSA-031	1 gm
formic acid methyl ester (methyl formate)	107-31-3	FLSA-046	1 gm
hendecanoic acid (undecylic acid)	112-37-8	FLSA-036	100 mg
hendecanoic acid methyl ester	1731-86-8	FLSA-051	100 mg
heneicosanoic acid	2363-71-5	FLSA-041	100 mg
heneicosanoic acid methyl ester	6064-90-0	FLSA-056	100 mg
1-heneicosanol	15594-90-8	FLMS-017	100 mg
heptacosanoic acid methyl ester	55682-91-2	FLSA-059	50 mg
1-heptacosanol	2004-39-9	FLMS-023	50 mg
heptadecanoic acid (margaric acid)	506-12-7	FLSA-039	100 mg

Lipid Standards 99% Pure

Compound	CAS #	Catalog #	Unit Size
heptadecanoic acid methyl ester	1731-92-6	FLSA-054	100 mg
1-heptadecanol	1454-85-9	FLMS-013	100 mg
heptanedioic acid (<i>pimelic acid</i>)	111-16-0	FLSA-118	1 gm
heptanedioic acid dimethyl ester	1732-08-7	FLSA-135	1 gm
heptanoic acid (<i>heptylic acid</i>)	111-14-8	FLSA-034	100 mg
heptanoic acid methyl ester	106-73-0	FLSA-049	100 mg
<i>heptylic acid</i>	<i>see heptanoic acid</i>		
hexacosanoic acid (<i>cerotic acid</i>)	506-46-7	FLSA-013	100 mg
hexacosanoic acid methyl ester	5802-82-4	FLSA-028	100 mg
1-hexacosanol (<i>cerotyl alcohol</i>)	506-52-5	FLMS-022	50 mg
hexadecanoic acid (<i>palmitic acid</i>)	57-10-3	FLSA-008	1 gm
hexadecanoic acid methyl ester	112-39-0	FLSA-023	1 gm
1-hexadecanol (<i>cetyl alcohol</i>)	36653-82-4	FLMS-012	1 gm
hexanedioic acid (<i>adipic acid</i>)	124-04-9	FLSA-117	1 gm
hexanedioic acid dimethyl ester	627-93-0	FLSA-134	1 gm
hexanoic acid (<i>caproic acid</i>)	142-62-1	FLSA-003	1 gm
hexanoic acid methyl ester	106-70-7	FLSA-018	1 gm
<i>isoarachidic acid</i>	<i>see 18-methylnonadecanoic acid</i>		
<i>isocaproic acid</i>	<i>see 8-methylnonanoic acid</i>		
<i>isocaproic acid</i>	<i>see 4-methylpentanoic acid</i>		
<i>isocaprylic acid</i>	<i>see 6-methylheptanoic acid</i>		
<i>isolauric acid</i>	<i>see 10-methylhendecanoic acid</i>		
<i>isopalmitic acid</i>	<i>see 14-methylpentadecanoic acid</i>		
<i>isostearic acid</i>	<i>see 16-methylheptadecanoic acid</i>		
<i>lauric acid</i>	<i>see dodecanoic acid</i>		
<i>lignoceric acid</i>	<i>see tetracosanoic acid</i>		
linoleic acid	60-33-3	FLSA-089	100 mg
linoleic acid methyl ester	112-63-0	FLSA-092	100 mg
linolelaidic acid	506-21-8	FLSA-090	100 mg
linolelaidic acid methyl ester	2566-97-4	FLSA-093	100 mg
linolenic acid	463-40-1	FLSA-095	100 mg
linolenic acid methyl ester	301-00-8	FLSA-104	100 mg
γ -linolenic acid	506-26-3	FLSA-096	100 mg
γ -linolenic acid methyl ester	16326-32-2	FLSA-105	100 mg
homo γ -linolenic acid	1783-84-2	FLSA-147	100 mg
homo γ -linolenic acid methyl ester	21061-10-9	FLSA-148	100 mg
<i>malonic acid</i>	<i>see propanedioic acid</i>		
<i>margaric acid</i>	<i>see heptadecanoic acid</i>		
<i>mellisic acid</i>	<i>see triacontanoic acid</i>		
<i>methanoic acid</i>	<i>see formic acid</i>		
<i>methyl acetate</i>	<i>see acetic acid methyl ester</i>		
2-methylbutanoic acid (<i>anteisovaleric acid</i>)	116-53-0	FLBA-021	50 mg
2-methylbutanoic acid methyl ester	868-57-5	FLBA-030	50 mg
18-methyleicosanoic acid methyl ester	-	FLBA-038	25 mg
10-methylhendecanoic acid (<i>isolauric acid</i>)	2724-56-3	FLBA-004	50 mg
10-methylhendecanoic acid methyl ester	-	FLBA-014	50 mg
16-methylheptadecanoic acid (<i>isostearic acid</i>)	2724-58-5	FLBA-007	10 mg
16-methylheptadecanoic acid methyl ester	5129-61-3	FLBA-017	10 mg
6-methylheptanoic acid (<i>isocaprylic acid</i>)	929-10-2	FLBA-002	50 mg
6-methylheptanoic acid methyl ester	-	FLBA-012	50 mg
14-methylhexadecanoic acid (<i>anteisomargaric acid</i>)	5918-29-6	FLBA-027	10 mg
14-methylhexadecanoic acid methyl ester	2490-49-5	FLBA-036	10 mg

LIPIDS

Lipid Standards 99% Pure

Compound	CAS #	Catalog #	Unit Size
4-methylhexanoic acid (<i>anteisoheptylic acid</i>)	-	FLBA-022	50 mg
4-methylhexanoic acid methyl ester	-	FLBA-031	50 mg
18-methylnonadecanoic acid (<i>isoarachidic acid</i>)	6250-72-2	FLBA-008	25 mg
18-methylnonadecanoic acid methyl ester	65301-91-9	FLBA-018	25 mg
8-methylnonanoic acid (<i>isocapric acid</i>)	5963-14-4	FLBA-003	50 mg
8-methylnonanoic acid methyl ester	-	FLBA-013	50 mg
16-methyloctadecanoic acid (<i>anteisononadecylic acid</i>)	-	FLBA-028	25 mg
14-methylpentadecanoic acid (<i>isopalmitic acid</i>)	4669-02-7	FLBA-006	10 mg
14-methylpentadecanoic acid methyl ester	5129-60-2	FLBA-016	10 mg
4-methylpentanoic acid (<i>isocaproic acid</i>)	646-07-1	FLBA-001	50 mg
4-methylpentanoic acid methyl ester	2412-80-8	FLBA-011	50 mg
<i>methyl phytanate</i>	<i>see phytanic acid methyl ester</i>		
12-methyltetradecanoic acid (<i>anteisopentadecylic acid</i>)	5502-94-3	FLBA-026	10 mg
12-methyltetradecanoic acid methyl ester	-	FLBA-035	10 mg
12-methyltridecanoic acid methyl ester	5129-58-8	FLBA-015	10 mg
<i>montanic acid</i>	<i>see octacosanoic acid</i>		
<i>myristic acid</i>	<i>see tetradecanoic acid</i>		
myristoleic acid	544-64-9	FLSA-062	100 mg
myristoleic acid methyl ester	124-10-7	FLSA-076	100 mg
nervonic acid	506-37-6	FLSA-074	100 mg
nervonic acid methyl ester	2733-88-2	FLSA-088	100 mg
nonadecanoic acid (<i>nonadecylic acid</i>)	646-30-0	FLSA-040	100 mg
nonadecanoic acid methyl ester	1731-94-8	FLSA-055	100 mg
1-nonadecanol	1454-84-8	FLMS-015	100 mg
<i>nonadecylic acid</i>	<i>see nonadecanoic acid</i>		
nonanedioic acid (<i>azelaic acid</i>)	123-99-9	FLSA-120	500 mg
nonanedioic acid dimethyl ester	1732-10-1	FLSA-137	500 mg
nonanoic acid (<i>pelargonic acid</i>)	112-05-0	FLSA-035	100 mg
nonanoic acid methyl ester	1731-84-6	FLSA-050	100 mg
octacosanoic acid (<i>montanic acid</i>)	506-48-9	FLSA-014	100 mg
octacosanoic acid methyl ester	55682-92-3	FLSA-029	100 mg
1-octacosanol (<i>montanyl alcohol</i>)	557-61-9	FLMS-024	50 mg
octadecanedioic acid	871-70-5	FLSA-127	50 mg
octadecanedioic acid dimethyl ester	1472-93-1	FLSA-144	50 mg
octadecanoic acid (<i>stearic acid</i>)	57-11-4	FLSA-009	1 gm
octadecanoic acid methyl ester	112-61-8	FLSA-024	1 gm
1-octadecanol (<i>stearyl alcohol</i>)	112-92-5	FLMS-014	1 gm
<i>cis</i> -11-octadecenoic acid	506-17-2	FLSA-067	100 mg
<i>cis</i> -11-octadecenoic acid methyl ester	1937-63-9	FLSA-081	100 mg
<i>trans</i> -11-octadecenoic acid (<i>vaccenic acid</i>)	693-72-1	FLSA-068	100 mg
<i>trans</i> -11-octadecenoic acid methyl ester	6198-58-9	FLSA-082	100 mg
octanedioic acid (<i>suberic acid</i>)	505-48-6	FLSA-119	500 mg
octanedioic acid dimethyl ester	1732-09-8	FLSA-136	500 mg
octanoic acid (<i>caprylic acid</i>)	124-07-2	FLSA-004	1 gm
octanoic acid methyl ester	111-11-5	FLSA-019	1 gm
oleic acid	112-80-1	FLSA-065	100 mg
oleic acid methyl ester	112-62-9	FLSA-079	100 mg
<i>oxalic acid</i>	<i>see ethanedioic acid</i>		
palmitelaidic acid	10030-73-6	FLSA-064	100 mg
palmitelaidic acid methyl ester	10030-74-7	FLSA-078	100 mg
<i>palmitic acid</i>	<i>see hexadecanoic acid</i>		
palmitoleic acid	373-49-9	FLSA-063	100 mg

Lipid Standards 99% Pure

Compound	CAS #	Catalog #	Unit Size
palmitoleic acid methyl ester	1120-25-8	FLSA-077	100 mg
<i>pelargonic acid</i>	<i>see nonanoic acid</i>		
pentacosanoic acid methyl ester	55373-89-2	FLSA-058	50 mg
1-pentacosanol	26040-98-2	FLMS-021	50 mg
pentadecanoic acid (<i>pentadecylic acid</i>)	1002-84-2	FLSA-038	100 mg
pentadecanoic acid methyl ester	7132-64-1	FLSA-053	100 mg
<i>pentadecylic acid</i>	<i>see pentadecanoic acid</i>		
pentanoic acid (<i>valeric acid</i>)	109-52-4	FLSA-033	100 mg
pentanoic acid methyl ester	624-24-8	FLSA-048	100 mg
petroselinic acid	593-39-5	FLSA-071	100 mg
petroselinic acid methyl ester	2777-58-4	FLSA-085	100 mg
phytanic acid (<i>3,7,11,15-tetramethylhexadecanoic acid</i>)	14721-66-5	FLBA-042	25 mg
phytanic acid methyl ester (<i>methyl phytanate</i>)	1118-77-0	FLBA-043	25 mg
phytol (<i>3,7,11,15-tetramethyl-2-hexadecen-1-ol</i>) (tech)	7541-49-3	FLMS-035	1 gm
<i>pimelic acid</i>	<i>see heptanedioic acid</i>		
propanedioic acid (<i>malonic acid</i>)	141-82-2	FLSA-114	1 gm
propanedioic acid dimethyl ester	108-59-8	FLSA-131	1 gm
propanoic acid (<i>propionic acid</i>)	79-09-4	FLSA-032	1 gm
propanoic acid methyl ester	554-12-1	FLSA-047	1 gm
ricinelaiddic acid methyl ester	7706-01-6	FLSA-084	100 mg
ricinoleic acid	141-22-0	FLSA-069	100 mg
ricinoleic acid methyl ester	141-24-2	FLSA-083	100 mg
<i>sebacic acid</i>	<i>see decanedioic acid</i>		
<i>stearic acid</i>	<i>see octadecanoic acid</i>		
<i>suberic acid</i>	<i>see octanedioic acid</i>		
<i>succinic acid</i>	<i>see butanedioic acid</i>		
tetracosanoic acid (<i>lignoceric acid</i>)	557-59-5	FLSA-012	100 mg
tetracosanoic acid methyl ester	2442-49-1	FLSA-027	100 mg
1-tetracosanol (<i>lignoceryl alcohol</i>)	506-51-4	FLMS-020	50 mg
tetradecanedioic acid	821-38-5	FLSA-125	100 mg
tetradecanedioic acid dimethyl ester	5024-21-5	FLSA-142	100 mg
tetradecanoic acid (<i>myristic acid</i>)	544-63-8	FLSA-007	1 gm
tetradecanoic acid methyl ester	124-10-7	FLSA-022	1 gm
1-tetradecanol (<i>myristyl alcohol</i>)	112-72-1	FLMS-010	1 gm
<i>3,7,11,15-tetramethylhexadecanoic acid</i>	<i>see phytanic acid</i>		
<i>3,7,11,15-tetramethyl-2-hexadecen-1-ol</i>	<i>see phytol</i>		
triacontanoic acid (<i>mellisic acid</i>)	506-50-3	FLSA-015	100 mg
triacontanoic acid methyl ester	629-83-4	FLSA-030	100 mg
1-triacontanol (<i>melissyl alcohol</i>)	593-50-0	FLMS-026	50 mg
tricosanoic acid methyl ester	2433-97-8	FLSA-057	100 mg
1-tricosanol	3133-01-5	FLMS-019	100 mg
tridecanoic acid (<i>tridecylic acid</i>)	638-53-9	FLSA-037	100 mg
tridecanoic acid methyl ester	1731-88-0	FLSA-052	100 mg
<i>tridecylic acid</i>	<i>see tridecanoic acid</i>		
<i>undecylic acid</i>	<i>see hendecanoic acid</i>		
<i>vaccenic acid</i>	<i>see trans-11-octadecenoic acid</i>		
<i>valeric acid</i>	<i>see pentanoic acid</i>		

LIPID KITS

Even Carbon Straight Chain Fatty Acids and Methyl Esters Kit

Kit - contains twenty vials:

1 x 100 mg of each compound listed below

	Fatty Acids	Methyl Esters
C ₆	caproic acid	methyl caproate
C ₈	caprylic acid	methyl caprylate
C ₁₀	capric acid	methyl caprate
C ₁₂	lauric acid	methyl laurate
C ₁₄	myristic acid	methyl myristate
C ₁₆	palmitic acid	methyl palmitate
C ₁₈	stearic acid	methyl stearate
C ₂₀	arachidic acid	methyl arachidate
C ₂₂	behenic acid	methyl behenate
C ₂₄	lignoceric acid (25 mg)	methyl lignocerate (25 mg)

FLPK-004

Kit

Odd Carbon Straight Chain Fatty Acids And Methyl Esters Kit

Kit - contains sixteen vials:

1 x 25 mg of each compound listed below

	Fatty Acids	Methyl Esters
C ₉	nonanoic acid	methyl nonanoate
C ₁₁	undecanoic acid	methyl undecanoate
C ₁₃	tridecanoic acid	methyl tridecanoate
C ₁₅	pentadecanoic acid	methyl pentadecanoate
C ₁₇	heptadecanoic acid	methyl heptadecanoate
C ₁₉	nonadecanoic acid	methyl nonadecanoate
C ₂₁	heneicosanoic acid	methyl heneicosanoate
C ₂₃	tricosanoic acid	methyl tricosanoate

FLPK-003

Kit

Volatile Fatty Acids Kit

Kit - contains eleven vials:

1 x 1 gm of each compound listed below

C ₁	formic acid	(methanoic acid)
C ₂	acetic acid	(ethanoic acid)
C ₃	propionic acid	(propanoic acid)
C ₄	butyric acid	(butanoic acid)
C ₄	isobutyric acid	
C ₅	valeric acid	(pentanoic acid)
C ₅	isovaleric acid	
C ₆	caproic acid	(hexanoic acid)
C ₇	heptylic acid	(heptanoic acid)
C ₈	caprylic acid	(octanoic acid)

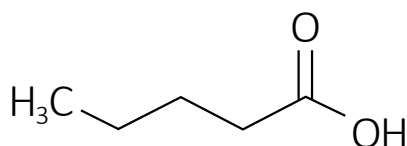
plus

1 x 5 mL ampule of

0.1% C₁ -C₅ Acids Test Solution in H₂O

FLPK-005

Kit



Unsaturated Fatty Acids and Methyl Esters Kit

Kit - contains twenty vials:

1 x 25 mg of each compound listed below

Fatty Acids

C ₁₄ ¹⁼	<i>cis</i> -9-tetradecenoic acid (<i>myristoleic acid</i>)
C ₁₆ ¹⁼	<i>cis</i> -9-hexadecenoic acid (<i>palmitoleic acid</i>)
C ₁₆ ¹⁼	<i>trans</i> -9-hexadecenoic acid (<i>palmitelaidic acid</i>)
C ₁₈ ¹⁼	<i>cis</i> -9-octadecenoic acid (<i>oleic acid</i>)
C ₁₈ ¹⁼	<i>trans</i> -9-octadecenoic acid (<i>elaidic acid</i>)
C ₁₈ ²⁼	<i>cis</i> -9- <i>cis</i> -12-octadecadienoic acid (<i>linoleic acid</i>)
C ₁₈ ²⁼	<i>trans</i> -9- <i>trans</i> -12-octadecadienoic acid (<i>linolelaidic acid</i>)
C ₁₈ ³⁼	<i>cis</i> -9- <i>cis</i> -12- <i>cis</i> -15-octadecatrienoic acid (<i>linolenic acid</i>)
C ₂₀ ¹⁼	<i>cis</i> -11-eicosenoic acid (<i>gondonic acid</i>)
C ₂₂ ¹⁼	<i>cis</i> -13-docosenoic acid (<i>erucic acid</i>)

Methyl Esters

C ₁₄ ¹⁼	methyl <i>cis</i> -9-tetradecenoate (<i>methyl myristoleate</i>)
C ₁₆ ¹⁼	methyl <i>cis</i> -9-hexadecenoate (<i>methyl palmitoleate</i>)
C ₁₆ ¹⁼	methyl <i>trans</i> -9-hexadecenoate (<i>methyl palmitelaidate</i>)
C ₁₈ ¹⁼	methyl <i>cis</i> -9-octadecenoate (<i>methyl oleate</i>)
C ₁₈ ¹⁼	methyl <i>trans</i> -9-octadecenoate (<i>methyl elaidate</i>)
C ₁₈ ²⁼	methyl <i>cis</i> -9- <i>cis</i> -12-octadecadienoate (<i>methyl linoleate</i>)
C ₁₈ ²⁼	methyl <i>trans</i> -9- <i>cis</i> -12-octadecadienoate (<i>methyl linolelaidate</i>)
C ₁₈ ³⁼	methyl <i>cis</i> -9- <i>cis</i> -12- <i>cis</i> -15-octadecatrienoate (<i>methyl linolenate</i>)
C ₂₀ ¹⁼	methyl <i>cis</i> -11-eicosenoate (<i>methyl gondonate</i>)
C ₂₂ ¹⁼	methyl <i>cis</i> -13-docosenoate (<i>methyl erucate</i>)

FLPK-001

Kit

HYDROCARBONS AND TERPENES

ULTRAKITS®

Kits for Qualitative Measurements

Each ULTRAKIT contains 2 mL each of twenty different standards in a convenient plastic box. Solid compounds are dissolved in an appropriate solvent. All standards are packaged in screw-capped vials, and are 98+% pure. These kits are manufactured under ULTRA's ISO 9001 quality system. However, no certificates of analysis are available.



Hydrocarbons #1

n-hexane
n-heptane
n-octane
n-nonane
n-decane
n-undecane
n-dodecane
n-tetradecane
n-hexadecane
n-octadecane †
hexene-1
heptene-1
octene-1
nonene-1
decene-1
undecene-1
dodecene-1
tetradecene-1
hexadecene-1
octadecene-1

† @ 10% w/v in chloroform

WRK-100 Kit

Hydrocarbons #2

(Wax Range)

Hexadecane
heptadecane
octadecane
nonadecane
pristane
eicosane
heneicosane
docosane
tricosane
tetracosane
pentacosane
hexacosane
octacosane
triacontane
squalane
dotriacontane
tetratriacontane
hexatriacontane
octatriacontane
tetracontane

† @ 1% w/v in tetradecane

WRK-101 Kit

Hydrocarbons #3

(Gasoline Range)

n-hexane
n-heptane
n-octane
isooctane
n-nonane
cyclopentane
methylcyclopentane
cyclohexane
methylcyclohexane
dimethylcyclohexane
hexene-1
heptene-1
octene-1
diisobutylene
nonene-1
benzene
toluene
xylenes (mixed)
cumene
mesitylene

WRK-102 Kit

Hydrocarbons #4

(Branched Chain)

2-methylpentane
3-methylpentane
2,2-dimethylbutane
2,3-dimethylbutane
3-methylhexane
2,3-dimethylpentane
2,4-dimethylpentane
2,2,4-trimethylpentane
2,3,4-trimethylpentane
3-methylpentadiene-1,3
2-methylpentene-1
4-methylpentene-2
4-methylpentene-1
2-ethylhexene-1
2-methylheptene-3
2,4,4-trimethylpentene-1
2,4,4-trimethylpentene-2
3,5,5-trimethylhexene-1
2,5-dimethylhexadiene-2,4

WRK-103 Kit

Hydrocarbons #5

(Cyclic Hydrocarbons)

cyclopentane
methylcyclopentane
cyclopentene
cyclohexane
methylcyclohexane
1,2-dimethylcyclohexane
1,4-dimethylcyclohexane
ethylcyclohexane
isopropylcyclohexane
phenylcyclohexane
cyclohexene
4-methylcyclohexene
4-vinylcyclohexene
cycloheptane
cycloheptene
cyclooctane
cyclooctene
1,5-cyclooctadiene
1,3-cyclooctadiene
dicyclopentadiene

WRK-104 Kit

Terpenes

a-pinene †
b-pinene †
fenchone †
geraniol †
a-terpinene †
g-terpinene †
camphene †
linalool †
d-limonene †
citral †
myrcene ‡
a-terpineol †
citronellol †
dl-menthol †
1-borneol †
2-piperidone †
dihydrocarveol †
1-isopulegol †
pulegone †

† 2% w/v in ethanol

‡ 2% w/v in chloroform

WRK-105 Kit

AROMATICS, INDUSTRIAL CHEMICALS, AND SOLVENTS

Aromatics #1

benzene
toluene
o-xylene
m-xylene
p-xylene
ethylbenzene
propylbenzene
cumene
butylbenzene
isobutylbenzene
sec-butylbenzene
tert-butylbenzene
p-cymene
1,2,4-trimethylbenzene
mesitylene
p-diisopropylbenzene
1,2,4,5-tetramethylbenzene †
styrene
a-methylstyrene
b-methylstyrene

† @ 2% w/v in p-xylene

WRK-110 **Kit**

Aromatics #2

benzene
toluene
o-xylene
m-xylene
p-xylene
biphenyl †
bibenzyl †
diphenylmethane †
naphthalene †
1-methylnaphthalene †
2-methylnaphthalene †
indane
indene
anthracene ‡
pyrene †
tetralin
decalin
fluorene †
1,2-dimethylnaphthalene †
phenanthrene †

† @ 2% w/v in p-xylene

‡ @ 1% w/v in p-xylene

WRK-111 **Kit**

Aromatics #3

(Polycyclic Aromatics)

acenaphthylene †
acenaphthene †
anthracene †
azulene †
1,2-benzanthracene †
2,3-benzofluorene †
chrysene ‡
benzo[a]pyrene †
9,10-dimethylantracene †
1,2-dimethylnaphthalene †
fluoranthene †
fluorene †
2-methylantracene †
naphthalene †
perylene ‡
phenanthrene †
pyrene †
cis-stilbene †
trans-stilbene †

† @ 1% w/v in toluene

‡ @ 0.5% w/v in chloroform

WRK-112 **Kit**

Chemical Solvents

acetone
benzene
carbon tetrachloride
dimethyl formamide
dimethyl sulfoxide
ethyl acetate
furfural
gasoline
isooctane
isopropyl alcohol
kerosene
methanol
methyl ethyl ketone
naphtha
nitrobenzene
tetrahydrofuran
toluene
trichloroethylene
turpentine
xylenes (mixed)

WRK-310 **Kit**

Industrial Chemicals #1

acetic acid
acetic anhydride
aniline
benzoic acid †
butyl alcohol
dioctyl phthalate
ethanolamine
ethylene glycol
furfural
furnace oil
isopropyl alcohol
ethyl alcohol
methanol
methyl ethyl ketone
naphthalene †
1-methylnaphthalene
o-cresol †
m-cresol †
p-cresol †
phenol †

† @ 2% w/v in p-xylene

WRK-300 **Kit**

Industrial Chemicals #2

acetonitrile
adipic acid †
acrylonitrile
chlorobenzene
1,2,4-trichlorobenzene ‡
butyl acetate
hexachlorobenzene ‡
benzaldehyde
chloroform
citric acid †
hexachloroethane ‡
2-chlorophenol ‡
formaldehyde
bromoform
EDTA §
2-nitrophenol †
4-nitrophenol †
salicylic acid †
oxalic acid †

† @ 2% w/v in ethanol

‡ @ 2% w/v in chloroform

§ @ 2% w/v in water

WRK-301 **Kit**

ACIDS AND ESTERS

ULTRAKITS®

Kits for Qualitative Measurements

Each ULTRAKIT contains 2 mL each of twenty different standards in a convenient plastic box. Solid compounds are dissolved in an appropriate solvent. All standards are packaged in screw-capped vials, and are 98+% pure. These kits are manufactured under ULTRA's ISO 9001 quality system. However, no certificates of analysis are available.

Acids #1

acetic acid
 propanoic acid
 butanoic acid
 2-methylpropanoic acid
 pentanoic acid
 3-methylbutanoic acid
 hexanoic acid
 heptanoic acid
 octanoic acid
 nonanoic acid
 decanoic acid †
 undecanoic acid †
 dodecanoic acid †
 tridecanoic acid †
 tetradecanoic acid †
 pentadecanoic acid †
 hexadecanoic acid †
 heptadecanoic acid †
 octadecanoic acid †
 eicosanoic acid ‡

† @ 10% w/v in chloroform

‡ @ 1% w/v in chloroform

WRK-140 Kit

Acids #2

(Dibasic)

oxalic acid †
 malonic acid †
 succinic acid †
 glutaric acid †
 adipic acid †
 pimelic acid †
 suberic acid †
 azelaic acid †
 sebacic acid †
 maleic acid †
 fumaric acid †
 phthalic acid †
 isophthalic acid †
 terephthalic acid ‡
 itaconic acid ‡
 dodecanedioic acid ‡
 tetradecanedioic acid ‡
 hexadecanedioic acid ‡
 tartaric acid ‡
 citraconic acid ‡

† @ 2% w/v in DMF

‡ @ 1% w/v in DMF

WRK-141 Kit

Acids #3

(Aromatic)

benzoic acid
 o-toluic acid
 m-toluic acid
 p-toluic acid
 o-chlorobenzoic acid
 m-chlorobenzoic acid
 p-chlorobenzoic acid
 o-nitrobenzoic acid
 m-nitrobenzoic acid
 p-nitrobenzoic acid
 o-hydroxybenzoic acid
 m-hydroxybenzoic acid
 p-hydroxybenzoic acid
 o-methoxybenzoic acid
 m-methoxybenzoic acid
 p-methoxybenzoic acid
 o-aminobenzoic acid
 m-aminobenzoic acid
 p-aminobenzoic acid
 3,4,5-trihydroxybenzoic acid

All @ 2% w/v in methanol

WRK-142 Kit

Esters #1

methyl acetate
 methyl propanoate
 methyl butanoate
 methyl pentanoate
 methyl hexanoate
 methyl heptanoate
 methyl octanoate
 methyl nonanoate †
 methyl decanoate †
 methyl dodecanoate †
 methyl tetradecanoate †
 methyl hexadecanoate †
 ethyl acetate
 ethyl butanoate
 ethyl hexanoate
 ethyl octanoate
 ethyl decanoate †
 ethyl dodecanoate †
 propyl acetate
 propyl butanoate

† @ 2% w/v in chloroform

WRK-130 Kit

Esters #2

methyl nonanoate
 methyl decanoate
 methyl undecanoate
 methyl dodecanoate
 methyl tridecanoate
 methyl tetradecanoate
 methyl pentadecanoate
 methyl hexadecanoate
 methyl heptadecanoate
 methyl octadecanoate
 ethyl nonanoate
 ethyl decanoate
 ethyl undecanoate
 ethyl dodecanoate
 ethyl tridecanoate
 ethyl tetradecanoate
 ethyl pentadecanoate
 ethyl hexadecanoate
 ethyl heptadecanoate
 ethyl octadecanoate

All @ 2% w/v in chloroform

WRK-131 Kit

Esters #3

(Dibasic)

dimethyl oxalate
 dimethyl malonate
 dimethyl succinate
 dimethyl glutarate
 dimethyl adipate
 dimethyl pimelate
 dimethyl suberate
 dimethyl azelate
 dimethyl sebacate
 diethyl oxalate
 diethyl malonate
 diethyl succinate
 diethyl glutarate
 diethyl adipate
 diethyl pimelate
 diethyl suberate
 diethyl azelate
 diethyl sebacate
 diethyl fumarate
 diethyl maleate

All @ 2% w/v in chloroform

WRK-132 Kit

ALCOHOLS, ALDEHYDES, KETONES, AND ETHERS

Aldehydes & Ketones

propanal
 butanal
 2-methylpropanal
 methacrolein
 pentanal
 2-methylbutanal
 hexanal
 heptanal
 octanal
 2-butanone
 2-pentanone
 3-pentanone
 2-hexanone
 cyclohexanone
 4-methyl-2-pentanone
 mesityl oxide
 2-heptanone
 3-heptanone
 2-octanone
 cyclopentanone

WRK-150 **Kit**

Aldehydes

formaldehyde
 acetaldehyde
 propanal
 acrolein
 butanal
 methacrolein
 2-methylpropanal
 2-methylbutanal
 pentanal
 hexanal
 2-methylpentanal
 heptanal
 octanal
 nonanal
 decanal
 undecanal †
 dodecanal †
 tridecanal †
 tetradecanal †

† @ 2% w/v in chloroform

WRK-151 **Kit**

Ketones

acetone
 2-butanone
 3-methyl-2-butanone
 2-pentanone
 3-pentanone
 2-hexanone
 3-methyl-2-pentanone
 4-methyl-2-pentanone
 3-hexanone
 2-heptanone
 3-heptanone
 2-methyl-3-hexanone
 5-methyl-2-hexanone
 2-octanone
 2-nonanone
 2-decanone
 2-undecanone
 2-dodecanone
 2-tridecanone

WRK-155 **Kit**

Alcohols #1

methanol
 ethanol
 propanol
 isopropanol
 1-butanol
 2-methylpropanol
 sec-butanol
 tert-butanol
 1-pentanol
 2-pentanol
 3-pentanol
 1-hexanol
 3-hexanol
 1-heptanol
 4-heptanol
 1-octanol
 1-decanol
 1-dodecanol †
 1-tetradecanol †
 1-hexadecanol †

† @ 2% w/v in chloroform

WRK-120 **Kit**

Alcohols #2

allyl alcohol
 methallyl alcohol
 1-decanol
 1-undecanol †
 1-dodecanol †
 1-tridecanol †
 1-tetradecanol †
 1-pentadecanol †
 1-hexadecanol †
 cyclopentanol
 cyclohexanol
 2-methylcyclohexanol
 3-methylcyclohexanol
 4-methylcyclohexanol
 2-ethyl-1-butanol
 2-ethyl-1-hexanol
 phenylmethanol
 1-phenylethanol
 2-phenylethanol
 3-phenyl-1-propanol

† @ 2% w/v in chloroform

WRK-121 **Kit**

Polyols & Ethers

1,2-propanediol
 1,3-propanediol
 1,3-butanediol
 2,3-butanediol
 1,4-butanediol
 1,5-pentanediol
 1,6-hexanediol †
 1,7-heptanediol †
 1,8-octanediol †
 1,9-nonanediol †
 1,10-decanediol †
 ethylene glycol
 dipropylene glycol
 glycerol
 diethylene glycol monomethyl ether
 diethylene glycol monoethyl ether
 diethylene glycol monobutyl ether
 ethylene glycol monomethyl ether
 ethylene glycol monoethyl ether
 ethylene glycol monobutyl ether

† @ 2% w/v in ethanol

WRK-190 **Kit**

CHLORINATED HYDROCARBONS AND MIXED FUNCTIONALITY

ULTRAKITS®

Kits for Qualitative Measurements

Each ULTRAKit contains 2 mL each of twenty different standards in a convenient plastic box. Solid compounds are dissolved in an appropriate solvent. All standards are packaged in screw-capped vials, and are 98+% pure. These kits are manufactured under ULTRA's ISO 9001 quality system. However, no certificates of analysis are available.



Chlorinated Hydrocarbons #1

1-chlorobutane
2-chlorobutane
1-chloropentane
2-chloropentane
1-chlorohexane
1-chloroheptane
1-chlorooctane
1-chlorononane
1-chlorodecane
1,3-dichloropropane
1,4-dichlorobutane
1,5-dichloropentane
1,2,3-trichloropropane
chlorobenzene
o-chlorotoluene
m-chlorotoluene
p-chlorotoluene
o-dichlorobenzene
m-dichlorobenzene
p-dichlorobenzene †

† @ 2% w/v in p-xylene

WRK-160 Kit

Chlorinated Hydrocarbons #2

chloroform
carbon tetrachloride
methylene chloride
trans-1,2-dichloroethylene
cis-1,2-dichloroethylene
1,2-dichloroethane
1,1,2-trichloroethane
1,1,2,2-tetrachloroethane
1,1,2,2-tetrachloroethylene
allyl chloride
chlorobenzene
o-dichlorobenzene
p-dichlorobenzene †
m-dichlorobenzene
1-chloronaphthalene
o-chlorophenol †
m-chlorophenol †
p-chlorophenol †
4-chlorostyrene
2-chloroethanol

† @ 1% w/v in p-xylene

WRK-161 Kit

Mixed Functionality #1

(C6 and C7)

hexane
1-hexene
1-hexanol
hexanal
2-hexanone
hexanoic acid
methyl hexanoate
1-chlorohexane
hexylamine
benzene
heptane
1-heptene
1-heptanol
heptanal
2-heptanone
heptanoic acid
methyl heptanoate
1-chloroheptane
heptylamine
toluene

WRK-203 Kit

Mixed Functionality #2

(C8 and C9)

octane
1-octene
1-octanol
octanal
2-octanone
octanoic acid
methyl octanoate
1-chlorooctane
octylamine
ethylbenzene
nonane
1-nonene
1-nonanol
nonanal
2-nonanone
nonanoic acid
methyl nonanoate
1-chlorononane
nonylamine
propylbenzene

WRK-204 Kit

Mixed Functionality #3

(C10 and C11)

decane
1-decene
1-decanol
decanal
2-decanone
decanoic acid
methyl decanoate
1-chlorodecane
decylamine
butylbenzene
undecane
1-undecene
1-undecanol
undecanal
2-undecanone
undecanoic acid
methyl undecanoate
1-chloroundecane
undecylamine
amylbenzene

WRK-205 Kit

PHTHALATES, PHENOLS, AMINES, AND AMINO ACIDS

Phthalate Esters #1

dimethyl isophthalate
 dimethyl phthalate
 diethyl phthalate
 dibutyl phthalate
 diisobutyl phthalate
 diamyl phthalate
 dihexyl phthalate
 diisohexyl phthalate
 dicyclohexyl phthalate
 di-n-octyl phthalate
 dioctyl isophthalate
 dinonyl phthalate
 diisononyl phthalate
 didecyl phthalate
 diisodecyl phthalate
 diundecyl phthalate
 didodecyl phthalate
 ditridecyl phthalate
 diphenyl phthalate
 diphenyl isophthalate

All @ 1% w/v in chloroform

WRK-143**Kit**

Phenols

phenol
 o-cresol
 m-cresol
 p-cresol
 2,3-xyleneol
 2,4-xyleneol
 2,5-xyleneol
 2,6-xyleneol
 3,4-xyleneol
 3,5-xyleneol
 o-ethylphenol
 m-ethylphenol
 p-ethylphenol
 2-isopropylphenol
 2-n-propylphenol
 2,3,5-trimethylphenol
 2,4,6-trimethylphenol
 4-tert-butylphenol
 1-naphthol
 2-naphthol

All @ 2% w/v in p-xylene

WRK-170**Kit**

Amines

(Aliphatic Amines)

n-butylamine
 isobutylamine
 sec-butylamine
 tert-butylamine
 pentylamine
 isopentylamine
 hexylamine
 heptylamine
 octylamine
 nonylamine
 decylamine
 hexadecylamine †
 cyclohexylamine
 diisopropylamine
 dibutylamine
 dipentylamine
 dihexylamine
 dicyclohexylamine
 triethylamine
 tributylamine

† @ 2% w/v in ethanol

WRK-180**Kit**

Amines

(Aromatic Amines)

benzylamine
 piperidine
 aniline
 dibenzylamine
 tribenzylamine †
 N-methylaniline
 N-ethylaniline
 2,4-dimethylaniline
 N,N-dimethylaniline
 N,N-diethylaniline
 o-toluidine
 m-toluidine
 p-toluidine †
 1-naphthylamine †
 o-phenylenediamine †
 m-phenylenediamine †
 p-phenylenediamine †
 2-methylpiperidine
 a-phenylethylamine
 b-phenylethylamine

† @ 2% w/v in ethanol

WRK-181**Kit**

Amino Acids

L-alanine
 L-arginine
 creatine
 L-glutamic acid
 glycine
 L-histidine
 hydroxy-L-proline
 L-isoleucine
 L-leucine
 L-lysine
 L-methionine
 L-phenylalanine
 L-proline
 sarcosine
 L-serine
 L-threonine
 L-tryptophan
 L-valine
 L-norleucine

@ 1% w/v in water

WRK-145**Kit**

CERTAN® VIALS

The revolutionary new CERTAN® capillary bottle combines the advantages of a sealed ampule with the flexibility of a screw-top bottle or a septum vial, with none of the drawbacks. The 1.2 mm diameter by 28 mm long capillary neck acts as a recondensation zone for volatile solvents. The reduced surface area of the cap ensures a more efficient seal, and minimizes the chance of contamination by the cap insert.

These durable bottles are effective at temperatures from -30°C to +50°C. The CERTAN's cap and insert are made from special materials to retain sealing properties, even when using solvents such as diethyl ether.

Use them for:

- ✓ Storage of standards after the ampule has been opened.
- ✓ Storage of difficult samples such as those containing volatile compounds.
- ✓ Archiving of production samples and extracts.



CERTAN® Capillary Vials

Size	Catalog #	Unit Size
1.5 mL	CE015	each
4.5 mL	CE045	each
10 mL	CE100	each

Trademarks

Aroclor	Monsanto	QUICKshots®	ULTRA Scientific	ULTRAgrade®	ULTRA Scientific
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Level III: This Certified Reference Material (CRM) is to be gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered Quality System. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA Scientific's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the certified value is reported with its uncertainty value calculated as the expanded uncertainty, in accordance with ISO Guide 35.

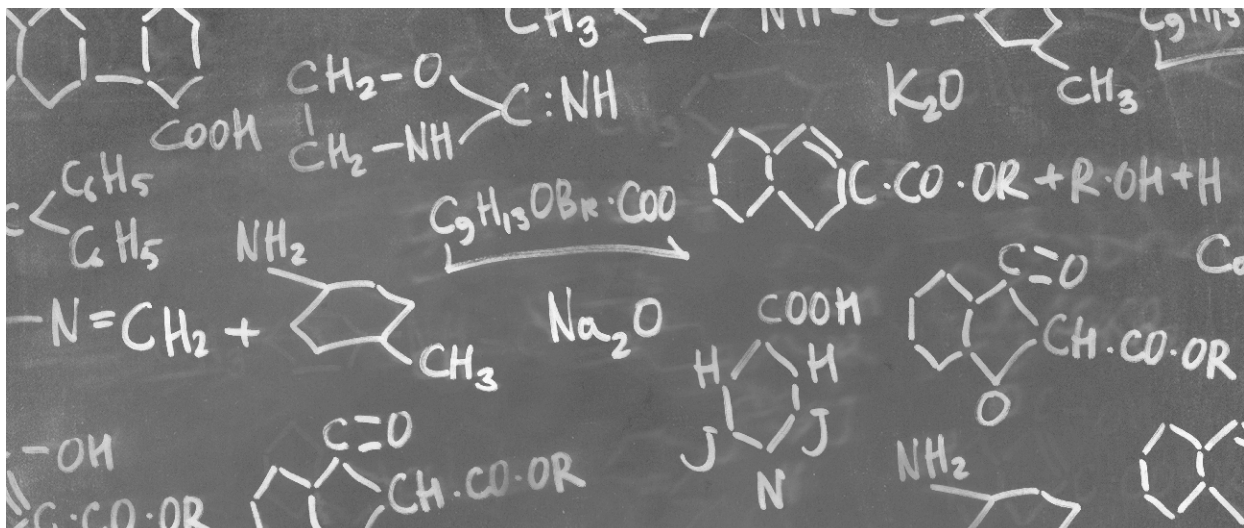
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Review Full Details on Page 2



Analyte/Subject Index

Symbols

1,2-dichlorotetrafluoroethane	92
2,3-dichloropropanoic acid	92
2,4-dichlorophenol	92
5-day BOD	66, 68
100 octane aviation fuel	338

A

abamectin	390	acifluorfen	76, 60, 134, 135, 136, 137, 138, 139, 140, 141, 189, 262, 390	aminomethyl phosphonic acid	77, 174
abate	390	acifluorfen methyl ester	134, 135, 137, 138, 140, 390	aminonitronaphthalene	411
a-BHC	358	acronifen	390	aminopyralid	390
acenaphthene	71, 76, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 276, 277, 278, 281, 282, 295, 304, 307, 308, 309, 320, 326, 327, 328, 330, 334, 354, 356, 409, 411, 425, 434	acridine	411	aminopyridine	390
acenaphthene-d10	159, 161, 162, 165, 166, 175, 224, 226, 227, 276, 277, 304, 306, 356	acridine (as N)	347	amitraz	390
acenaphthylene	63, 76, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 409, 411, 434	acrinathrin	390	amitrole	390
acenaphthylene-d8	356	acrolein	76, 198, 248, 267, 296, 354, 411, 436	ammonia	66, 68
acephate	390	acrolein-DNPH	296	ammonium	14, 30, 46
acequinocyl	390	acrylamide	76, 244, 411	ammonium nitrate	43
acetaldehyde	74, 188, 190, 296, 361, 436	acrylonitrile	76, 144, 146, 147, 149, 152, 154, 198, 219, 220, 221, 222, 248, 267, 354, 411, 434	ammonium sulfate	352
acetaldehyde-DNPH	188, 296	adipic acid	434, 435	amybenzene	437
acetamidofluorene	411	agar	352	amyl ethyl ether	152
acetamidonaphthalene	411	akton	390	amyl methyl ether	152
acetamiprid	390	alachlor	60, 63, 76, 123, 126, 127, 128, 130, 131, 132, 154, 157, 158, 160, 162, 163, 178, 179, 180, 255, 358, 390	ancymidol	390
acetate	45	alachlor ESA	172	androstane	77, 318, 322, 327, 329, 331, 336
acetic acid	426, 428, 432, 434, 435	alachlor ESA sodium salt	172	androstene dione	174
acetic acid methyl ester	428	alachlor OA	172	anilazine	286, 287, 390
acetic anhydride	434	alanine	438	aniline	77, 226, 232, 271, 272, 274, 281, 283, 284, 285, 291, 358, 411, 426, 434, 438
acetochlor	163, 165, 390	Alaska	317	anisidine	290, 291, 358
acetochlor ESA	76, 172	aldicarb	60, 63, 76, 170, 296, 390	anthanthrene	409, 411, 425
acetochlor ESA sodium salt	172	aldicarb sulfone	60, 63, 76, 170, 296, 390	anthracene	63, 71, 77, 78, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 327, 328, 330, 334, 354, 356, 361, 409, 411, 425, 434
acetochlor OA	76, 172	aldicarb sulfoxide	60, 63, 77, 170, 390	anthraquinone	390
acetone	76, 144, 146, 147, 149, 220, 222, 243, 264, 267, 296, 300, 302, 303, 360, 365, 411, 434, 436	aldrin	60, 63, 70, 72, 77, 123, 129, 130, 131, 132, 154, 157, 158, 160, 164, 203, 204, 205, 206, 225, 229, 230, 232, 252, 253, 254, 255, 272, 279, 310, 311, 312, 355, 358, 366, 390	antimony (Sb)	13, 17, 22, 24, 27, 29, 30, 32, 33, 36, 37, 38, 39, 40, 41, 42, 43, 33
acetone-DNPH	296	aldrin (as Cl)	349	arachidic acid	432
acetonitrile	76, 220, 222, 243, 244, 264, 267, 362, 411, 434	aliphatic hydrocarbons	387	arachidonic acid	428
acetophenone	76, 226, 232, 271, 273, 274, 275, 283, 290, 304, 411	alkalinity as CaCO ₃	55, 57, 67	arachidonic acid methyl ester	428
acetylaminofluorene	76, 271, 273, 275, 284, 291	allethrin	390	aramite	78, 273, 275, 282, 391
acetylthiourea	76, 290	allidochlor	390	arginine	438
a-chlordane	310, 312	alloxydim-sodium	390	Arizona	318
acibenzolar-S-methyl	390	allyl alcohol	77, 243, 264, 267, 411, 436	Aroclor	439
acid extractables	224, 225, 355	allyl chloride	77, 144, 146, 147, 149, 150, 151, 152, 153, 154, 242, 246, 264, 267, 365, 437	Aroclor 1016	72, 74, 78, 124, 204, 205, 206, 230, 253, 256, 284, 310, 313, 355, 376, 379, 380
acids	134, 135, 137, 139, 140, 141, 181, 183, 184, 185, 186, 189, 190, 199, 214, 224, 227, 228, 238, 276, 277, 284, 285, 435	alpha-BHC	129, 355	Aroclor 1016	411
acids test mixture	228	alpha-chlordane	123, 129, 131, 158	Aroclor 1016/1242	70, 74
		aluminum (Al)	13, 17, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 33	Aroclor 1221	72, 74, 78, 124, 204, 205, 206, 230, 253, 256, 285, 310, 313, 355, 379, 380
		ametryn	77, 126, 127, 128, 160, 163, 216, 390	Aroclor 1221	411
		aminoethylcarbazole	290	Aroclor 1232	70, 72, 74, 78, 124, 204, 205, 206, 230, 253, 256, 284, 310, 313, 355, 379, 380
		aminoanthracene	411	Aroclor 1232	411
		aminoanthraquinone	77, 290	Aroclor 1242	72, 74, 78, 124, 204, 205, 206, 230, 253, 256, 285, 310, 313, 355, 374, 378, 379, 380
		aminoazobenzene	290, 291	Aroclor 1242	411
		aminobenzoic acid	435	Aroclor 1248	70, 72, 74, 78, 124, 204, 205, 206, 230, 253, 256, 284, 310, 313, 355, 379, 380
		aminobiphenyl	77, 271, 273, 274, 275, 283, 284, 411	Aroclor 1248	411
		aminocarb	77, 235, 390	Aroclor 1254	70, 72, 74, 78, 124, 204, 205, 206, 230, 253, 256, 285, 310, 313, 355, 379, 380
		aminochrysene	411	Aroclor 1254	411
		aminodinitrotoluene	77, 168, 169, 257, 297		
		aminoethylcarbazole	77		

Aroclor 1260	60, 64, 70, 72, 74, 79, 124, 132, 204, 205, 206, 230, 253, 256, 284, 310, 313, 355, 374, 376, 378, 379, 380	azoxybenzene	411	benzo[a]pyrene	61, 63, 71, 81, 157, 158, 159, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 277, 281, 282, 295, 304, 309, 320, 326, 328, 330, 334, 354, 356, 358, 361, 409, 411, 425, 434
Aroclor 1260	411	azoxystrobin	391	benzo[a]pyrene-d12	356
Aroclor 1262	79, 124, 204, 256, 379, 380	azulene	409, 411, 434	benzoate	45
Aroclor 1262	411	B		benzo[b]fluoranthene	63, 71, 80, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 358, 361, 409, 411
Aroclor 1268	79, 124, 204, 256, 374, 378, 379, 380	barban	80, 235, 286, 287, 391	benzo[b]fluorene	409, 411
Aroclor 1268	411	barium (Ba)	13, 17, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 46, 33	benzo[c]cinnoline	411
Aroclor 5060	381	base/neutral	226, 231, 232	benzo[e]pyrene	210, 211, 356, 409, 412, 425
Aroclor 5442	381	base/neutral mixture #1	305	benzofluorene	434
Aroclor 5460	381	base/neutral mixture #2	305	benzo[f]quinoline	412, 425
Aroclors	379	base/neutrals	224, 225, 227, 228, 229, 233, 238, 273, 276, 277, 291, 304, 306, 308, 309	benzo[ghi]perylene	63, 71, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 358, 409, 411, 425
aromatic hydrocarbons	148, 387	base/neutrals test mix	228	benzo[ghi]perylene	258, 295
aromatic hydrocarbons	121, 148, 176, 348	baycor	391	Benzo[ghi]perylene	81
aromatics	148, 434	baythroid	391	benzo[h]quinoline	412
aromatics & alkenes	121	BDMC	170, 391	benzoic acid	81, 226, 232, 274, 283, 284, 289, 411, 426, 434, 435
aromatic volatiles	116, 121, 147, 245	behenic acid	432	benzo[j]fluoranthene	210, 258
arsenic (As)	13, 17, 22, 24, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 33	benalaxyl	391	benzo[k]fluoranthene	63, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 358, 361, 409, 411
asana	166, 391	benazolin	391	Benzo[k]fluoranthene	80
ascorbic acid	426	benazolin-ethyl ester	391	benzonitrile (as n)	350
ascorbyl palmitate	426	bendiocarb	80, 296, 391	benzonitrile (as n) standards kit (high)	350
aspon	260, 391	benefin	80, 126, 391	benzonitrile (as n) standards kit (low)	350
ASTM Method D1387	342	benfuracarb	391	benzoquinone	286, 289
ASTM Method D2887	342	benodanil	391	benzothiazole	412
ASTM Method D3710	343	benomyl	391	benzotrichloride	81, 259
ASTM Method D4629	346	benoxacor	391	benzoximate	391
ASTM Method D4815	343	bensulfuron-methyl	391	benzoylprop ethyl	187, 391
ASTM Method D4929	348	bensulide	80, 391	benzthiazuron	391
ASTM Method D5453	344	bensultap	391	benzyl alcohol	81, 226, 233, 271, 272, 274, 281, 282, 283, 285, 412
ASTM Method D5762	347	bentazon	80, 134, 136, 137, 138, 139, 140, 141, 189, 262, 391	benzylamine	438
ASTM Method D5808	348	bentazon methyl derivative	134, 137, 138, 140, 391	benzyl benzoate	81, 251, 391
ASTM Method D6584	341	benz[a]anthracene	63, 71, 80, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 358, 361, 409, 411, 425	benzyl chloride	81, 246, 259, 264, 267
ASTM Methods D3120, D3246 and D3961	345	benz[a]anthracene-7,12-dione	425	beryllium (Be)	13, 17, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 33
ASTM surrogate base gasoline	336	benz[a]anthracene-d12	356	beta-propiolactone	264, 267
atraton	79, 126, 127, 128, 160, 162, 163, 216, 391	benzal chloride	80, 259, 411	BFB	82, 145, 178, 217, 265, 268, 301
atrazine	60, 63, 79, 123, 126, 127, 128, 130, 131, 132, 154, 157, 158, 160, 162, 163, 166, 178, 179, 180, 216, 261, 304, 356, 358, 391	benzaldehyde	190, 296, 304, 434	BHA	426
atrazine-desethyl	79, 391	benzaldehyde-DNPH	296	BHC	63, 72, 81, 123, 129, 130, 131, 132, 158, 160, 164, 178, 179, 203, 205, 206, 225, 230, 232, 252, 253, 254, 255, 259, 272, 279, 310, 311, 312, 313, 355, 358, 391, 392
atrazine-desethyl-2-hydroxy	391	benzanthracene	434	BHT	426
atrazine-desethyl desisopropyl	79	benzene	59, 62, 69, 71, 73, 80, 114, 116, 117, 118, 119, 121, 144, 145, 146, 148, 149, 150, 151, 152, 153, 154, 155, 156, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 245, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 316, 317, 319, 321, 323, 324, 325, 328, 330, 331, 333, 335, 336, 343, 354, 358, 360, 361, 362, 363, 365, 411, 433, 434, 437	bibenzyl	434
atrazine-desisopropyl	79, 391	benzene-d6	120	bifenazate	392
azaconazole	391	benzidine	80, 187, 201, 226, 228, 229, 231, 274, 280, 284, 285, 411	bifenox	392
azadirachtin	391	benzo[a]fluorene	409, 411	bifenthrin	166
azaindole	411	benzoaminopurine	391		
azamethiphos	391				
azelaic acid	435				
azinphos ethyl	80, 260, 391				
azinphos methyl	80, 213, 216, 260, 286, 287, 391				
aziprotryne	391				
azobenzene	80, 165, 225, 226, 229, 231, 232, 271, 281, 283, 284, 290, 291, 391, 411				
azocyclotin	391				
azolamide (Isocarbamid)	391				

bifenthrin	392	BOD	66, 68	bromomethane	59, 62, 83, 116, 117, 118, 119, 144, 145, 147, 148, 150, 152, 154, 155, 192, 194, 195, 196, 217, 218, 220, 221, 222, 223, 242, 246, 247, 265, 266, 269, 300, 302, 354, 365
binapacryl	392	boiling range distribution	342, 343	bromonaphthalene	83, 326, 327, 336, 412
binaphthyl	409, 412	bolstar	107, 216, 260	bromonaphthol	412
bioallethrin	166, 392	boric acid	52	bromonitrobenzene	83, 254, 261
bioresmethrin	392	borneol	433	bromophenol	83, 412
biphenyl	304, 354, 368, 378, 392, 409, 412, 434	boron (B)	13, 17, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 33	bromophenyl phenyl ether	71, 83, 212, 224, 225, 226, 229, 230, 231, 232, 233, 271, 272, 274, 281, 282, 291, 304, 354, 412
biphenyldiol	381	boscalid	392	bromophos-ethyl	392
biphenylol	381	branched-chain fatty acids and methyl esters	427	bromophos-methyl	392
biquinoline	412	brodifacoum	392	bromopropane	412, 424
bis(2-chloroisopropyl) ether	82	bromacil	82, 126, 127, 160, 162, 163, 166, 178, 179, 180, 235, 392	bromopropene	412, 424
bis(2-chloro-1-methylethyl) ether	354	bromadiolone	392	bromopropionic acid	83, 181, 185
bis(2-chloro-1-methylethyl) ether	82	bromate	45, 56	bromopropylate	392
bis(2-chloroethoxy) methane	304, 354, 412	bromide	14, 45, 56, 57	bromotrchloromethane	412, 423
bis(2-chloroethoxy)methane	271, 272, 274, 281, 282, 291	bromodimethylphenyl N-methylcarbamate	82	bromoxynil	286, 287, 392
bis(2-chloroethoxy)methane	212, 224, 225, 226, 229, 230, 231, 232, 233	bromoacetic acid	61, 82, 181, 182, 183, 184, 185, 190	bromoxynil octanoate	392
bis(2-chloroethoxy)methane	82	bromoaniline	426	bromuconazole	392
bis(2-chloroethyl) ether	271, 272, 274, 281, 282, 285, 291, 304, 354	bromobenzene	59, 62, 82, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 246, 247, 266, 268, 269, 365, 412	bronopol	392
bis(2-chloroethyl) ether	212, 224, 225, 226, 229, 230, 231, 232, 233	bromobiphenyl	382	BTEX	73
bis(2-chloroethyl) ether	82	bromobutane	424	bupirimate	392
bis(2-chloroethyl)sulfide	264, 267	bromobutanoic acid	82	buprofezin	392
bis(2-chloroisopropyl) ether	246, 271, 272, 274, 281, 282, 285, 291, 304	bromobutene	424	butachlor	64, 83, 126, 127, 128, 130, 131, 132, 160, 163, 392
bis(2-chloroisopropyl) ether	212, 224, 225, 226, 229, 230, 231, 232, 233	bromochloroacetic acid	61, 82, 181, 182, 183, 184, 185, 190	butachlor ESA	172
bis(2-ethoxyethyl) phthalate	251	bromochloroacetone nitrile	82, 177, 179, 180	butadiene	150, 152, 154
bis(2-ethylhexyl) adipate	61, 63	bromochlorobenzene	82, 120, 242, 245, 247	butanal	188, 190, 436
bis(2-ethylhexyl) adipate	125, 157, 158, 159, 160, 162, 163, 164, 281	bromochlorobutane	424	butanal (butyraldehyde)	296
bis(2-ethylhexyl) adipate	82	bromochloroethane	120, 412, 424	butanal-DNPH	188, 296
bis(2-ethylhexyl) isophthalate	425	bromochloromethane	59, 62, 82, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 192, 217, 242, 246, 247, 265, 266, 268, 300, 303, 365, 412, 423	butanedioic acid	428
bis(2-ethylhexyl) phthalate	61, 63, 71, 251, 271, 272, 274, 281, 282, 283, 291, 304, 309, 354, 361, 412	bromochloropropane	82, 115, 116, 120, 192, 217, 247, 424	butanedioic acid dimethyl ester	428
bis(2-ethylhexyl) phthalate	125, 157, 158, 159, 160, 162, 163, 164, 201, 224, 225, 226, 229, 230, 231, 232, 233	bromodichloroacetic acid	181, 182, 183, 184, 190	butanediol	366, 436
bis(2-ethylhexyl) phthalate	82	bromodichloromethane	59, 62, 69, 71, 82, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 266, 268, 269, 300, 302, 303, 354, 359, 365, 412, 423	butanetriol	340, 341
bis(2-methoxyethyl) phthalate	251	bromodimethylphenyl	170	butanoic acid	428, 435
bis(2-n-butoxyethyl) phthalate	251	bromodinitroaniline	426	butanoic acid methyl ester	428
bis(4-methyl-2-pentyl) phthalate	251	bromoethane	412, 423, 424	butanol	243, 343, 360, 436
bis(chloromethyl) ether	412	bromoethene	412, 424	butanone	74, 83, 144, 146, 147, 149, 243, 244, 264, 267, 300, 302, 303, 360, 361, 365, 412, 436
bismuth (Bi)	17, 22, 24, 28, 29, 31, 36, 37	bromofluorobenzene	82, 120, 144, 145, 149, 151, 154, 178, 217, 242, 245, 265, 266, 268, 269, 300, 301, 318, 321, 335, 336	butocarboxim	392
bisphenol-a	82	bromoform	59, 62, 69, 71, 83, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 354, 359, 365, 412, 423, 434	butralin	392
bispyribac-sodium	392			buturon	392
bis(tributyltin)oxide	392			buty dinitrophenol	250
blind QC samples for Aroclors	74			butyl acetate	434
blind QC samples for drinking water analysis	57, 62, 63			butyl alcohol	152, 267, 434
blind QC samples for ICR drinking water analysis	57			butylamine	438
blind QC samples for non-potable water analysis	67, 71			butylate	83, 126, 127, 160, 162, 163, 392
blind QC samples for the EPA cluster rule	74			butylbenzene	59, 62, 83, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 246, 247, 266, 268, 269, 330, 343, 365, 412, 434, 437
blind QC samples for WP/DMR-QA non-potable water analysis	65			butyl benzyl phthalate	63, 71, 83, 125, 158, 160, 162, 163, 164, 201, 224, 225, 226, 229, 230, 231, 232, 233, 251, 271, 272, 274, 281, 282, 283, 291, 304, 354, 361, 412
blind QC samples for WP non-potable water analysis	69			butylcyclohexane	324
blind QC samples for WS drinking water analysis	55, 59, 61			butyl ethyl ether	152
				butylhydroquinone	426

butyl isooctyl phthalate	425	chloramben methyl ester	134, 137, 138, 393	chlorodifluoroethane	85
butylmethoxyphenol	426	chlorate	45, 56	chlorodifluoromethane	85, 150, 152, 154
butyl paraben	426	chlorbenside	393	chlorodinitroaniline	426
butylphenol	438	chlorbiphenylol	381	chlorodiphenyl ether	383
butyl phthalate	354, 361, 396	chlorbromuron	393	chloroethane	59, 62, 85, 116, 117, 118, 119, 144, 145, 147, 148, 155, 192, 194, 196, 217, 218, 220, 221, 222, 223, 242, 246, 247, 265, 266, 269, 300, 302, 365
butyl phthalyl butyl glycolate	425	chlorbufam	393	chloroethanol	85, 246, 264, 267, 413, 437
butylsulfide	344, 345, 351	chlorthane	60, 61, 64, 70, 72, 84, 123, 129, 130, 131, 132, 158, 159, 161, 162, 164, 206, 229, 254, 310, 311, 312, 313, 358, 393	chloroethyl ether	413
butyric acid	432	chlordene	393	chloroethyl vinyl ether	85, 192, 194, 195, 196, 217, 219, 221, 222, 223, 242, 246, 413
C					
cadmium (Cd)	13, 17, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 33	chloroform	393	chlorofluorobenzene	85, 116, 120, 318, 336
cadusafos	392	chloroform	59, 62, 69, 71, 85, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 354, 359, 361, 362, 363, 365, 413, 423, 434, 437	chloroheptane	437
caffeine	83, 187, 366	chlorfenprop-methyl	393	chlorohexane	85, 413, 437
calcium (Ca)	13, 17, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 46, 57, 66, 67, 68	chlorfenvinphos	84, 260, 287, 393	chloromethane	59, 62, 85, 116, 117, 118, 119, 144, 145, 147, 148, 150, 152, 154, 155, 192, 194, 196, 217, 218, 220, 221, 222, 223, 242, 246, 247, 265, 266, 268, 269, 300, 301, 302, 354, 359, 365
calcium chloride	52	chlorfluazuron	393	chloromethylaniline	290, 291
calcium hardness	57	chlor fluorobenzene	120	chloromethyl methyl ether	85, 246
California	319	chlorflurecol-methyl ester	393	chloromethylphenol	72, 85, 167, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 271, 272, 274, 277, 278, 281, 283, 284, 355, 413
camphene	354, 433	chloridazon	393	chloronaphthalene	85, 212, 224, 225, 226, 229, 230, 231, 232, 259, 271, 272, 274, 275, 281, 282, 283, 289, 291, 304, 354, 413, 437
capric acid	432	chloride	14, 45, 57, 66, 67	chloronaphthol	413
caproic acid	432	chlorimuron ethyl	393	chloroneb	85, 129, 130, 131, 132, 160, 162, 164, 205, 255, 393
caprylic acid	426, 432	chlorite	56	chloronitroaniline	426
captafol	255, 286, 287, 392	chlorite	45	chloronitrobenzene	257, 358
captafol	392	chlormephos	393	chloronitrobenzotrifluoride	255, 261
captan	83, 286, 287, 392	chlormequat chloride	393	chlorononane	437
Carbamates	61, 64	chlornitrobenzotrifluoride	85	chlorooctadecane	85, 326, 327, 329, 332, 334, 336
carbaryl	63, 83, 170, 187, 235, 284, 287, 290, 296, 392	chlorophenylenediamine	86	chlorooctane	86, 332, 336, 437
carbazole	84, 171, 226, 231, 232, 271, 281, 291, 304, 412, 425	chlorophenylenediamine	86	chloropentane	437
carbendazim	84, 392	chloromethylphenol	304, 307, 308, 309	chlorophacinone	393
carbetamide	392	chloroacetaldehyde	84	chlorophenol	72, 86, 167, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 271, 272, 274, 277, 278, 281, 283, 284, 285, 304, 307, 308, 349, 355, 359, 413, 425, 434, 437
carbofuran	60, 63, 84, 157, 170, 235, 284, 287, 290, 296, 392	chloroacetic acid	61, 84, 181, 182, 183, 184, 185, 190, 393	chlorophenol-d4	306, 307
carbofuran phenol	392	chloroacetonitrile	84, 144, 146, 147, 149, 152, 154	chlorophenoxyacetic acid	393
carbonaceous BOD	66, 68	chloroacrylonitrile	243	chlorophenylenediamine	290
carbon disulfide	84, 144, 146, 147, 149, 150, 151, 152, 153, 154, 220, 222, 264, 267, 300, 302, 303, 360, 361, 412	chloroaniline	84, 226, 233, 271, 272, 274, 281, 282, 283, 284, 305, 412, 426	chlorophenyl phenyl ether	86, 212, 224, 225, 226, 229, 230, 231, 232, 233, 271, 272, 274, 281, 282, 291, 304, 354, 413
carbon tetrabromide	412, 423	chloroanisole	413	chlorophenyl thiourea	187
carbon tetrachloride	59, 62, 69, 71, 84, 114, 114, 116, 117, 118, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 266, 268, 269, 300, 302, 303, 354, 360, 362, 365, 412, 423, 434, 437	chlorobenzene	59, 62, 69, 71, 84, 114, 116, 117, 118, 119, 120, 121, 144, 145, 146, 148, 149, 150, 151, 153, 154, 155, 156, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 245, 246, 247, 264, 265, 266, 268, 269, 298, 300, 301, 302, 303, 319, 337, 348, 354, 359, 360, 361, 362, 365, 413, 425, 434, 437	chloroprene	86, 242
carbonyl compounds	188, 190, 296	chlorobenzene-d5	120, 151, 265, 266, 268, 269, 300, 301	chloropropane	120, 413, 424
carbophenothion	84, 260, 286, 287, 392	chlorobenzilate	85, 129, 130, 131, 132, 160, 162, 164, 205, 254, 273, 275, 282, 286, 290, 393		
carbosulfan	392	chlorobenzoic acid	413, 435		
carboxin	84, 126, 127, 128, 160, 392	chlorobiphenyl	158, 160, 237, 256, 368, 374, 375, 376, 378		
carfentrazone-ethyl	392	chlorobutane	85, 144, 146, 147, 149, 150, 151, 152, 153, 154, 413, 424, 437		
cartap hydrochloride	392	chlorobutene	424		
cerium (Ce)	17, 22, 24, 31, 33, 37	chlorocyclohexane (as Cl)	349		
cesium (Cs)	18, 22, 24, 31, 37	chlorodecane	437		
chinomethionate	392	chlorodibenzo dioxin	384		
chloral hydrate	61, 84, 177, 179, 180	chlorodibenzofuran	385		
chloramben	84, 134, 137, 138, 139, 140, 141, 189, 262, 392	chlorodibromoacetic acid	181, 182, 183, 184, 190		

chloropropene	413, 424	compound	409	cyprodinil	394
chloropropionitrile	86, 264, 267	concentration mixture	237, 375	cyromazine	394
chloropropylate	205, 255, 393	conductivity	57, 67	cythioate	394
chloropyrifos	160	conductivity standard, KCl	51		
chlorostyrene	437	conductivity, TDS as NaCl	51	D	
chloroterphenyl	381	congener	374, 375, 376, 377	2,4-D	60, 64
chlorothalonil	86, 129, 130, 131, 132, 160, 162, 164, 204, 205, 255, 393	Connecticut	319	2,4-D	87, 262, 263, 275, 355, 394
chlorotoluene	59, 62, 86, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 246, 247, 266, 268, 269, 365, 413, 437	copper (Cu)	13, 18, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 44, 33	2,4-D	134, 135, 136, 137, 138, 139, 140, 141, 157, 189, 214
chlorotoluron	393	corn oil	309	2,4-D methyl ester	263
chlorotrifluoromethane	86	coronene	211, 409, 413, 425	dacthal	134, 136, 137, 138, 140, 160, 205
chloroundecane	437	coumaphos	86, 216, 260, 286, 287, 393	dacthal acid metabolites	137, 139
chloroxuron	393	coumatetralyl	393	dalapon	60, 64, 87, 134, 135, 137, 138, 139, 140, 141, 157, 181, 182, 183, 184, 185, 190, 214, 215, 262, 263, 355, 394
chlorpropham	86, 126, 127, 160, 162, 163, 235, 393	creatine	438	dalapon methyl ester	87, 134, 135, 137, 138, 140, 183, 184, 185, 186, 215, 263, 394
chlorpyrifos	86, 129, 130, 166, 216, 260, 393	eresidine	290, 291	daminozide	394
chlorpyrifos methyl	86, 216, 260, 393	eresol	72, 86, 87, 167, 232, 249, 250, 273, 284, 285, 289, 355, 359, 360, 361, 393, 413, 434, 438	DATApaks®	75, 299
chlorpyriphos	130, 162, 164, 166, 216, 393	eresyl phosphate	261, 289	dazomet	394
chlorsulfuron	393	crimidine	393	2,4-DB	64, 887, 134, 136, 137, 138, 139, 140, 141, 189, 214, 262, 263, 355, 394
chlorthiamid	393	crotonaldehyde	188, 267, 296	2,4-DB methyl ester	87
chlorthion	393	crotonaldehyde-DNPH	188, 296	DBCP	178, 394
chlortoluron	356	crotoxyphos	87, 260, 287, 394	d-BHC	63, 72
chlozolate	393	crufomate	394	d-BHC (d-HCH)	81
chromate	45	cumene	119, 433, 434	2,4-DB methyl ester	263, 134, 137, 138, 140, 394
chromium (Cr)	13, 18, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 44, 33	cyanazine	87, 129, 130, 131, 132, 160, 162, 163, 164, 165, 178, 179, 180, 356, 394	DBOB	136
chrysene	71, 86, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 282, 295, 304, 320, 326, 327, 328, 330, 334, 354, 356, 358, 361, 409, 413, 425, 434	cyanide	56, 58	2,4-D butoxyethyl ester	394
chrysene-d12	159, 161, 165, 166, 224, 226, 227, 237, 276, 277, 304, 306, 356, 375	cyanofenphos	394	2,4-D butyl ester	394
chrysene dibenzofuran	281	cyanophos	394	DCAA	135, 136
cinosulfuron	393	cyazofamid	394	DCAA methyl ester	134, 136, 139, 141, 214, 263
citraconic acid	435	cyclanilide	394	DCPA	88, 129, 130, 131, 132, 134, 162, 164, 204, 255, 262, 394
citral	433	cycloate	126, 127, 128, 160, 163, 394	DDA	394
citrate	45	cycloheptane	433	2,4'-DDD	253, 255
citric acid	434	cycloheptene	433	2,4-DDD	255
citronellol	433	cyclohexane	300, 303, 362, 433	2,4'-DDD	358, 394
clethodim	393	cyclohexanol	436	4,4'-DDD	252, 253, 254, 255, 272
clodinafop-propargyl ester	393	cyclohexanone	188, 190, 296, 360, 436	4,4'-DDD	129, 130, 131, 132, 160, 164, 203, 204, 205, 206, 225, 229, 230, 232
clofentezine	393	cyclohexanone-DNPH	188, 296	4,4'-DDD	63, 70, 72, 88, 310, 312, 355, 358, 394
clomazone	393	cyclohexene	433	2,4'-DDE	253, 255
cloprop	393	cycloheximide	394	2,4-DDE	255
cloransulam-methyl	393	cyclohexylamine	438	2,4'-DDE	358, 394
clothianidin	393	cyclohexyldinitrophenol	87, 249, 250, 286, 394	4,4'-DDE	252, 253, 254, 255, 272
cobalt (Co)	13, 18, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 33	cyclooctadiene	433	4,4'-DDE	129, 130, 131, 132, 160, 164, 203, 204, 205, 206, 225, 229, 230, 232
COD	66, 68	cyclooctane	433	4,4'-DDE	63, 70, 72, 88, 310, 311, 312, 313, 355, 358, 394
commercial jet fuel a	338	cyclooctene	433	4,4'-DDMU	394
complex cyanide	58, 67	cyclopenta[def]phenanthrene	409, 413, 425	2,4'-DDT	253, 255
component	336, 337, 342, 343	cyclopentane	433	2,4-DDT	255
composite diesel fuel	338	cyclopentanol	436	2,4'-DDT	358, 394
composite kerosene	338	cyclopentanone	436	4,4'-DDT	252, 253, 254, 255, 272, 279
composite unleaded gasoline	338	cyclopentene	433	4,4'-DDT	129, 130, 131, 132, 160, 161, 164, 203, 204, 205, 206, 225, 229, 230, 232
		cyclosulfamuron	394	4,4-DDT	280
		cycluron	394		
		cyhalofop-butyl	394		
		cymene	434		
		cymoxanil	394		
		cypermethrin	394		
		cyproconazole	394		

4,4-DDT	129, 279	dibenz[a,h]anthracene	63, 71, 89, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 358, 361, 409, 414	dibromotoluene	90, 249, 322, 324, 325, 333
4,4'-DDT	63, 70, 72, 88, 310, 311, 312, 313, 355, 358, 394	dibenz[a,h]anthracene-d14	356	dibutylamine	438
DDT-mix	394	dibenz[a,j]acridine	89, 258, 274, 275, 289	dibutyl chlorendate	90, 203, 279, 310, 311, 395
decabromobiphenyl	382	dibenzo[a,e]pyrene	89, 258, 291, 356, 358, 414	dibutyl phthalate	414, 425, 438
decachlorobiphenyl	88, 132, 203, 237, 253, 254, 256, 279, 310, 311, 312, 313, 357, 373, 374, 375, 376, 377, 378	dibenzo[a,h]pyrene	258, 356, 358, 414	dicamba	60, 90, 134, 135, 136, 137, 138, 139, 140, 141, 189, 214, 215, 262, 263, 355, 395
decachlorodiphenyl ether	383	dibenzo[a,i]pyrene	258, 356, 358, 414	dicamba methyl ester	90, 134, 135, 137, 138, 140, 263, 395
decacyclene	409, 413	dibenzo[a,i]pyrene-d14	356	dicapthon	395
decafluorobiphenyl	88, 177	dibenzo[a,l]pentacene	409, 414	dichlobenil	395
decafluorotriphenylphosphine	88, 159, 161, 228, 279, 280, 309	dibenzo[a,l]pyrene	356, 358, 414	dichlofenthion	90, 260, 395
decafluorotriphenylphosphine oxide	88	dibenzo[a,l]pyrene	356, 358, 414	dichlofluanid	395
decahydronaphthalene	400, 409, 413	dibenzo[c,g]carbazole	258	dichlone	255, 286, 287, 395
decalin	434	dibenzodioxin	384	dichloran	90, 204, 205, 395
decanal	188, 190, 296, 436, 437	dibenzofuran	71, 89, 226, 233, 271, 272, 274, 282, 283, 305, 385, 414	dichlormid	395
decanal-DNPH	188, 296	dibenzothiophene	351, 414, 425	dichloroacetic acid	61, 90, 181, 182, 183, 184, 185, 190
decane	226, 232, 244, 316, 317, 318, 319, 320, 322, 323, 324, 326, 328, 329, 331, 332, 333, 334, 335, 336, 342, 343, 358, 366, 413, 433, 437	dibenzylamine	438	dichloroacetoneitrile	90, 177, 178, 179, 180
decanedioic acid	428	dibenzyl phthalate	251	dichloroaniline	226, 232, 414, 426
decanedioic acid dimethyl ester	428	dibromochloropropane	89, 300, 303	dichloroanisole	185, 414
decanoic acid	428, 435, 437	dibromoacetic acid	61, 89, 181, 182, 183, 184, 185, 190	dichlorobenzamide	395
decanoic acid methyl ester	428	dibromoacetonitrile	89, 177, 178, 179, 180	dichlorobenzene	59, 62, 69, 71, 114, 116, 117, 118, 119, 121, 144, 145, 146, 148, 149, 150, 151, 152, 153, 154, 155, 156, 192, 193, 194, 195, 196, 197, 212, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 229, 230, 231, 232, 242, 245, 246, 247, 259, 264, 266, 268, 269, 271, 272, 274, 276, 277, 278, 281, 282, 285, 291, 300, 303, 307, 308, 309, 319, 354, 359, 360, 361, 365, 414, 425, 437
decanol	436, 437	dibromobenzene	414	dichlorobenzene-d4	90, 120, 144, 145, 151, 154, 224, 226, 227, 266, 268, 269, 276, 277, 301, 304, 306, 307
decanone	436, 437	dibromobiphenyl	89, 132, 382	dichlorobenzidine	90, 187, 201, 224, 226, 229, 231, 273, 274, 284, 285, 305, 414
decen	433	dibromobutane	424	dichlorobenzoic acid	90, 134, 135, 136, 137, 138, 139, 140, 141, 189, 262, 414, 415
decene	437	dibromochloromethane	59, 62, 69, 71, 89, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 266, 268, 269, 291, 365, 414, 424	dichlorobiphenyl	90, 129, 158, 160, 237, 256, 368, 374, 375, 376, 378
decylamine	437, 438	dibromodichloroethane	414, 424	dichlorobiphenylol	381
decylbenzene	413	dibromodichloromethane	414, 423	dichlorobutane	91, 120, 192, 217, 247, 424, 437
DEET	88, 235, 395	dibromoethane	59, 62, 89, 116, 117, 118, 119, 122, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 177, 178, 179, 180, 220, 221, 222, 242, 243, 246, 247, 264, 266, 268, 269, 300, 303, 330, 354, 359, 361, 365, 414, 423, 424	dichlorobutene	144, 146, 147, 149, 152, 154, 242, 264, 267, 415, 424
DEF	88, 127, 161, 395	dibromoethene	414, 423, 424	dichlorobutene	91
degradation check solution	129	dibromofluoromethane	89, 120, 266, 268, 269	dichlorobutene	424
deltamethrin	395	dibromomethane	59, 62, 73, 89, 116, 117, 118, 119, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 220, 242, 246, 247, 264, 266, 268, 269, 316, 365, 414, 423	dichlorodibenzo-dichlorodibenzo dioxin	384
demeton	88, 213, 216, 260, 286, 287, 395	dibromonaphthalene	414	dichlorodibenzo dioxin	384
demeton S-methyl sulfone	395	dibromonaphthol	414	dichlorodibenzofuran	385
desethylatrazine	356	dibromonitroaniline	426	dichlorodifluoromethane	59, 91, 116, 117, 118, 119, 144, 145, 147, 148, 150, 152, 155, 192, 194, 196, 218, 220, 222, 223, 242, 246, 247, 265, 266, 269, 300, 302, 365
desmedipham	395	dibromooctafluorobiphenyl	89, 134, 135, 136, 137, 139, 141, 214, 263	dichlorodiphenyl ether	91, 383
desmetryne	395	dibromophenol	89, 249, 414	dichloroethane	59, 62, 69, 71, 73, 91, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 316, 330, 354, 359, 361, 362, 365, 415, 423, 424, 437
2,4-D ethyl ester	394	dibromopropene	90, 190, 414, 424		
DFTPP Solution	228	dibromopropionic acid	90, 182, 183		
diacetamidofluorene	413				
diafenthion	395				
dialifos	395				
diallate	88, 254, 273, 275, 283, 286, 290, 395				
diallyl phthalate	425				
diaminobenzidine	413				
diaminodiphenylmethane	413				
diaminofluorene	413				
diaminonaphthalene	413				
diaminotoluene	290, 291, 413				
diamyl phthalate	251, 413, 438				
diazinon	88, 126, 127, 160, 165, 213, 216, 260, 395				
diazinon-O-analog	395				
dibenz[a,c]anthracene	409, 414				
dibenz[a,h]acridine	258, 361				

dichloroethane-d4	91, 120, 265, 266, 268, 300	dieldrin	60, 63, 70, 72, 93, 123, 129, 130, 131, 132, 154, 157, 158, 164, 203, 204, 205, 206, 225, 229, 230, 232, 252, 253, 254, 255, 272, 279, 310, 311, 312, 313, 355, 358, 395	diisooctyl phthalate	425
dichloroethene	59, 62, 71, 91, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 354, 359, 362, 365, 415, 423, 424	diethanolchlor	395	diisopropylamine	438
dichloroethylene	437	diepoxybutane	93, 264, 267, 412	diisopropylbenzene	434
dichlorofluoroethane	91	diesel fuel	73, 316, 318, 321, 329, 332, 336, 338, 339, 344	diisopropyl ether	149, 150, 152, 319, 343
dichlorofluoromethane	91, 365	diesel/motor oil	336	diisopropyl phthalate	416
dichloromethane	59, 118, 196, 415, 423	diethyl-ethyl	395	dilauryl thiodipropionate	426
dichloronaphthalene	259, 415	diethofencarb	395	dimethypyo	396
dichloro-naphthol	415	diethyl adipate	435	dimethachlon	396
dichloronitroaniline	426	diethylaniline	438	dimethachlor	396
dichloropentane	437	diethyl azelate	435	dimethachlor ESA	93, 172
dichlorophen	91, 395, 415	diethylbenzene	415	dimethenamid	396
dichlorophenol	72, 92, 165, 167, 181, 183, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 271, 272, 273, 274, 277, 281, 283, 284, 289, 304, 309, 355, 359, 415, 425	diethyl dithiobis(thionoformate)	395	dimethenamid-p	396
dichlorophenylacetic acid (DCAA)	92, 134, 136, 139, 214, 263	diethylene glycol monobutyl ether	436	dimethipin	396
dichlorophenylacetic acid methyl	92	diethylene glycol monoethyl ether	436	dimethirimol	396
dichlorophenylacetic acid methyl ester	135	diethylene glycol monomethyl ether	436	dimethoate	93, 166, 260, 273, 275, 283, 290, 396
dichloropropane	59, 62, 71, 92, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 354, 359, 365, 395, 415, 424, 437	diethyl ether	93, 144, 146, 147, 149, 150, 151, 152, 153, 154, 243, 244, 267	dimethomorph	396
dichloropropanol	246, 264, 267, 414	diethyl fumarate	435	dimethoxybenzidine	187, 291, 416
dichloropropanone	92, 144, 146, 147, 149, 152, 177, 178, 179, 180	diethyl glutarate	435	dimethoxyethane	343, 362
dichloropropene	59, 62, 92, 116, 117, 118, 119, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 354, 359, 365, 395, 415, 424	diethyl maleate	435	dimethoxyethyl phthalate	425
dichloroterphenyl	381	diethyl malonate	435	dimethylacetamide	362
dichlorotoluene	415	diethyl oxalate	435	dimethyl adipate	435
dichlorprop	92, 134, 136, 137, 138, 139, 140, 141, 189, 214, 262, 263, 355, 395	diethyl phthalate	63, 71, 93, 125, 158, 160, 162, 163, 164, 201, 224, 225, 226, 229, 230, 231, 232, 233, 251, 271, 272, 274, 281, 282, 283, 291, 304, 361, 415, 425, 438	dimethylaniline	366, 426, 438
dichloropropanol	92	diethyl pimelate	435	dimethylanthrane	409, 416, 434
dichlorprop methyl ester	92, 134, 137, 138, 140, 263, 395	diethyl sebacate	435	dimethylarsinic acid	396
dichlorprop-P	395	diethyl stilbesterol	286, 291	(dimethylamino)azobenzene	271, 273, 274, 275, 284, 290
dichlorvos	92, 126, 127, 160, 164, 216, 260, 287, 395	diethyl suberate	435	dimethyl azelate	435
diclobutrazol	395	diethyl succinate	435	dimethylbenz[a]anthracene	93, 271, 273, 274, 275, 283, 361, 409, 416
diclofop	395	diethyl sulfate	93, 290	dimethylbenzaldehyde	296
diclofop methyl	395	difenacoum	395	dimethylbenzaldehyde-DNPH	296
dicofol	92, 255, 395	difenoconazole	395	dimethylbenzidine	93, 187, 273, 275, 284, 285
dicrotophos	260, 287, 395	difenoxuron	395	dimethylbiphenyl	409, 416
dicyclohexylamine	366, 438	difenzoquat methylsulfate	395	dimethylbutane	433
dicyclohexyl phthalate	251, 415, 425, 438	diflubenzuron	171, 396	dimethylcarbamoyl chloride	416
dicyclopentadiene	433	diflufenican	396	dimethylcyclohexane	433
didecyl phthalate	438	diflufenopyr	396	dimethylnaphthalene	434
didodecyl phthalate	438	difluorobenzene	93, 120, 151, 245, 265, 269, 300, 301, 335	dimethyl endothall	93, 175
		difluorobiphenyl	93, 176	dimethylethylbenzene	416
		dihexamylamine	438	dimethylformamide	362, 434
		dihexyl phthalate	251, 438	dimethyl glutarate	435
		dihydroanthracene	409, 415	dimethylhexadiene	433
		dihydrocarveol	433	dimethylindole	416
		dihydrodiibenzo[b,i]phenazine	415	dimethyl isophthalate	425, 438
		dihydronaphthalene	409, 415	dimethyl malonate	435
		diindeno[1,2,3-cd:1',2',3'-lm]perylene	409, 415	dimethylnaphthalene	409, 416
		diisobutylene	433	dimethyl nitrobenzene	93, 126, 127, 161, 162, 165, 166
		diisobutyl phthalate	125, 251, 425, 438	dimethylNitrosoaniline	426
		diisooctyl adipate	415	dimethyl oxalate	435
		diisodecyl phthalate	425, 438	dimethylpentane	343, 433
		diisohexyl phthalate	425, 438	dimethylphenanthrene	409, 416
		diisononyl phthalate	425, 438	dimethylphenethylamine	93, 273, 274, 275, 284, 290
				dimethylphenol	72, 93, 167, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 271, 272, 274, 281, 283, 284, 285, 304, 355, 361, 366, 416

dimethyl phthalate	63, 71, 93, 125, 158, 160, 162, 163, 164, 201, 224, 225, 226, 229, 230, 231, 232, 233, 251, 271, 272, 274, 281, 282, 283, 291, 304, 361, 396, 416, 425, 438	diphenylamine	94, 230, 271, 273, 275, 281, 284, 290, 354, 358, 396	DRO retention time marker	317
dimethyl pimelate	435	diphenylanthracene	409, 417	Dry Color Manufacturer's Association (DCMA)	374
dimethylquinoline	416	diphenylethane	409, 417	dyrene	397
dimethyl sebacate	435	diphenyl ether	354, 383	dysprosium (Dy)	18, 22, 24, 37
dimethyl suberate	435	diphenylhydrantoin	291	E	
dimethyl succinate	435	diphenylhydrazine	165, 275, 417	e-caprolactam	304
dimethyl sulfoxide	434	diphenyl isophthalate	251, 425, 438	EDB	397
di-n-butyl phthalate	63, 90, 125, 158, 160, 162, 163, 164, 201, 224, 225, 226, 229, 230, 231, 232, 233, 251, 271, 272, 274, 281, 282, 283, 291, 304	diphenylmethane	434	EDB/DBCP	61, 64
diniconazole	396	diphenylphenanthroline	417	edifenphos	397
dinitromethyl phenol	94	diphenyl phthalate	251, 417, 425, 438	EDTA	434
dinitroaniline	168, 169, 169	dipropetryn	396	eicosadienoic acid	428
dinitroanthracene	416	dipropylene glycol	436	eicosadienoic acid methyl ester	428
dinitrobenzene	94, 168, 169, 221, 257, 271, 273, 275, 281, 282, 286, 291, 297, 358, 169	diquat	60, 64, 175	eicosane	232, 244, 317, 319, 320, 322, 323, 326, 327, 328, 329, 331, 335, 342, 417, 433
dinitrobiphenyl	416	diquat dibromide	94, 175, 396	eicosanoic acid	428, 435
dinitrofluorene	416	disodium EDTA	52	eicosanoic acid methyl ester	428
dinitrofluorenone	416	disodium methyl arsenate (DSMA)	396	eicosanol	428
dinitromethylphenol	200, 230, 249, 250, 274, 281, 283, 284, 355	2,4-D isooctyl ester (mix)	394	eicosatrienoic acid	428
dinitronaphthalene	416	2,4-D isopropyl ester	394	eicosatrienoic acid methyl ester	428
dinitrophenol	167, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 271, 272, 274, 277, 281, 283, 284, 285, 304, 309, 355, 361, 416	dissolved solids	58, 68	eicosenoic acid	428, 432
Dinitrophenol	94	disulfoton	94, 126, 127, 128, 160, 163, 164, 165, 213, 216, 260, 273, 275, 283, 290, 396	eicosenoic acid methyl ester	428
dinitropyrene	416	disulfoton sulfone	127, 396	elaidic acid	428
dinitrotoluene	71, 94, 160, 162, 163, 164, 168, 169, 207, 224, 225, 226, 229, 230, 231, 232, 257, 271, 273, 274, 276, 278, 281, 282, 283, 291, 297, 304, 307, 308, 354, 416, 169	disulfoton sulfoxide	127, 396	elaidic acid methyl ester	428
dinocap	286, 287, 396	ditalimfos	396	electrolyte Cl	352
di-n-octyl phthalate	71, 94, 125, 164, 201, 224, 225, 226, 229, 230, 231, 232, 233, 251, 271, 272, 274, 277, 281, 282, 283, 291, 304, 309	dithianon	396	electrolyte w/CIO4	352
dinonyl phthalate	251, 438	dithiopyr	396	electron capture detector test standard	366
dinoseb	60, 64, 94, 134, 135, 136, 137, 138, 139, 140, 141, 157, 189, 214, 249, 262, 263, 271, 273, 275, 283, 286, 289, 355, 396	dithiothreitol	94, 133	elemental combustion analyzer reagents	352
dinoseb methyl ether	94, 134, 135, 137, 138, 140, 141, 263, 396	ditridecyl phthalate	438	elemental combustion analyzer standards	349, 350, 351, 352
dinotefuran	396	diundecyl phthalate	438	emamectin	397
dinoterb	396	diuron	95, 171, 187, 235, 356, 396	EN 12766/CEN EN 61619 PCB	357, 377
dioctyl adipate	416	2,4-D methyl ester	87, 134, 135, 137, 138, 140, 394	EN 14105:2003	340
dioctyl isophthalate	438	DMSA	396	endosulfan I	63, 72, 95, 129, 130, 131, 132, 164, 175, 203, 205, 206, 230, 232, 252, 253, 254, 255, 310, 311, 312, 313, 355, 397
dioctyl maleate	416	DMST	396	endosulfan II	63, 72, 95, 129, 130, 131, 132, 164, 203, 205, 206, 230, 233, 252, 253, 254, 255, 310, 312, 355, 397
dioctyl phthalate	434	docosaheptaenoic acid	428	endosulfan sulfate	63, 72, 95, 129, 130, 131, 132, 164, 203, 205, 206, 225, 230, 232, 252, 253, 254, 255, 310, 311, 312, 313, 355, 397
diolein	340, 341	docosaheptaenoic acid methyl ester	428	endothall	60, 64, 175, 397
dioxacarb	94, 296, 396	docosane	232, 244, 317, 318, 319, 320, 322, 323, 326, 328, 329, 331, 332, 333, 334, 335, 336, 342, 343, 358, 417, 433	endothall acid	95
dioxane	94, 243, 244, 264, 267, 300, 303, 361, 362, 363, 417	docosanoic acid	428	endothall-PFPH	95, 175
dioxane-d8	277	docosanol	428	endrin	60, 63, 72, 95, 123, 129, 130, 131, 132, 154, 157, 158, 161, 164, 178, 179, 180, 203, 205, 206, 230, 232, 252, 253, 254, 255, 279, 310, 311, 312, 313, 355, 358, 397
dioxathion	94, 213, 260, 286, 287, 396	docosenoic acid	432	endrin aldehyde	63, 72, 95, 129, 130, 131, 132, 164, 178, 179, 180, 203, 205, 206, 225, 230, 232, 252, 253, 254, 255, 310, 312, 355, 397
dipentylamine	438	dodecahydrotriphenylene	409, 417	endrin ketone	95, 164, 178, 179, 180, 232, 254, 310, 311, 312, 313, 355, 397
diphenamid	94, 126, 127, 160, 163, 396	dodecanal	436	EnviroConcentrates™-AA	24
		dodecane	232, 244, 301, 316, 317, 319, 320, 322, 323, 326, 328, 329, 331, 332, 333, 334, 335, 336, 342, 343, 358, 417, 433	EnviroConcentrate™-ICP	16
		dodecanedioic acid	435	EPA cluster rule	74, 361
		dodecanoic acid	428, 435		
		dodecanoic acid methyl ester	428		
		dodecanol	436		
		dodecanone	436		
		dodecene	433		
		dodemorph	396		
		dodine	396		
		dotriacontane	317, 318, 320, 329, 342, 417, 433		
		drinking water inorganics	44, 55		
		drinking water organics	59		
		DRO aliphatic	317, 328, 331		

EPH aromatic hydrocarbon standard	326, 334	ethyl heptadecanoate	435	fenoxycarb	398
epichlorohydrin	95, 264, 267, 417	ethyl hexadecanoate	435	fenpiclonil	398
EPN	96, 213, 260, 286, 287, 397	ethyl hexanoate	435	fenpropathrin	398
epoxiconazole	397	ethylhexanoic acid	366	fenpropidin	398
epoxybutane	417	ethyl hexanol	436	fenpropimorph	398
EPTC	96, 126, 127, 128, 160, 162, 163, 397	ethylhexene	433	fenpyroximate	398
equilin	174	ethylhexyl hexyl phthalate	251	fenson	398
erbium (Er)	18, 22, 24, 37	ethyl methacrylate	96, 144, 146, 147, 149, 150, 151, 152, 153, 154, 244, 264, 267, 417	fensulfothion	96, 216, 260, 286, 287, 398
erucic acid	428	ethyl methanesulfonate	96, 271, 273, 275, 283, 284, 285, 417	fenthion	96, 216, 286, 287, 398
erucic acid methyl ester	428	ethyl methylbenzene	317	fenthion-ethyl	398
erythorbic acid (isoascorbic acid)	426	ethyl nonanoate	435	fenthion oxon	398
ester (DCAA Methyl Ester)	92	ethyl octadecanoate	435	fenthion-sulfone	398
b-estradiol	174	ethyl octanoate	435	fenthion-sulfoxide	398
estriol	174	ethyl paraben	426	fentin hydroxide	398
estrone	174	ethyl pentadecanoate	435	fenuron	96, 235, 398
etaconazole	397	ethylphenol	438	fenuron TCA	398
ethalfuralin	397	ethyl tert-butyl ether	150, 319, 343	fenvalerate	166, 398
ethametsulfuron-methyl	397	ethyl tetradecanoate	435	ferbam	398
ethanedioic acid	428	ethyltoluene	342, 417	fipronil	398
ethanedioic acid dimethyl ester	428	ethyl tridecanoate	435	fipronil-sulfide	398
ethanol	243, 264, 343, 360, 436	ethyl undecanoate	435	fipronil-sulfone	398
ethanolamine	434	ethyl methylbenzene	317	flamprop	398
ethephon	397	ethynylestradiol	174	flamprop-isopropyl	398
ethidimuron	397	etofenprox	397	flamprop-methyl	398
ethiofencarb	397	etoxazol	397	F-List hazardous waste	360
ethiofencarb sulfone	397	etridiazole	129, 130, 131, 132, 162, 163, 164, 205	flocoumafen	398
ethiofencarb sulfoxide	397	etridiazole	96, 255, 397	flonicamid	398
ethion	96, 213, 260, 286, 287, 397	etrimfos	397	florida	320
ethofumasate	397	European PCB standards	377	fluazifop	398
ethoprop	96, 126, 127, 160, 162, 164, 216, 260, 397	European standards	356	fluazifop-butyl	398
ethoxyethanol	360, 362	europlum (Eu)	18, 22, 24, 37	fluazifop-p-butyl	398
ethoxyquin	397, 426	F		fluazinam	398
Ethoxysulfuron	397	famoxadone	397	flubendiamide	398
ethyl acetate	243, 267, 360, 434, 435	famphur	260, 273, 275, 283, 290	flucarbazone-sodium	398
ethyl alcohol	96, 244, 417, 434	famphur	96, 397	fluchloralin	286, 287, 398
ethyl alcohol (ethanol)	267	fenac	397	flucycloxuron	398
ethylaniline	438	fenamidone	397	flucythrinate	398
ethylbenzene	59, 62, 69, 71, 73, 96, 114, 116, 117, 118, 119, 121, 144, 145, 146, 148, 149, 150, 151, 153, 154, 155, 156, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 245, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 316, 317, 319, 321, 323, 324, 325, 328, 330, 331, 333, 335, 336, 343, 354, 358, 360, 361, 362, 365, 417, 434, 437	fenamiphos	127, 166, 397	fluidioxonil	398
ethylbenzene-d10	96, 120	fenamiphos sulfone	397	flufenacet	398
ethyl butanoate	435	fenamiphos-sulfoxide	397	flufenoxuron	398
ethyl butanol	436	fenarimol	96, 126, 127, 160, 163, 397	flumetralin	398
ethylcyclohexane	433	fenazaquin	397	flumetsulam	398
ethyl decanoate	435	fenbuconazole	398	flumiclorac-pentyl	398
ethyl dodecanoate	435	fenbutatin-oxide	398	fluometuron	96, 171, 235, 398
ethylene dibromide	73, 316	fenchlorphos	216	fluoranthene	71, 96, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 277, 281, 282, 295, 304, 309, 320, 326, 328, 330, 334, 354, 356, 361, 409, 417, 425, 434
ethylene glycol	243, 362, 434, 436	fenchlorphos-oxon	398	fluoranthene-d10	356
ethylene glycol monobutyl ether	436	fenchone	433	fluorene	63, 96, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 410, 417, 434
ethylene glycol monoethyl ether	436	fenfuram	398	9-fluorenone	410, 417
ethylene glycol monomethyl ether	436	fenhexamid	398	fluoride	45, 56, 57, 66, 67
ethylenethiourea	96, 133, 187, 397, 417	fenitrothion	260, 398	fluoroaniline	97
ethyl ether	360, 365	fenobucarb	398	fluorobenzene	97, 115, 120, 144, 145, 217, 245, 247, 266, 268
		fenoxaprop ethyl	398	fluorobiphenyl	97, 224, 227, 258, 276, 278, 306, 307, 326, 327, 332, 336
		fenoxaprop-p	398		
		fenoxaprop-p-ethyl (r-enantiomer)	398		

fluorodifon	398	gold (Au)	13, 18, 22, 37	heptanedioic acid	429
fluoroglycofen-ethyl	399	gold stock for Hg analysis	36	heptanedioic acid dimethyl ester	429
fluoronaphthalene	97, 258, 276, 298	graphite furnace AA	30	heptanediol	436
fluorophenol	97, 199, 224, 227, 249, 250, 276, 278, 306, 307	GRO 243, 316, 317, 323, 328, 330, 331, 335		heptanoic acid	429, 435, 437
fluquinconazole	399	GRO aromatic calibration mix	317	heptanoic acid methyl ester	429
fluridone	97, 126, 127, 128, 160, 163, 399	GRO retention time marker	317	heptanol	436, 437
fluroxypyr	399	guthion	216	heptanone	436, 437
fluroxypyr-meptyl	399	H		heptatriacontane	329
flurprimidol	399	hafnium (Hf)	18, 22, 29, 37	heptene	433, 437
flusilazole	399	halofenozide	399	Heptenophos	399
flutolanil	399	halosulfuron-methyl	399	heptylamine	437, 438
flutriafol	399	Halowax 1000	255	heptylbenzene	417
tau-fluvalinate	399	Halowax 1000	417	heptylic acid	432
folicur	399	Halowax 1001	255, 417	Herbicides	61, 64
folpet	399	Halowax 1013	255	heteronuclear aromatic hydrocarbons	387
fomesafen	399	Halowax 1013	417	hexabromobenzene	417
fonofos	163, 165, 260, 399	Halowax 1013	417	hexabromobiphenyl	166, 382
foramsulfuron	399	Halowax 1051	255	hexabromodiphenyl ether	166, 383
forchlorfenuron	399	Halowax 1051	417	hexachlorobenzene	60, 63, 71, 123, 129, 130, 131, 132, 154, 157, 158, 159, 160, 162, 163, 164, 178, 179, 180, 212, 224, 225, 226, 229, 230, 231, 232, 254, 257, 259, 271, 272, 274, 281, 282, 291, 304, 355, 359, 417, 425, 434
formaldehyde	188, 190, 296, 434, 436	Halowax 1099	255	hexachlorobenzene	97, 400
formaldehyde-DNPH	188, 296	Halowax 1099	417	hexachlorobiphenyl	158, 160, 237, 256, 357, 371, 372, 374, 375, 376, 377, 378, 384, 385
formamide	362	hardness	57, 58, 67, 68	hexachlorobutadiene	59, 62, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 212, 220, 224, 225, 226, 229, 230, 231, 232, 246, 247, 259, 266, 268, 269, 271, 272, 274, 277, 281, 282, 291, 304, 309, 355, 358, 365, 417, 424
formate	45	hardness as CaCO ₃	55, 57, 67	hexachlorobutadiene	98
formetanate hydrochloride	296, 399	HCH	130	hexachlorocyclopentadiene	60, 63, 123, 130, 131, 132, 154, 157, 158, 159, 160, 162, 163, 164, 178, 179, 180, 212, 225, 226, 229, 230, 231, 232, 254, 259, 271, 272, 274, 277, 281, 282, 291, 304, 309, 355
formic acid	428, 432	hendecanoic acid	428	hexachlorocyclopentadiene	98
formic acid methyl ester	428	hendecanoic acid methyl ester	428	hexachlorodibenzofuran	294
formothion	399	heneicosane	317, 328, 329, 331, 332, 334, 417, 433	hexachlorodibenzo-p-dioxin	294
fosetyl-aluminum	399	heneicosanoic acid	428, 432	hexachloroethane	98, 144, 146, 147, 149, 150, 151, 152, 153, 154, 212, 224, 225, 226, 229, 230, 231, 232, 259, 267, 271, 272, 274, 281, 282, 285, 291, 304, 355, 417, 424, 434
fosthiazate	399	heneicosanoic acid methyl ester	428	hexachlorophene	98, 273, 275, 283, 290, 400, 417
free cyanide	14, 58, 67	heneicosanol	428	hexachloropropene	98, 271, 272, 275, 282, 283, 290, 417, 424
fuberidazole	399	hentriacontane	329, 417	hexaconazole	400
fuel oil	338	heptachlor	60, 63, 70, 72, 97, 123, 129, 130, 131, 132, 154, 157, 158, 164, 178, 179, 180, 203, 204, 205, 206, 225, 229, 230, 232, 252, 253, 254, 255, 279, 310, 311, 312, 355, 399	hexacosane	244, 317, 319, 320, 322, 323, 326, 329, 335, 417, 433
fumaric acid	435	heptachlor epoxide	60, 63, 70, 72, 355	hexacosanoic acid	429
furalaxyl	399	heptachlor epoxide (B)	97, 123, 129, 130, 131, 132, 154, 157, 158, 164, 178, 179, 180, 203, 204, 205, 206, 225, 229, 230, 232, 252, 253, 254, 255, 310, 312, 399	hexacosanoic acid methyl ester	429
furathiocarb	399	heptachlor epoxide (A)	97, 399	hexacosanol	429
furfural	434	heptachlorobiphenyl	158, 160, 237, 256, 357, 372, 373, 374, 375, 376, 377, 378	hexadecane	232, 244, 298, 317, 319, 320, 322, 323, 326, 328, 329, 331, 332, 334, 335, 337, 342, 366, 433
furilazole	399	heptachlorodibenzo dioxin	384	hexadecanedioic acid	435
furnace oil	434	heptachlorodibenzofuran	294, 385	hexadecane	417
G		heptachlorodibenzo-p-dioxin	294	hexadecanoic acid	429, 435
gadolinium (Gd)	18, 22, 24, 37	heptacosane	329, 417		
gallium (Ga)	18, 22, 25, 28, 31, 37	heptacosanoic acid methyl ester	428		
gasoline	73, 434	heptacosanol	428		
geraniol	433	heptadecane	316, 317, 328, 329, 331, 417, 433		
germanium (Ge)	18, 22, 25, 31, 37	heptadecanoic acid	429, 432, 435		
gibberellic acid	399	heptadecanoic acid methyl ester	429		
glufosinate-ammonium	399	heptadecanol	429		
glutamic acid	438	heptamethylnonane	417		
glutaric acid	435	heptanal	188, 190, 296, 436, 437		
glycerine	340	heptanal-DNPH	188, 296		
glycerol	340, 341, 436	heptane	243, 316, 317, 323, 328, 331, 336, 342, 343, 358, 417, 433, 437		
glycine	426, 438				
glycolate	45				
glyodin	399				
glyoxal	190				
glyphosate	60, 64, 174				
glyphosate	97, 399				
glyphosate-isopropyl ammonium salt	399				

hexadecanoic acid methyl ester	429	indeno[1,2,3-cd]pyrene	63, 98, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 320, 326, 328, 330, 334, 354, 356, 358, 410, 418	isoproturon	356, 400
hexadecanol	429, 436	indeno[1,2,3-cd]pyrene-d12	356	isopulegol	433
hexadecene	433	indium (In)	18, 22, 25, 28, 31, 36, 37	isoquinoline	418
hexadecenoic acid	432	indole	354, 418	isosaftrole	98, 271, 273, 275, 283, 289, 290, 418
hexadecylamine	438	indoxacarb	400	isovaleraldehyde	296
hexaflumuron	400	industrial chemicals	261, 434	isovaleraldehyde-DNPH	296
hexafluoromethylpropanol	243	industrial terphenyl solution	381	isovaleric acid	432
hexafluoropropanol	243	interference check	32, 35, 39, 41, 43	isoxaben	400
hexamethylbenzene	417	internal standards mixture	305	isoxaflutole	400
Hexamethylphosphoramide	98, 261, 290	iodide	45	itaconic acid	435
hexanal	188, 190, 296, 436, 437	iodofenphos	400	ivermectine	400
hexanal-DNPH	188, 296	iodomethane	146, 147, 150, 151, 154, 264		
hexane	243, 316, 317, 332, 333, 336, 342, 343, 349, 358, 418, 433, 437	ion chromatography	30	J	
hexanedioic acid	429	ioda	321	jet fuel A	338
hexanedioic acid dimethyl ester	429	ioxynil	400	JP-5 fuel	338
hexanediol	436	ioxynil methyl	400		
hexanoic acid	429, 435, 437	ioxynil-octanoate	400	K	
hexanoic acid methyl ester	429	iprobefos	400	Kansas	322
hexanol	436, 437	iprodione	400	KCl saturated w/ AgCl	352
hexanone	98, 144, 146, 147, 149, 220, 222, 264, 267, 300, 302, 303, 362, 418, 436, 437	iridium (Ir)	18, 22, 29, 37	kepone	98, 166, 275, 282, 286, 400
hexatriacontane	317, 319, 320, 326, 329, 342, 418, 433	iron (Fe)	13, 18, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 41, 44, 33	kerosene	321, 339, 434
hexavalent chromium	13, 18	isazophos	400	kinetin	400
hexazinone	98, 127, 128, 160, 162, 163, 166, 235, 356, 400	isobutanol	343, 360	kinoprene	400
hexene	433, 437	isobutyl alcohol	98, 244, 264, 267, 418	kresoxim-methyl	400
hexylamine	437, 438	isobutyl alcohol (2-methyl-1-propanol)	243		
hexylbenzene	418	isobutylamine	438	L	
hexythiazox	400	isobutylbenzene	418, 434	lactate	45
histidine	438	isobutyl cyclohexyl phthalate	425	lactofen	400
HMX	98, 169, 257, 297	isobutyric acid	432	lambda-cyhalothrin	394, 400
holmium (Ho)	18, 22, 25, 37	isodrin	98, 254, 275, 282, 283, 290, 400	lanthanum (La)	19, 22, 25, 30, 37
hydramethylnon	400	isofenphos	400	lauric acid	432
hydroprene-S	400	isoleucine	438	lead (Pb)	13, 19, 22, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 33
hydroquinone	286, 289, 418	isooctane	298, 336, 337, 343, 344, 345, 346, 348, 352, 433, 434	lenacil	400
hydroxybenzoic acid	435	isopentylamine	438	leptophos	260, 286, 287
hydroxycarbofuran	98, 170, 296, 400	isophorone	71, 98, 160, 162, 164, 207, 224, 225, 226, 229, 230, 231, 232, 271, 273, 274, 281, 282, 283, 291, 304, 418, 425	leptophos	98, 400
hydroxy-L-proline	438	isophthalic acid	435	lethane 384	400
hydroxymethyl-2,6-di-t-butyl phenol	426	isoproc carb	400	leucine	438
hydroxypropionitrile	98, 264, 267, 418	isopropalin	98, 126, 400	lignoceric acid	432
hymexazol	400	isopropanol	343, 360, 436	limonene	433
I		isopropyl alcohol	243, 267, 434	linalool	433
imazalil	400	isopropylbenzene	59, 62, 98, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 246, 247, 266, 268, 269, 300, 303, 316, 317, 321, 330, 336, 365, 418	lindane	60, 123, 130, 154, 157, 158, 178, 179, 180, 279, 366, 400
imazamethabenz-methyl	400	isopropylcyclohexane	433	linoleic acid	429
imazamox	400	isopropyl ether	153, 221	linoleic acid methyl ester	429
imazapic	400	isopropylphenol	438	linoleic acid	429
imazapyr	400	4-isopropyltoluene	59, 62, 331	linoleic acid methyl ester	429
imazaquin	400	isopropyltoluene	98, 116, 117, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 246, 247, 266, 268, 269, 330, 365, 418	linolenic acid	429
imazethapyr	400	isoprothiolane	400	linolenic acid methyl ester	429
imidacloprid	400			linuron	99, 171, 187, 235, 356, 400
indane	410, 418, 434			lithium (Li)	13, 19, 22, 25, 28, 29, 30, 31, 32, 33, 38, 39, 46
indanedione	410, 418			lontrel	400
indene	361, 410, 418, 434			lufenuron	401
				lutetium (Lu)	19, 22, 31, 37
				lysine	438

M			
magnesium (Mg)	13, 19, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 46, 57, 66, 67, 68		
magnesium nitrate		43	
Maine			323
malaoxon			401
malate			45
malathion	99, 166, 213, 260, 286, 287, 401		
maleate			45
maleic acid			435
maleic anhydride			99, 289
maleic hydrazide (3,6-dihydropyridazine)			401
malonic acid			435
malononitrile		99, 264, 267, 418	
mancozeb			401
maneb			401
manganese (Mn)			
	13, 19, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 44, 33		
Massachusetts			324
MCPA	64, 99, 138, 141, 189, 214, 262, 263, 355, 401		
MCPA methyl ester			99, 138, 401
MCPB			401
MCPB methyl ester			401
MCPP	64, 99, 138, 141, 189, 214, 262, 263, 355, 401		
MCPP methyl ester			99, 138, 401
mecarbam			401
mecoprop-P			401
mefenacet			401
mefenpyr-diethyl			401
mefluidide			401
MEK		220, 222	
menthol			433
mepaniprim			401
mephosfolan			401
mepiquat chloride			401
mepronil			401
mercaptobenzothiazole			99, 401
mercury (Hg)	13, 19, 23, 25, 29, 30, 31, 32, 33, 43, 44, 33		
merphos		99, 127, 164, 216, 401	
mesitylene			433, 434
mesityl oxide			436
mesotrione			401
mestranol		286, 291	
metalaxyl			401
metaldehyde			401
metals			58
metamitron			401
metazachlor		356, 401	
metconazole			401
methabenzthiazuron		356, 401	
methacrifos			401
methacrolein			436
methacrylonitrile		99, 144, 146, 147, 149, 152, 154, 244, 264, 267	
methallyl alcohol			436
methamidophos		99, 401	
metham sodium			401
methanesulfonate			45
methanol	74, 100, 243, 267, 343, 348, 360, 361, 362, 434, 436		
methapyrilene			99, 273, 275
methapyrilene HCl			290
methidathion			401
methiocarb		100, 170, 235, 296, 401	
methiocarb sulfone			401
methiocarb sulfoxide			401
methionine			438
Method 418.1			337
Method 501			114
Method 502.2			115
Method 503.1			121
Method 504, 504.1			122
Method 505			123
Method 506			125
Method 507			126
Method 508, 508.1			129
Method 508A			132
Method 509			133
Method 515			140
Method 515.1			134
Method 515.2			136
Method 515.3			137
Method 515.4			139
Method 521			142
Method 523			143
Method 524.2			144
Method 524.3, 524.4			150
Method 525.1			158
Method 525.2			160
Method 526			165
Method 527			166
Method 528			167
Method 529			168
Method 531.1, 531.2			170
Method 532			171
Method 535			172
Method 536			173
Method 539			174
Method 547			174
Method 548, 548.1			175
Method 549.2			175
Method 550, 550.1			176
Method 551.1			177
Method 552, 552.1, 552.2, 552.3			181
Method 553			187
Method 554			188
Method 555			189
Method 556, 556.1			190
Method 557			190
Method 601			192
Method 602			197
Method 603			198
Method 604			199
Method 605			201
Method 606			201
Method 607			202
Method 608, 608.1, 608.2			203
Method 609			207
Method 610			208
Method 611			212
Method 612			212
Method 613			213
Method 614, 614.1			213
Method 615			214
Method 619			216
Method 622			216
Method 624			217
Method 625			224
Method 632			235
Method 632.1			235
Method 633			235
Method 680			237
Method 1311			238
Method 1664, 1664A			239
Method 1664A			337
Method 8010B			242
Method 8011			243
Method 8015AZ			318
Method 8015C			243
Method 8020A			245
Method 8021B			246
Method 8021C			244
Method 8030A			248
Method 8031, 8032A, 8033			248
Method 8041A			249, 250
Method 8061A			251
Method 8070A			252
Method 8080A			252, 253
Method 8081B			254, 255
Method 8082A			256
Method 8091			257
Method 8095			257
Method 8100			258
Method 8121			259
Method 8141B			260
Method 8150B, 8151A			262
Method 8240B			264
Method 8260B			266
Method 8270D			270
Method 8280B & 8290A			294
Method 8310			295
Method 8315A			296
Method 8318A			296
Method 8330A			297
Method 8332			298
Method 8410			298
Method 8440			298
Method D1387			342
Method D2887			342
Method D3710			343
Method D4629			346
Method D4815			343

Method D4929	348	methylcyclohexene	433	methylnaphthalene	100, 176, 210, 226, 233, 271, 272, 274, 281, 282, 283, 305, 320, 326, 328, 333, 354, 361, 410, 418, 434
Method D5453	344	methylcyclopentane	343, 433	methyl nitroaniline	100
Method D5762	347	methyl decanoate	366, 435, 437	methylnitronaphthalene	419
Method D5808	348	methyl dibromopropionate	183, 184	methyl nonadecanoate	432
Method D6584	341	Methyl dibromopropionate	100	methylnonadecanoic acid	430
Method ETPH	319	methyl dichloroacetate	183, 184, 185, 186	methylnonadecanoic acid methyl ester	430
Method Extractable Petroleum Hydrocarbons (EPH)	326, 334	methyl dichlorobenzoate	134, 135, 137, 138, 140, 141	methyl nonanoate	432, 435, 437
Method FL-PRO	320	Methyl Dichlorobenzoate	100, 401	methylnonanoic acid	430
methods 4.1.25 and 4.2.17	323	methyldinitrophenol	167, 199, 200, 224, 225, 226, 231, 233, 304, 418	methylnonanoic acid methyl ester	430
Methods AK 101, AK 102, and AK 103	317	methyl dodecanoate	366, 432, 435	methyl octadecadienoate	432
Methods D3120, D3246 and D3961	345	methyleicosanoic acid methyl ester	429	methyl octadecanoate	435
Methods OA-1 and OA-2	321	methyl eicosenoate	432	methyloctadecanoic acid	430
Methods TNRCC 1005 and 1006	332	methylene bis(2-chloroaniline)	100, 290, 418	methyl octadecatrienoate	432
Methods Total Petroleum Hydrocarbons (NWTPH)	335	methylene bis(n,n-dimethylaniline)	100, 290	methyl octadecenoate	432
Method TPH	322	methylene chloride	62, 69, 71, 100, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 266, 268, 269, 300, 302, 303, 349, 354, 359, 360, 362, 363, 365, 437	methyl octanoate	435, 437
Method Volatile Petroleum Hydrocarbons (VPH)	324, 333	methylene chloride-d2	100, 120	methyl palmitate	432
methomyl	60, 63, 100, 170, 296, 401	methyl ethyl ketone	434	methyl paraben	426
methoprene	401	methylfluorene	410, 418	methyl paraoxon	127, 128, 160, 163, 164
methoprotryne	401	methyl glyoxal	190	methyl parathion	100, 216, 275, 283, 290, 402
methoxybenzoic acid	435	methylhendecane	418	methyl pentadecanoate	432, 435
methoxychlor	60, 63, 72, 100, 123, 129, 130, 131, 132, 154, 157, 158, 164, 178, 179, 180, 204, 205, 206, 232, 252, 253, 254, 255, 309, 310, 311, 312, 313, 355, 401	methylhendecanoic acid	429	methylpentadecanoic acid	430
methoxychlor olefin	401	methylhendecanoic acid methyl ester	429	methylpentadecanoic acid methyl ester	430
methoxyethanol	362	methylheneicosane	418	methylpentadiene	433
methoxyfenozide	401	methyl heneicosanoate	432	methylpentanal	436
methoxyphenylenediamine	401	methylheptadecane	418	methylpentane	316, 322, 323, 324, 325, 328, 331, 343, 433
methyl dinitrophenol	271, 272, 396	methyl heptadecanoate	432, 435	methyl pentanoate	435
methyl acetate	150, 152, 153, 300, 303, 435	methylheptadecanoic acid	429	methylpentanoic acid	430
methyl acrylate	100, 144, 146, 147, 149, 152, 154, 418	methylheptadecanoic acid methyl ester	429	methylpentanoic acid methyl ester	430
methylaniline	438	methylheptadecanoic acid methyl ester	429	methyl pentanone	71, 144, 146, 147, 149, 300, 302, 303, 419, 436
methylanthracene	410, 418, 434	methyl heptanoate	435, 437	methyl pentanone (MIBK)	101, 243, 244, 264, 267, 360, 365
methyl arachidate	432	methylheptanoic acid	429	methylpentene	433
methyl behenate	432	methylheptanoic acid methyl ester	429	methylphenanthrene	210, 232, 410, 419
methylbiphenyl	410, 418	methylheptene	433	methylphenol	226, 271, 274, 281, 283, 289, 291, 305
methyl bromoacetate	183, 184, 185, 186	methyl hexadecanoate	435	methylphenol (m-cresol)	271
methyl bromochloroacetate	183, 184, 185, 186	methylhexadecanoic acid	429	methylphenol (o-cresol)	271, 274
methyl bromodichloroacetate	183, 184	methylhexadecanoic acid methyl ester	430	methylpiperidine	438
methyl bromopropionate	100	methyl hexadecenoate	432	methylpropanal	436
methylbutanal	436	methylhexane	433	methyl propanoate	435
methylbutane	343	methyl hexanoate	435, 437	methylpropanoic acid	435
methyl butanoate	435	methylhexanoic acid	430	methylpropanol	436
methylbutanoic acid	429, 435	methylhexanoic acid methyl ester	430	methylpyrrolidone	362
methylbutanoic acid methyl ester	429	methyl hexanone	436	methylquinoline	419
methyl butanone	436	methylindole	418	methyl stearate	432
methyl caprate	432	methyl iodide	144, 146, 149, 152, 153, 242, 418	methylstyrene	434
methyl caproate	432	methyl iodide (iodomethane)	267	methyl tert-butyl ether (MTBE)	73, 100, 144, 146, 147, 149, 150, 151, 152, 153, 154, 195, 196, 197, 220, 221, 222, 245, 316, 321, 323, 324, 325, 330, 333, 335, 336, 343
methyl caprylate	432	Methyl Iodide (Iodomethane)	100	methyl tetradecanoate	435
methyl chloroacetate	183, 184, 185, 186	methylisoquinoline	418	methyltetradecanoic acid	430
methyl chlorodibromoacetate	183, 184	methyl laurate	432	methyltetradecanoic acid methyl ester	430
methylcholanthrene	100, 258, 271, 273, 274, 275, 410, 418	methyl lignocerate	432	methyl tetradecenoate	432
methylchrysene	361	methyl methacrylate	100, 144, 146, 147, 149, 152, 154, 244, 264, 267, 418	methyl trichloroacetate	183, 184, 185, 186
methylcyclohexane	300, 303, 362, 433	methyl methanesulfonate	100, 271, 273, 275, 283, 284, 285, 418	methyltricosane	419
methylcyclohexanol	436	methyl myristate	432		

methyl tricosanoate	432	naphthalene	71, 101, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 163, 164, 176, 208, 209, 210, 211, 220, 221, 224, 225, 229, 230, 231, 233, 246, 247, 258, 266, 268, 269, 271, 272, 274, 281, 282, 295, 304, 316, 320, 321, 323, 324, 325, 326, 327, 328, 330, 333, 334, 335, 336, 354, 356, 361, 365, 410, 419, 425, 434	nitrobiphenyl	286, 291, 419
methyltridecane	419	naphthalene-d8	101, 224, 226, 227, 276, 277, 304, 306	nitrodibenzofuran	419
methyl tridecanoate	432, 435	Naphthalic anhydride	402	nitrodibenzothiophene	419
methyltridecanoic acid methyl ester	430	naphthol	170, 438	nitrodiphenylamine	419
methyl (trimethylsilyl) trifluoroacetamide	341	naphthoquinone	101, 257, 273, 275, 283, 286, 290, 419	nitrofen	166, 255, 286, 287, 402
methyl undecanoate	366, 432, 435, 437	Naphthoxyacetic acid	402	nitrofluorene	419
metobromuron	356	Naphthylacetamide	402	nitrofluorenone	419
metobromuron	402	Naphthylacetic acid	402	nitroglycerin	298
metolachlor	64, 101, 126, 127, 128, 130, 131, 132, 160, 163, 178, 179, 180, 356, 402	naphthylamine	102, 271, 273, 274, 275, 284, 290, 419, 438	nitroglycerine	257
metolachlor ESA	101, 172	naphthylphthalamic acid	402	nitromethane	362
metolachlor OA	101, 402	napropamide	102, 126, 127, 128, 163, 235, 402	nitronaphthalene	419
metolcarb	296, 402	neat environmentals	411	nitro-o-anisidine	103, 291
metoxuron	356, 402	neat organic reference materials	387	nitro-o-toluidine	103, 271, 273, 275, 284, 291
metribuzin	64, 101, 127, 128, 130, 131, 132, 163, 177, 179, 180, 235, 402	neat pesticide kits	408	nitro-o-xylene	167
metsulfuron methyl	402	neburon	102, 402	nitrophenanthrene	419
mevinphos	101, 126, 128, 162, 163, 164, 216, 287, 402	neodymium (Nd)	19, 23, 25, 37	nitrophenanthroline	419
mexacarbate	101, 287, 290, 296, 402	nervonic acid	430	nitrophenol	72, 102, 134, 135, 136, 137, 138, 140, 141, 167, 189, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 262, 271, 272, 274, 277, 278, 281, 283, 284, 304, 307, 308, 309, 355, 361, 419, 434
MGK-264	101, 126, 127, 128, 160, 163, 402	nervonic acid methyl ester	430	nitrophenyl disulfide	419
MIBK	71, 101, 147, 220, 222, 243, 244, 264, 267, 303, 360, 365, 419	New Jersey	329	nitrophenylenediamine	419, 420
Michigan	328	New York	330	nitrophenyl phenyl ether	419
mildex	402	NH4SO4 (as N) + NaNO3 (as N)	351	nitrophenyl phenyl sulfide	419
milogard	402	nickel (Ni)	14, 19, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 33	nitropropane	102, 144, 146, 147, 149, 152, 154, 267, 360, 419
minerals	58, 68	niclosamide	402	nitropyrene	419
mineral spirits	321, 339	nicosulfuron	402	nitroquinoline	419, 420
Minnesota Department of Health	365	nicotine	102, 291, 402	nitroquinoline-1-oxide	102
mirex	101, 166, 255, 286, 287, 402	niobium (Nb)	19, 23, 25, 37	nitroquinoline oxide	273, 275, 283, 291, 420
MISA test groups	354	NIST	17, 18, 19, 20, 21	nitrosodibutylamine	142, 426
Mississippi	328	nitralin	402	nitrosodicyclohexylamine	420
molinate	101, 128, 162, 163, 402	nitrapyrin	402	nitrosodiethylamine	102, 142, 271, 273, 275, 284, 291, 420, 426
molybdenum (Mo)	14, 19, 23, 25, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 33	nitrate	14, 45	nitrosodiethylaniline	426
monocrotophos	101, 260, 287, 402	nitrate as N	56, 57, 66, 67	nitrosodimethylamine	102, 142, 202, 225, 226, 229, 230, 231, 232, 252, 271, 273, 274, 281, 284, 285, 291, 420, 426
monolinuron	356, 402	nitrate plus nitrite as N	68	nitrosodimethylamine-d6	142
monomethyl tetrachloroterephthalate	137, 138	nitriolotriacetate	45	nitrosodi-n-butylamine	243, 267, 271, 273, 274, 275, 284, 290
monoolein	340, 341	nitrite	45, 58	Nitrosodi-n-butylamine	102
monopalmitin	340	nitrite as N	56, 58	nitrosodi-n-propylamine	252, 271, 273, 274, 276, 277, 278, 281, 282, 284, 285, 291
monosodium acid methanearsonate sesquihydrate	402	nitroacenaphthene	286, 291, 354	Nitrosodi-n-propylamine	102
monostearin	340	4-nitroaniline	226, 233	Nitrosodi-n-propylamine-d14	102
monuron	101, 171, 187, 402	nitroaniline	102, 162, 169, 226, 233, 271, 272, 274, 281, 282, 283, 284, 305, 419, 426	nitrosodiphenylamine	142, 202, 225, 226, 229, 231, 232, 233, 252, 273, 275, 277, 282, 284, 291, 304, 309, 354
motor oil	316, 317, 318, 321, 329, 336, 338	nitroanisole	134, 135, 137, 138, 141	n-nitrosodiphenylamine	420, 426
MTBE	196	nitroanthracene	419	nitrosodiphenylamine	102
myclobutanil	402	nitrobenzene	71, 102, 144, 146, 147, 149, 152, 154, 165, 168, 169, 207, 224, 225, 226, 229, 230, 231, 232, 257, 267, 271, 273, 274, 281, 282, 283, 291, 297, 304, 358, 360, 419, 425, 169	nitrosodipropylamine	142, 202, 224, 225, 226, 229, 230, 231, 232, 233, 304, 307, 308, 309, 354, 426
myrcene	433	nitrobenzene-d5	102, 224, 227, 276, 278, 306, 307	nitrosodipropylamine-d14	142
myristic acid	432	nitrobenzoic acid	435	nitrosomethylethylamine	102, 142, 271, 273, 275, 284, 291, 426
myristoleic acid	430			nitrosomorpholine	103, 142, 271, 273, 275, 284, 291, 420, 426
myristoleic acid methyl ester	430			nitrosopiperidine	103, 142, 271, 273, 274, 275, 284, 290, 420, 426
N					
nabam	402				
naled	216				
naled	101, 287, 402				
naphtha	434				
naphthacene	410, 419				

nitrosopyrrolidine	103, 142, 271, 273, 275, 284, 291, 420, 426	octadecanol	430	palmitoleic acid	431
nitrothal-isopropyl	402	octadecatrienoic acid	432	palmitoleic acid methyl ester	431
nitrotoluene	103, 168, 169, 257, 297, 169	octadecene	433	paraoxon	403
nitrotoluidine	420	octadecenoic acid	430, 432	paraquat	104
nonachlor	103, 123, 130, 158, 162, 164, 402	octadecenoic acid methyl ester	430	Paraquat dichloride	175, 403
nonachlorobiphenyl	237, 256, 373, 374, 375, 376, 378	octadecenoic acid (vaccenic acid)	430	paraquat dichloride tetrahydrate	175
nonacosane	329, 420	octanal	188, 190, 296, 436, 437	parathion	104, 166, 260, 275, 403
nonadecane	317, 319, 322, 326, 327, 328, 329, 331, 420, 433	octanal-DNPH	188, 296	parathion ethyl	166, 213, 283, 286, 290
nonadecanoic acid	430, 432	octane	243, 317, 320, 329, 332, 333, 334, 336, 342, 343, 358, 420, 433, 437	parathion methyl	213, 216
nonadecanoic acid methyl ester	430	octanedioic acid	430	PCB by-products	374
nonadecanol	430	octanedioic acid dimethyl ester	430	PCB congeners	368, 369, 370, 371, 372, 373, 374, 376
nonanal	188, 190, 296, 366, 436, 437	octanediol	436	PCB elution window	378
nonanal-DNPH	188, 296	octanoic acid	430, 435, 437	PCB free transformer oil	380
nonane	243, 301, 317, 319, 322, 324, 325, 326, 327, 329, 342, 358, 420, 433, 437	octanoic acid methyl ester	430	PCB locator	374, 378
nonanedioic acid	430	octanol	366, 436, 437	PCB metabolites	381
nonanedioic acid dimethyl ester	430	octanone	436, 437	PCB methods	375, 376, 377, 378
decanediol	436	octatriacontane	320, 329, 420, 433	PCBs	60, 61, 64, 70, 72, 74, 123, 132, 203, 237, 252, 256, 357, 367
nonanediol	436	octene	433, 437	PCB screening	64
nonanoic acid	430, 432, 435, 437	octylamine	437, 438	PCB windowing	378
nonanoic acid methyl ester	430	octylbenzene (phenyloctane)	420	PCNB	129, 131, 255, 403, 405
nonanol	437	octyl phthalate	354, 361, 438	PCP	403
nonanone	436, 437	oil & grease	68	p-(Dimethylamino)azobenzene	93
nonatriacontane	103, 329	oleic acid	430	pebulate	104, 127, 163, 403
nonene	433, 437	oleic acid methyl ester	430	penconazole	403
non-filterable residue	66	omethoate	403	pencycuron	403
nonylamine	437, 438	o-phenylphenol	403	pendimethalin	104, 403
nonylbenzene	420	orbencarb	403	Pennsylvania	330
nonylphenol	200	ortho-phosphate	45	pentabromobiphenyl	382
norflurazon	103, 127, 163, 166, 402	orthophosphate as P	56, 66	pentabromodiphenyl ether	166, 383
norleucine	438	oryzalin	103, 403	pentabromophenol	420
novaluron	402	ovex	403	pentacene	410, 420
nuarimol	402	oxadiazon	126	pentachloroaniline	403, 420
O		oxadiazon	103, 403	pentachloroanisole	134, 135, 137, 138, 140, 403, 420
octabromobiphenyl	382	oxadixyl	403	pentachlorobenzene	104, 221, 259, 271, 272, 274, 275, 282, 283, 290, 355, 359, 420, 425
octachlorobiphenyl	158, 160, 237, 357, 373, 374, 375, 377, 378	oxalate	45	pentachlorobiphenyl	158, 160, 237, 256, 357, 370, 371, 374, 375, 376, 377, 378
octachlorodibenzo dioxin	384	oxalic acid	434, 435	pentachlorobiphenylol	381
octachlorodibenzofuran	294, 385	oxamyl	60, 103, 157, 170, 296, 403	pentachlorodibenzo dioxin	384
octachlorodibenzo-p-dioxin	294	oxolinic acid	403	pentachlorodibenzofuran	294, 385
octachloronaphthalene	103, 378, 420	oxycarboxin	403	pentachlorodibenzo-p-dioxin	294
octachlorostyrene	355, 403, 420	oxychlordane	166, 403	pentachlorodiphenyl ether	383
octacosane	244, 316, 317, 319, 320, 322, 323, 326, 327, 329, 332, 335, 342, 420, 433	oxydemeton methyl	403	pentachloroethane	104, 144, 146, 147, 149, 150, 151, 152, 153, 154, 264, 267, 271, 272, 290, 420, 424
octacosanoic acid	430	oxydianiline	290, 291	pentachloronitrobenzene	104, 129, 131, 205, 254, 255, 257, 271, 273, 275, 282, 283, 284, 403
octacosanoic acid methyl ester	430	oxyfluorfen	103, 126, 403	pentachlorophenol	60, 63, 72, 104, 134, 135, 136, 137, 138, 139, 140, 141, 157, 158, 159, 160, 162, 164, 167, 189, 199, 200, 224, 225, 226, 228, 230, 231, 233, 249, 250, 262, 271, 272, 274, 277, 278, 280, 281, 283, 284, 304, 307, 308, 309, 355, 359, 420, 425
octacosanol	430	oxygenate free unleaded premium gasoline	338	pentachloroterphenyl	381
octadecadienoic acid	432	oxygenate free unleaded regular gasoline	338	pentachlorotoluene	259, 420
n-octadecane	322	oxytetracycline hydrochloride	403	pentacosane	317, 328, 329, 331, 335, 420, 433
octadecane	226, 232, 244, 316, 317, 319, 320, 323, 326, 328, 329, 331, 335, 342, 420, 433	P			
octadecanedioic acid	430	paclobutrazole	403		
octadecanedioic acid dimethyl ester	430	PAH mixture	208		
octadecanoic acid	430, 435	PAH mixture	305		
octadecanoic acid methyl ester	430	PAHs	61		
		palladium (Pd)	19, 23, 37, 43		
		palmitelaidic acid	430		
		palmitelaidic acid methyl ester	430		
		palmitic acid	432		

pentacosanoic acid methyl ester	431	phenanthrene	63, 71, 104, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 281, 282, 295, 304, 309, 320, 326, 328, 330, 334, 354, 356, 361, 410, 420, 425, 434	picloram methyl ester	134, 135, 137, 138, 140, 404
pentacosanol	431	phenanthrene-d10	105, 159, 161, 162, 165, 166, 224, 226, 227, 237, 276, 277, 304, 306, 356, 375	picoline	105, 243, 264, 267, 273, 274, 275, 284, 285, 290, 421
pentadecane	317, 328, 329, 331, 343, 366, 420	phenanthridine	420	picolyl chloride HCl	105, 290
pentadecanoic acid	431, 432, 435	phenanthroline monohydrate	420	pinelic acid	435
pentadecanoic acid methyl ester	431	phenobarbital	290	pinene	433
pentadecanol	436	phenol	72, 105, 167, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 271, 272, 274, 277, 278, 281, 283, 284, 285, 304, 307, 308, 309, 355, 359, 361, 420, 434, 438	pinoxaden	404
pentafluorobenzene	104, 120, 217, 269	phenol-d5	105, 199, 224, 227, 250, 276, 278, 306, 307	piperalin	404
pentafluorobiphenyl	104	phenolics	66, 68	piperidine	438
pentafluorophenol	250	phenols mixture	305	piperidone	433
pentafluorophenol	104	phenothrin	403	piperonyl butoxide	404
pentamethylbenzene	420	phenoxybiphenyl	383	pirimicarb	404
pentamethylheptane	420	phenthoate	403	pirimiphos-ethyl	404
pentanal	188, 190, 436	phenylpropanol	436	pirimiphos-methyl	404
pentanal-DNPH	188, 296	phenylalanine	438	platinum (Pt)	19, 23
pentanal (valeraldehyde)	296	9-phenylanthracene	410, 421	plifenate	404
pentane	322, 324, 325, 333, 343, 358	phenyl butene	421	polynuclear aromatic hydrocarbons	409, 425
pentanediol	436	phenylcarbazole	421	potassium	57, 66, 67
pentanoic acid	431, 435	phenylcyclohexane	433	potassium cyanate	404
pentanoic acid methyl ester	431	phenylenediamine	105, 273, 275, 284, 290, 421, 438	potassium hydrogen phthalate	352
pentanol	436	phenylethanol	436	potassium iodide	352
pentanone	243, 267, 436	phenylethylamine	438	potassium (K)	14, 19, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 38, 39, 40, 41, 46, 68
pentatriacontane	322, 329, 332, 420	phenyl mercuric chloride	403	potassium nitrate	352
pentylamine	438	phenylmethanol	436	potassium sorbate	426
pentylbenzene	420	phenylnaphthalene	410, 421	prallethrin	404
perchlorate	45	pH indicator	278, 307	praseodymium	19, 23, 25
perfluorotributylamine	366	phorate	105, 216, 275, 283, 290, 403	pretilachlor	404
performance evaluation mix	313	phorate oxon	403	pristane	316, 329, 433
permethrin	104, 129, 130, 131, 132, 160, 162, 164, 204, 403	phorate-sulfone	403	probenazole	404
permethrins	205, 255	phorate sulfoxide	403	prochloraz	404
perthane	255, 403	phosalone	286, 287, 403	procymazine	404
perylene	309, 354, 356, 410, 420, 425, 434	phosdrin	127	procyimidone	404
perylene-d12	104, 159, 161, 162, 166, 224, 226, 227, 276, 277, 304, 306	phosfolan	403	prodiamine	404
pesticides	61, 64, 72, 390	phosmet	105, 260, 286, 287, 403	profenophos	404
pesticides mix a high	313	phosphamidon	105, 260, 287, 403	profluralin	105, 404
pesticides mix a low	313	phosphate	14, 43, 45	prohexadione	404
pesticides mix a mid	313	phosphate as P	68	prohexadione-calcium	404
pesticides mix b high	313	phosphoric acid	352	proline	438
pesticides mix b low	313	phosphorus (P)	14, 19, 23, 25, 30, 32, 33, 37, 38, 39	promecarb	105, 296, 404
pesticides mix b mid	313	phoxim	403	prometon	64, 105, 126, 127, 128, 163, 165, 216, 404
PETN	257	phthalate	45	prometryn	105, 127, 162, 163, 166, 216, 404
petroselinic acid	431	phthalates and adipates	61	promulgated VOC mixture	62
petroselinic acid methyl ester	431	phthalic acid	435	pronamide	106, 127, 163, 164, 275, 284, 290, 404
pH	55, 57, 66, 67	phthalic anhydride	289	propachlor	60, 106, 128, 129, 130, 131, 132, 154, 157, 158, 162, 163, 205, 255, 404
pH 1.68	50	phytane	316, 329	Propamocarb	404
pH 4.00	50	phytanic acid	431	propamocarb hydrochloride	404
pH 4.01	50	phytanic acid methyl ester	431	propanal	188, 190, 296, 436
pH 7.00	50	phytol	431	propanal-DNPH	188, 296
pH 7.416	50	picloram	60, 105, 134, 135, 136, 137, 138, 139, 140, 141, 157, 189, 262, 403	propanedioic acid	431
pH 8.00	50			propanedioic acid dimethyl ester	431
pH 9.21	50			propanediol	436
pH 10.01	50			propanil	171, 235, 404
pH 12.45	50			propanoic acid	431, 435
phenacetin	104, 271, 273, 275, 283, 284, 290, 420			propanoic acid methyl ester	431
				propanol	243, 343, 436

propaquizafop	404		
propargite	404		
propargyl alcohol	106, 264, 267, 421		
propazine	106, 128, 162, 163, 166, 216, 404		
propetamphos	404		
propham	106, 404		
propineb	404		
propiolactone	106, 421		
propionaldehyde	74, 361		
propionate	45		
propionic acid	426, 432		
propionitrile	106, 144, 146, 147, 149, 152, 154, 243, 244, 264, 267, 421		
propoxur	63, 106, 170, 296, 404		
propyl acetate	435		
propyl alcohol	267		
propylamine	106, 264, 267, 421		
n-propylbenzene	59, 62		
propylbenzene	106, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 246, 247, 266, 268, 269, 317, 330, 343, 365, 421, 434, 437		
propyl butanoate	435		
propylene oxide	421		
propylene thiourea	106, 133		
propyl gallate	426		
propyl paraben	426		
propylphenol	438		
propyl phthalate	417		
propylthiouracil	106, 291		
propyzamide	162, 283		
prosulfocarb	404		
prosulfuron	404		
pulegone	433		
pymetrozine	404		
pyraclofos	404		
pyraclostrobin	404		
pyraflufen-ethyl	404		
pyrazophos	404		
pyrazosulfuron-ethyl	404		
pyrazoxyfen	404		
pyrene	63, 71, 106, 158, 160, 163, 164, 176, 208, 209, 210, 211, 224, 225, 229, 230, 231, 233, 258, 271, 272, 274, 276, 278, 281, 282, 295, 304, 307, 308, 320, 326, 327, 328, 330, 334, 354, 356, 358, 361, 410, 421, 425, 434		
pyrene-d10	106, 159, 161, 162, 276		
pyrethrins	404		
pyridaben	404		
pyridaphenthion	405		
pyridate	405		
pyridine	106, 226, 232, 243, 264, 267, 273, 281, 283, 284, 289, 290, 291, 360, 361, 362, 421		
pyridine (as N)	346, 350		
pyridine (as N) + thiophene (as S)	352		
pyridine-d5	106		
pyrifenox	405		
pyrimethanil	405		
pyriproxyfen	405		
pyrithiobac-sodium	405		
		Q	
		quaterphenyl	410, 421
		quinalphos	405
		quinclorac	139, 140, 405
		quinmerac	405
		quinoline	361, 421
		quinoxiphen	405
		quinquephenyl	410, 421
		quintozene	405
		quizalofop	405
		quizalofop-ethyl	405
		quizalofop-P ethyl	405
		R	
		RDX	106, 168, 169, 169, 297
		regulated SOCs	60, 64
		regulated VOCs	59, 61, 62
		regulated Volatiles	64
		residual free chlorine	56
		residual solvents	362, 363
		resmethrin	405
		resolution check mix	313
		resorcinol	286, 289
		retention time mixture	237, 375
		rhenium (Re)	19, 23, 37
		rhodium (Rh)	20, 23, 31
		ricinelaicid acid methyl ester	431
		ricinoleic acid	431
		ricinoleic acid methyl ester	431
		rimsulfuron	405
		ronnel	106, 216, 405
		rotenone	106, 187, 405
		RPC-1016	379
		RPC-1221	379
		RPC-1232	379
		RPC-1242	379
		RPC-1248	379
		RPC-1254	379
		RPC-1260	379
		RPC-1262	379
		RPC-1268	379
		rubidium (Rb)	20, 23, 31
		rubrene	410, 421
		ruthenium (Ru)	20, 23
		S	
		safe drinking water act (SWDA)	134, 156, 157
		safrole	106, 271, 273, 275, 283, 289, 290, 421
		salicylic acid	434
		samarium (Sm)	20, 23, 25
		sarcosine	438
		scandium (Sc)	20, 23, 30, 31, 36
		schradan	287, 290
		SDWA	44
		SDWA carbamate pesticides	170
		SDWA herbicides	134, 157
		SDWA SOCs	157, 159
		SDWA volatiles	156
		sebacic acid	435
		sebuthylazine	356, 405
		secbumeton	106, 216, 405
		secondary safe drinking water act	44
		selenium (Se)	14, 20, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44, 33
		semi-volatiles	64
		serine	438
		sethoxydim	405
		siduron	106, 171, 187, 405
		silica	20
		silicon (Si)	14, 20, 23, 25, 27, 32, 33, 34, 35, 37
		silver (Ag)	14, 20, 23, 25, 27, 28, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 44, 33
		silvex	60, 64, 134, 135, 136, 137, 139, 140, 141, 157, 189, 214, 405
		silvex (2,4,5-TP)	107, 214, 262, 263, 275, 355
		silvex methyl ester	107, 134, 135, 137, 138, 140, 405
		silvex methyl ester (2,4,5-TP)	263
		simazine	60, 107, 123, 126, 127, 128, 130, 131, 132, 154, 157, 158, 163, 178, 179, 180, 216, 261, 287, 356, 405
		simetryn	107, 127, 163, 216, 405
		Skinner list	361
		sodium azide	352
		sodium benzoate	426
		sodium carbonate	352
		sodium hydrogen carbonate	352
		sodium hydroxide	52, 352
		sodium (Na)	14, 20, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 38, 39, 40, 41, 46, 55, 57, 66, 67, 68
		sodium nitrate	426
		sodium nitrite	426
		sodium persulfate	352
		sodium sulfate (anhydrous)	352
		solids	58, 68
		sonar	399, 405
		sorbic acid	426
		spectral interference check	32
		spiking additions	35
		spiking standards	40
		spinosad	405
		spirodiclofen	405
		spiromesifen	405
		spiroxamine	405
		squalane	107, 318, 336, 433
		SRM	17, 18, 19, 20, 21
		STARS Compounds	330
		stearic acid	337, 432
		stilbene	434
		stirofos	128, 163
		strobane	405
		strontium (Sr)	14, 20, 23, 25, 28, 29, 30, 31, 32, 33, 38, 39, 46, 33
		strychnine	107, 291

styrene	59, 62, 107, 114, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 220, 245, 246, 247, 264, 266, 268, 269, 300, 302, 303, 354, 358, 361, 365, 421, 434	terphenyl-d14	108, 159, 211, 224, 227, 276, 278, 298, 306, 307	tetrachloroquaterphenyl	381
styrene oxide	421	terpinene	433	tetrachloroterephthalic acid	137, 138, 140, 141
suberic acid	435	terpineol	226, 232, 433	tetrachloroterphenyl	381
succinate	45	tert-amyl ethyl ether	149, 150, 153	tetrachlorotoluene	421, 422
succinic acid	435	tert-amyl methyl ether	149, 150, 153, 319, 343	tetrachloroxylene	376
sulfate	14, 45, 56, 57, 66, 67	tert-butanol	149, 150, 153, 343	tetrachlorvinphos	127, 162, 164, 287
sulfolane	362	tert-butyl alcohol	319	tetrachlorvinphos	108, 216, 406
sulfometuron methyl	405	tert-butyl alcohol (2-methyl-2-propanol)	243	tetraconazole	406
sulfone	164, 166	tert-butyl alcohol (tert-butanol)	267	tetracosane	244, 316, 317, 319, 320, 322, 323, 326, 328, 329, 331, 335, 342, 422, 433
sulfosulfuron	405	tert-butylbenzene	83, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 246, 247, 266, 268, 269, 330, 365, 412	tetracosane-d50	329, 336
sulfotepp	260, 275, 290, 405	tert-butyl ethyl ether	149, 153	tetracosanoic acid	431
sulfoxide	286, 405	tert-butyl methyl-d3 ether	151, 154	tetracosanoic acid methyl ester	431
sulfur and nitrogen mixed kit	352	tert-butyl methyl ether (MTBE)	83, 116, 149, 152, 247, 300, 303, 358, 365, 412	tetracosanol	431
sulfur (S)	14, 20, 23, 25, 30, 37, 309	tert-pentanol	343	tetradecachloroterphenyl	381
sulprophos	107, 405	tert-pentylbenzene (tert-amylbenzene)	420	tetradecanal	436
suspended solids	58, 68	testosterone	174	tetradecane	232, 244, 317, 319, 320, 322, 323, 326, 327, 328, 329, 331, 335, 342, 343, 366, 422, 433
swep	107, 405	tetrabromobenzene	421	tetradecanedioic acid	431, 435
T					
2,4,5-T	64, 107, 134, 136, 137, 138, 139, 140, 141, 189, 214, 215, 262, 263, 355, 406	tetrabromobiphenyl	249, 382	tetradecanedioic acid dimethyl ester	431
2,4,5-T butoxyethyl ester	406	tetrabromobutane	424	tetradecanoic acid	431, 435
tetrachloroethane	108	tetrabromodiphenyl ether	166, 383	tetradecanoic acid methyl ester	431
TAME	319, 343	tetrabromoethane	421, 423, 424	tetradecanol	431, 436
tantalum (Ta)	20, 23, 25, 29, 37	tetrachloroaniline	421	tetradecene	433
tartaric acid	435	tetrachloroanisole	421	tetradecenoic acid	432
tartrate	45	tetrachlorophenol	421	tetradifon	406
TCMTB	406	tetrachlorobenzene	108, 221, 259, 271, 272, 274, 275, 282, 283, 290, 305, 355, 359, 421, 425	tetraethyl dithiopyrophosphate (Sulfotepp)	108
tebufenozide	406	tetrachlorobiphenyl	158, 160, 237, 256, 357, 369, 370, 374, 375, 376, 377, 378	tetrafluoroethane	109
tebufenpyrad	406	tetrachlorobiphenyldiol	381	tetrahydrocarbazole	422
tebupirimphos	406	tetrachlorobiphenylol	381	tetrahydrofluoranthene	410, 422
tebutame	406	tetrachlorodibenzo dioxin	384	tetrahydrofuran	109, 144, 146, 147, 149, 150, 151, 152, 153, 154, 362, 365, 422, 434
tebuthiuron	107, 127, 163, 164, 171, 406	tetrachlorodibenzofuran	294, 385	tetrahydronaphthalene	410, 422
tecnazene	406	tetrachlorodibenzo-p-dioxin	213, 294	tetrahydropyrimidinethiol	109, 133
teflubenzuron	406	tetrachlorodiphenyl ether	383	tetralin	362, 434
tefluthrin	406	tetrachloroethane	59, 62, 71, 108, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 354, 358, 365, 421, 423, 424, 437	tetramethrin	406
tellurium (Te)	20, 23, 25, 28, 30, 31	tetrachloroethene	59, 62, 69, 71, 108, 114, 116, 117, 118, 119, 120, 121, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 197, 217, 218, 219, 222, 223, 242, 246, 247, 264, 266, 268, 269, 300, 302, 303, 354, 358, 360, 365, 421, 423, 424	tetramethylbenzene	336, 343, 422, 434
telodrin	406			tetramethylhexadecane	422
Tennessee	331			tetramethylpentadecane	422
TEPP	260, 287, 406			tetraphenyl naphthalene	410, 422
terbacil	108, 127, 128, 163, 235, 406			tetratetracontane	342, 422
terbium (Tb)	20, 23, 25, 31, 36			tetratriacontane	317, 320, 329, 334, 422, 433
terbucarb	406			tearyl	109, 168, 169, 257, 169, 297
terbufos	108, 127, 163, 165, 166, 213, 286, 287			Texas	332
terbufos sulfone	166			thallium (Tl)	14, 20, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 33
terbumeton	406			THBP (2,4,5-trihydroxybutyrophenone)	426
terbuphos	260			thexadecane	433
terbuthylazine	108, 216, 356, 406			thiabendazole	109, 406
terbuthylazine-desethyl	108			thiacloprid	406
terbutryn	108, 216, 406			thiamethoxam	406
terbutryn(e)	128, 162, 163			thiazopyr	406
terephthalic acid	435			thiazopyr thiobencarb	166
terphenyl	108, 318, 326, 327, 329, 331, 332, 334, 336, 410, 421			thidiazuron	171, 406
				thifensulfuron methyl	406

thiobencarb	166, 406	total residual chlorine	58, 66, 67, 68	trichlorodibenzo dioxin	384
thiocyanate	45	total solids	58, 68	trichlorodibenzofuran	385
thiodicarb	296, 406	total trihalomethanes	59	trichlorodiphenyl ether	383
thiodipropionic acid	426	toxaphene	109, 60, 61, 64, 72, 129, 159, 160, 206, 229, 310, 313	trichloroethane	59, 62, 69, 71, 110, 114, 116, 117, 118, 119, 120, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 242, 246, 247, 264, 266, 268, 269, 300, 302, 303, 354, 358, 360, 362, 365, 422, 423, 424, 437
thiometon	406	toxic substances mixture #1	305	trichloroethene	59, 62, 69, 71, 110, 114, 116, 117, 118, 120, 121, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 156, 177, 178, 179, 180, 192, 193, 194, 195, 196, 197, 217, 218, 219, 221, 222, 223, 242, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 354, 358, 360, 362, 363, 365, 422, 423, 424
thionazin	109, 260, 273, 275, 283, 406	toxic substances mixture #2	305	trichlorofluoromethane	59, 62, 110, 116, 117, 118, 119, 144, 145, 147, 148, 150, 152, 153, 155, 192, 194, 196, 217, 218, 220, 221, 222, 223, 242, 246, 247, 265, 266, 269, 300, 302, 354, 360, 365
thiophanate methyl	406	2,4,5-TP	134, 136, 137, 138, 139, 140, 189, 214	trichlorohydroxydiphenyl ether	383
thiophene	422	TPH (with fatty acids)	73	trichloronate	110, 216, 407
thiophenol	109, 285, 289, 361	TPH (without fatty acids)	73	trichlorophenol	72, 110, 165, 167, 181, 183, 199, 200, 224, 225, 226, 230, 231, 233, 249, 250, 271, 272, 273, 274, 277, 281, 283, 284, 304, 305, 309, 311, 355, 359, 407, 422, 425
thiosulfate	45	trace metals	65, 67, 68	trichlorophenol (as Cl)	348
thiram	406	tralkoxydim	407	trichloropropane	59, 62, 110, 116, 117, 118, 119, 122, 144, 145, 146, 147, 148, 149, 150, 151, 153, 154, 155, 177, 178, 179, 181, 220, 242, 246, 247, 264, 266, 268, 269, 358, 365, 422, 424, 437
thorium (Th)	20, 23, 25, 36	tralomethrin	407	trichloroterphenyl	381
threonine	438	transfluthrine	407	trichlorotoluene	259, 355, 422, 423
thulium (Tm)	21, 23	transformer oil	380	trichlorotrifluoroethane	110, 300, 303, 360, 365
tilt	406	trans-nonachlor	103, 255	triclopyr butoxyethyl ester	407
tin (Sn)	14, 21, 23, 25, 29, 32, 33	triacontane	316, 317, 319, 320, 322, 326, 329, 422, 433	triclopyr	407
tiocarbazil	406	triacontane-d62	318, 336	triclopyr methyl ester	407
titanium (Ti)	14, 21, 23, 25, 27, 29, 30, 33, 35, 37, 39, 65	triacontanoic acid	431	tricosane	317, 328, 329, 331, 423, 433
2,4,5-T methyl ester	107, 134, 137, 138, 140, 263, 406	triacontanoic acid methyl ester	431	tricosanoic acid	432
2,4,5-T n-butyl ester	406	triacontanol	431	tricosanoic acid methyl ester	431
TNT	169	triadimefon	127, 162, 163, 235	tricosanol	431
TN water standards kit (low)	351	triadimefon	109, 407	tricyclazole	110, 128, 162, 163, 235, 407
TN water standards kit (medium)	351	triadimenol	407	tridecanal	436
TOC	66, 68	triallate	407	tridecane	317, 328, 329, 331, 343, 423
tokuthion	109, 216, 406	triallyl phosphate	422	tridecanoic acid	431, 432, 435
tolclofos-methyl	406	triasulfuron	407	tridecanoic acid methyl ester	431
tolfenpyrad	406	triazole	407	tridecanol	436
tolidine	422	triazophos	407	tridecanone	436
tolualdehyde	296	tribenuron methyl	407	trietazine	407
tolualdehyde-DNPH	296	tribenzylamine	438	triethylamine	438
toluene	59, 62, 69, 71, 73, 114, 116, 117, 118, 119, 121, 144, 145, 146, 148, 149, 150, 151, 152, 153, 154, 155, 156, 193, 194, 195, 196, 197, 217, 218, 219, 220, 221, 222, 223, 245, 246, 247, 264, 265, 266, 268, 269, 300, 301, 302, 303, 316, 317, 319, 321, 323, 324, 325, 328, 330, 331, 333, 334, 335, 336, 342, 343, 344, 345, 347, 350, 351, 354, 358, 360, 361, 362, 365, 433, 434, 437	tribromoacetic acid	181, 182, 183, 184, 190, 407	triethyl phosphorothioate	110, 273, 275, 283, 290
toluene-d8	109, 120, 265, 266, 268, 269, 300	tribromobenzene	110, 422	trifloxystrobin	407
toluene diisocyanate	109, 290	tribromobiphenyl	368, 374, 375, 382	trifloxysulfuron sodium salt	407
toluic acid	435	tribromobutane	424	triflumizole	407
toluidine	109, 243, 267, 271, 273, 275, 284, 291, 358, 422, 438	tribromophenol	110, 199, 224, 226, 227, 249, 250, 276, 278, 306, 307, 422	triflumuron	407
tolyfluanid	406	tributylamine	438	trifluoroacetophenone	111, 190
topramezone	407	tributyl phosphate	261		
total alkalinity as CaCO ₃	66	tricaprin	340, 341		
total cyanide	58, 66, 67, 68	trichlorfon	110, 260, 407		
total dissolved solids	66	trichloroacetic acid	61, 110, 181, 182, 183, 184, 185, 407		
total filterable residue	55	trichloroacetic acid (as Cl)	190		
total hardness as CaCO ₃	57, 66	trichloroacetone nitrile	110, 177, 178, 179, 180		
total inorganic carbon (TIC)	47	trichloroaniline	422, 426		
total kjeldahl nitrogen as N	66, 68	trichloroanisole	185, 422		
total oil & grease	66, 67	trichlorobenzene	59, 62, 71, 110, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 212, 219, 220, 221, 224, 225, 226, 229, 230, 231, 232, 246, 247, 259, 266, 268, 269, 271, 272, 274, 276, 278, 281, 282, 291, 300, 303, 307, 308, 355, 359, 365, 422, 425, 434		
total organic carbon (TOC)	47, 56, 57	trichlorobenzoic acid	422		
total organic halides	68	trichlorobiphenyl	158, 160, 237, 256, 357, 368, 369, 374, 375, 376, 377, 378		
total phenolics	67	trichlorobiphenylol	381		
total phosphorus as P	66, 68				

trifluoroethane	111, 155	ULTRAcheck® Demands	68	ULTRAcheck® WP/DMR-QA Total Cyanide (Complex)	66
trifluorotoluene	111, 120, 121, 149, 197, 245, 318, 321, 332, 336	ULTRAcheck® Diesel Fuel	73	ULTRAcheck® WP/DMR-QA Total Phenolics	66
trifluralin	60, 111, 129, 130, 131, 132, 154, 157, 158, 162, 163, 164, 178, 179, 180, 255, 286, 287, 407	ULTRAcheck® EDB/DBCP	62	ULTRAcheck® WP/DMR-QA Total Residual Chlorine	66
triflurosulfuron methyl	407	ULTRAcheck® Gasoline	73	ULTRAcheck® WP/DMR-QA Trace Metals	65
triforine	407	ULTRAcheck® Gasoline Additives	73	ULTRAcheck® WP Minerals	66
trihalomethanes	61, 64	ULTRAcheck® HAP Sample	74	ULTRAcheck® WP PCBs in Transformer Oil	70
trihalomethanes mixture	62	ULTRAcheck® Hardness	57, 67	ULTRAcheck® WP PCBs in Water	70
trihydroxybenzoic acid	435	ULTRAcheck® Herbicides	64	ULTRAcheck® WP Pesticides	70
triethylquinoline	426	ULTRAcheck® Hydrocarbon Fuels Kit	73	ULTRAcheck® WP Trace Metals	65
trimethacarb	407	ULTRAcheck® ICR Minerals	57	ULTRAcheck® WP Volatile Aromatics	69
trimethylaniline	111, 290	ULTRAcheck® Inorganic DMR-QA Waste Water Kit	65	ULTRAcheck® WP Volatile Halocarbons	69
trimethylbenzene	59, 62, 111, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 246, 247, 266, 268, 269, 316, 317, 323, 324, 325, 328, 330, 331, 333, 334, 335, 336, 342, 343, 365, 423, 434	ULTRAcheck® Inorganic Waste Water Kit	68	ULTRAcheck® WS Anions	56
trimethylhexene	433	ULTRAcheck® Metals	57	ULTRAcheck® WS Carbamates	60
trimethylnaphthalene	136, 410, 423	ULTRAcheck® Methanol Sample	74	ULTRAcheck® WS Chloral Hydrate	61
Trimethyl nitrobenzene	111	ULTRAcheck® Minerals	57, 67	ULTRAcheck® WS Chlordane	60
trimethylpentane	316, 322, 323, 324, 325, 328, 331, 433	ULTRAcheck® Nitrite	58	ULTRAcheck® WS Corrosivity	55
trimethylpentane2-methylpentanenonanen-pentane	322	ULTRAcheck® Nutrients	68	ULTRAcheck® WS Cyanide (Free)	56
trimethylpentene	433	ULTRAcheck® Oil & Grease	67	ULTRAcheck® WS DBCP / EDB	59
trimethylphenol	438	ULTRAcheck® Organic Drinking Water Kit	64	ULTRAcheck® WS Disinfection By-Products	56, 61
trimethyl phosphate	111, 289	ULTRAcheck® Organic Regulated Drinking Water Kit	64	ULTRAcheck® WS Herbicides	60
trinexapac	407	ULTRAcheck® Organic Waste Water Series Kit	72	ULTRAcheck® WS Mercury	55
trinitrobenzene	111, 168, 169, 257, 271, 273, 275, 283, 289, 169, 297	ULTRAcheck® Organic Water Pollution (WP) Kit	72	ULTRAcheck® WS Metals	55
trinitrofluorenone	423	ULTRAcheck® Organic WP Waste Water Series Kit	70	ULTRAcheck® WS PAHs	61
trinitrotoluene	257, 297	ULTRAcheck® Organic WS Drinking Water Kit	61	ULTRAcheck® WS PCBs	60
trinitrotoluene (TNT)	111, 168, 169	ULTRAcheck® PCBs	64, 72, 74	ULTRAcheck® WS Pesticides	60
triolein	340, 341	ULTRAcheck® PCBs in Transformer Oil	74	ULTRAcheck® WS Phthalate and Adipate	61
triphenylene	410, 423	ULTRAcheck® PCBs in Water	74	ULTRAcheck® WS Regulated SOCs	60
triphenyl phosphate (TPP)	111m 126, 127, 161, 162, 165, 166, 261	ULTRAcheck® Pesticides	63, 64, 72	ULTRAcheck® WS Regulated VOCs	59
triptycene	410, 423	ULTRAcheck® pH	67	ULTRAcheck® WS Residual Free Chlorine	56
tris(2,3-dibromopropyl)phosphate	111, 289	ULTRAcheck® Phenolics	67	ULTRAcheck® WS Sulfate / TOC	56
trtriacontane	329	ULTRAcheck® Regulated SOCs	64	ULTRAcheck® WS Toxaphene	60
truxene	410, 423, 425	ULTRAcheck® Regulated VOCs	62	ULTRAcheck® WS Trihalomethanes	59
tryptophan	438	ULTRAcheck® Semi-Volatiles	63	ULTRAcheck® WS Turbidity	56
tungsten (W)	21, 23, 25, 37	ULTRAcheck® Solids	58, 68	ULTRAcheck® WS Unregulated VOCs	59
turbidity	56, 58	ULTRAcheck® TOC	57	ULTRAKits®	433
turpentine	434	ULTRAcheck® Total Residual Chlorine	58, 67	ultra low nitrogen standards kit	350
		ULTRAcheck® TOX	68	ultra low sulfur standards kit	351
		ULTRAcheck® Toxaphene	64, 72	ultra low TOC	47
		ULTRAcheck® TPH In Water	73	ultra low TOC water	51
		ULTRAcheck® TPH in Water Kit	73	ULTRAsure®	278, 439
		ULTRAcheck® Trace Metals	67	undecanal	436, 437
		ULTRAcheck® Trihalomethanes	62	undecane	317, 328, 329, 331, 342, 358, 366, 423, 433, 437
		ULTRAcheck® Turbidity	58	undecanoic acid	432, 435, 437
		ULTRAcheck® Underground Storage Tank (UST) Kit	73	undecanol	436, 437
		ULTRAcheck® Unregulated VOCs	62	undecanone	436, 437
		ULTRAcheck® Volatiles	62, 71	undecene	433, 437
		ULTRAcheck® WP Chlordane	70	undecylamine	437
		ULTRAcheck® WP/DMR-QA Demands	66	underground storage tank (UST)	336
		ULTRAcheck® WP/DMR-QA Mercury	65	uniconazole-P	407
		ULTRAcheck® WP/DMR-QA Non-Filterable Residu	66	unleaded gasoline	321, 324, 332, 336, 338, 339
		ULTRAcheck® WP/DMR-QA Nutrients	66	unleaded premium gasoline (oxygenate free)	318, 321
		ULTRAcheck® WP/DMR-QA Oil & Grease	66	unleaded regular gasoline	73
		ULTRAcheck® WP/DMR-QA pH	66	unleaded regular gasoline (oxygenate free)	318, 321

U

ULTRAcheck®	439
ULTRAcheck® Acids	72
ULTRAcheck® Aroclors in Transformer Oil	74
ULTRAcheck® Base/Neutrals	71
ULTRAcheck® Basic Waste Water Kit	68
ULTRAcheck® BTEX	73
ULTRAcheck® Carbamate Pesticides	63
ULTRAcheck® Cations	68
ULTRAcheck® Chlordane	64, 72
ULTRAcheck® Complete Inorganic WP Waste Water Kit	65
ULTRAcheck® Cyanide	58, 67

unregulated VOCs	59, 61, 62	WP Trace Metals #1	65
unsaturated fatty acids and methyl esters	427	WP Trace Metals #2	65
unweathered hydrocarbon	339	WP Volatile Aromatics	70
uranium (U)	21, 23, 25, 31, 36	WP Volatile Halocarbons	70
urethane (ethyl carbamate)	111, 290	WS Anions	55
		WS Corrosivity	55
		WS Disinfection By-Products	55
		WS Free Cyanide	55
		WS inorganics	55
		WS Mercury	55
		WS Metals #1	55
		WS Metals #2	55
		WS organics	61
		WS Residual Free Chlorine	55
		WS Sulfate / TOC	55
		WS Turbidity	55
V		X	
valeric acid	432	xylene	62, 73, 112, 114, 116, 117, 118, 119, 121, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 195, 196, 197, 220, 221, 245, 246, 247, 264, 266, 268, 269, 300, 302, 303, 316, 317, 319, 321, 323, 324, 325, 328, 330, 331, 333, 335, 336, 342, 343, 354, 358, 360, 361, 362, 365, 423, 433, 434
valine	438	xlenol	438
vamidothion	407		
vanadium (V)	14, 21, 23, 25, 27, 29, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 33	Y	
vegadex	286, 287, 407	ytterbium (Yb)	21, 23, 25
vernolate	111, 126, 127, 163, 407	yttrium (Y)	21, 23, 25, 30, 31, 36
vinclozolin	166, 407	Z	
vinyl acetate	111, 423	zinc (Zn)	14, 21, 23, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 44, 33
vinyl chloride	59, 62, 112, 114, 116, 117, 118, 144, 145, 147, 148, 150, 152, 155, 156, 192, 194, 196, 217, 218, 220, 221, 222, 223, 242, 246, 247, 265, 266, 268, 269, 300, 301, 302, 354, 359, 365	zineb	407
vinylcyclohexene	433	ziram	112, 407
vinylcyclohexene dioxide	423	zirconium (Zr)	21, 23, 25, 29, 37
VOCs	59, 61, 62, 113, 144		
volatile aromatics	121		
volatile fatty acids	432		
volatile GC/MS	301		
volatile halocarbons	242, 264, 423		
volatile organic compounds	115		
volatile organic contaminants	147		
volatile petroleum hydrocarbons	324		
volatiles	62, 64, 71, 72		
volatiles target compounds	300, 302, 303		
W			
warfarin	407		
Washington	333		
water	11, 44, 47, 351		
water soluble volatiles	354		
weathered fuels	339		
weedazol	407		
WHO/ISS PCBs	357, 377		
WHO PCBs	357, 377		
WIP	319		
Wisconsin	335		
WP Chlordane	70		
WP Demands	65		
WP/DMR-QA inorganics	65		
WP Mercury	65		
WP Minerals	65		
WP Non-Filterable Residue	65		
WP Nutrients	65		
WP Oil & Grease	65		
WP organics	70		
WP Pesticides	70		
WP pH	65		
WP Total Cyanide	65		
WP Total Phenolics	65		
WP Total Residual Chlorine	65		

Catalog Number Index

#

1016TK	380	AM-280-1	111
1221TK	380	AM-290-1	112
1232TK	380	AM-300-1	112
1242TK	380	AM-310-1	112
1242TK-A	380	AM-320-1	112
1242TK-B	380	AMK-602	197
1242TK-B1	380	AMK-8021	246
1242TK-B2	380	AMMM-500-1	116
1248TK	380	AMMM-501-1	116
1248TK-B	380	AMMM-602N-1	197
1248TK-B1	380	AMMM-501-1	116
1248TK-B2	380	AMMM-603-1	197
1254TK	380	AMMM-603-1	197
1254TK-A	380	AMMM-604-1	197
1254TK-B	380	AMMM-622-1	197
1254TK-B1	380	AMMM-802-1	245
1254TK-B2	380	AMMM-812-1	245
1260TK	380	AMN-603-1	198
1260TK-A	380	AMN-603-1	248, 267
1260TK-B	380	AMN-613-1	198
1260TK-B1	380	AMN-613-1	248
1260TK-B2	380	AMN-613-1	248
1262TK	380	AMN-623-1	248, 267
1268TK	380	AMN-623-1	354
47995N-1	88	AMN-623-1	354
47995N-1	159, 161	AMN-803-1	198
47995N-1	228	AMN-803-1	248
47995N-1	280	AMN-803-1	248
47995N-1	309	AMN-813-1	76
625-MA-1	224	AMN-813-1	248
		AMN-813-1	248
		AMN-823-1	76
		AMN-823-1	76
		AMN-823-1	248
		ASTM-100-1	343
		ASTM-110-1	342
		ASTM-120-1	342
		ASTM-130-1	342
		ATS-110-1	76
		ATS-111-1	76
		ATS-111-1	175
		ATS-112-1	76
		ATS-112-1	175
		ATS-120-1	86
		ATS-120-1	237
		ATS-120-1	375
		ATS-122-1	86
		ATS-122-1	237
		ATS-122-1	375
		ATS-130-1	90
		ATS-140-1	97
		ATS-140-1	258
		ATS-140-1	327, 332, 336
		ATS-150-1	105
		ATS-160-1	108
		ATS-161-1	108
		ATS-162-1	108
		ATS-162-1	159
		ATS-170-1	110
		ATS-180-1	110
		ATS-181-1	110
		ATS-181-1	199
		ATS-181-1	250
		ATS-182-1	110
		ATS-182-1	199
		AM-100-1	80
		AM-150-1	96
		AM-160-1	110
		AM-170-1	76
		AM-171-1	76
		AM-171-1	198
		AM-173-1	76
		AM-173-1	198
		AM-180-1	76
		AM-181-1	76
		AM-181-1	198
		AM-182-1	76
		AM-182-1	198
		AM-200-1	83
		AM-210-1	83
		AM-220-1	83
		AM-230-1	98
		AM-240-1	98
		AM-260-1	106
		AM-270-1	108

A

B

B-100-1	80
B-110-1	90
B-120-1	93
B-121-1	93
B-121-1	292
BEC-110-1	82
BEC-120-1	82
BEC-130-1	82
BEC-140-1	83
BEC-150-1	86
BECM-843-1	298
BTX-100-1	303
BTX-100-1	316, 321
BTX-110-1	303
BTX-110-1	316, 321
BTX-2000N	303
BTX-2000N	316, 321
BTX-3000-1	316, 321, 336

C

CB-680-1	237
CB-680-1	375
CB-681MN-1	237
CB-681MN-1	375
CB-682MN-1	237
CB-682MN-1	375
CB-683M-1	374
CB-684-1	237
CB-684-1	375
CB-685-1	237
CB-685-1	375
CBK-680A	237
CBK-680A	375
CE015	439
CE045	439
CE100	439
CFC-110-1	85
CFC-110-1	364
CFC-110-1	364
CFC-120-1	86
CFC-120-1	364
CFC-120-1	364
CFC-130-1	91
CFC-130-1	364
CFC-130-1	364
CFC-140-1	111
CFC-140-1	364
CFC-140-1	364
CFC-210-1	85
CFC-210-1	364
CFC-210-1	364
CFC-210-1	364
CFC-250-1	91
CFC-250-1	364
CFC-250-1	364
CFC-250-1	364
CFC-260-1	92
CFC-260-1	364
CFC-260-1	364
CFC-300-1	109

CFC-300-1	364	CLP-226E-1	312	D471-G-1	359
CFC-300-1	364	CLP-231-1	311	D471-H-1	359
CFC-310-1	109	CLP-240-1	311	D471-H-1	359
CFC-310-1	364	CLP-242-1	313	D471-I-1	358
CFC-310-1	364	CLP-245-1	311	D471-I-1	358
CH-110-1	85	CLP-250-1	311	D471-L-1	358
CH-150-1	97	CLP-252-1	313	D471-L-1	358
CH-151-1	97	CLP-281-1	313	DBK-551	177
CH-160-1	98	CLP-282-1	313	DMP-011	93
CH-170-1	98	CLP-283-1	313	DMP-012	93
CH-180-1	98	CLP-284-1	313	DMP-012	415
CH-190-1	110	CLP-285-1	313	DMP-013	417
CH-200-1	98	CLP-286-1	313	DMP-014	416
CH-210-1	104	CLP-287-1	313	DMP-015	90
CH-220-1	108	CLP-300N-1	276	DMP-015	414
CH-230-1	104	CLP-300N-1	308	DMP-016	413
CH-240-1	86	CLP-301-1	276	DMP-017	415
CH-240-1	292	CLP-301-1	308	DMP-018	417
CH-245-1	86	CLP-302-1	276	DMP-019	82
CH-245-1	292	CLP-303-1	276	DMP-019	412
CH-250-1	100	CLP-303-1	308	DMP-019K1000	82
CH-250-1	292	CLP-310-1	277	DMP-020	94
CH-255-1	106	CLP-310-1	309	DMP-020	416
CH-255-1	292	CLP-311-1	277	DMP-020	415
CHK-612	212	CLP-311-1	309	DMP-027	415
CHM-200-1	218	CLP-312-1	277	DMP-028	82
CHM-205-1	218	CLP-320-1	277	DMP-028	416
CHM-612-1	212	CLP-320-1	309	DMP-028K1000	82
CHM-622-1	212	CLP-322-1	277	DMP-036	416
CHM-625-1	212	CLP-323-1	277	DMP-037	83
CHM-842A-1	259	CLP-323-1	309	DMP-037	412
CLK-210A	313	CLP-330-1	309	DRG-1140M1000	106
CLK-210B	313	CLP-340-1	309	DRG-1140M1000	292
CLK-210C	313	CLP-341-1	309	DRG-1170M1000	292
CLP-100N-1	265, 268	CLP-342-1	309	DWK-501	62
CLP-100N-1	301	CLP-350X	307, 308	DWK-5252	161
CLP-102-1	265, 268	CLP-400N-1	277	DWK-5253	161
CLP-102-1	301	CLP-400N-1	308	DWK-8260	267
CLP-110-1	265, 268	CLP-401-1	277	DWM-503-1	121
CLP-110-1	301	CLP-401-1	308	DWM-504N-1	122
CLP-120-1	265, 268	CLP-402-1	277	DWM-504N-1	243
CLP-120-1	301	CLP-402-1	308	DWM-510-1	147
CLP-150-1	302	CLP-410-1	277	DWM-514-1	122
CLP-151	303	CLP-410-1	277	DWM-514A-1	122
CLP-152	303	CLP-411-1	277	DWM-514B-1	122
CLP-154	303	CLP-411-1	309	DWM-520-1	147
CLP-156-1	302	CLP-411-1	309	DWM-523-1	163
CLP-158-1	300			DWM-524-1	146
CLP-159-1	303			DWM-524S-1	152
CLP-160-1	300, 303	D471-A-1	358	DWM-524X-1	152
CLP-200N-1	255, 279	D471-A-1	358	DWM-525-1	146, 147
CLP-202-1	279	D471-B-1	358	DWM-525K-C	159
CLP-206-1	311	D471-B-1	358	DWM-527-1	147
CLP-209X	311	D471-C-1	358	DWM-528-1	147
CLP-216-1	310	D471-C-1	358	DWM-529-1	147
CLP-216C-1	312	D471-D-1	358	DWM-530-1	148
CLP-216D-1	312	D471-D-1	358	DWM-532-1	153
CLP-216E-1	312	D471-E-1	358	DWM-533-1	152
CLP-226B-1	310	D471-E-1	358	DWM-534-1	153
CLP-226C-1	312	D471-F-1	359	DWM-536-1	152
CLP-226D-1	312	D471-F-1	359	DWM-539-1	154
		D471-G-1	359	DWM-540-1	117

D

DWM-544-1	116, 145	DWM-720-1	194	EPA-1055	110	EPA-1117	94	EPA-1175	105	EPA-1238	110
DWM-544-1	194, 218	DWM-735-1	194	EPA-1056	110	EPA-1118	94	EPA-1175	236	EPA-1239A	110
DWM-544-1	242, 247, 265, 269	DWM-826-1	269	EPA-1057	111	EPA-1119	95	EPA-1176A	79	EPA-1240	110
DWM-544-1	302	DWM-826A-1	269	EPA-1058	111	EPA-1120	95	EPA-1180	98	EPA-1241	111
DWM-550-1	121, 148			EPA-1059	112	EPA-1121	96	EPA-1182	99	EPA-1243	112
DWM-551-1	222	E		EPA-1060	112	EPA-1122	96	EPA-1186	101	EPA-1243-1	297
DWM-552-1	222	ECDM	366	EPA-1061	112	EPA-1123	97	EPA-1190	108	EPA-1244	84
DWM-560-1	148	ECDM	366	EPA-1062	112	EPA-1124	97	EPA-1191	77	EPA-1244	267
DWM-563-1	121	EPA-100-1	194	EPA-1063	112	EPA-1125	97	EPA-1192	77	EPA-1244-1	177
DWM-570-1	148, 149	EPA-1001	76	EPA-1064	76	EPA-1125-1	257	EPA-1192-1	297	EPA-1244A	84
DWM-580-1	115, 144	EPA-1002	76	EPA-1065	76	EPA-1126	98	EPA-1193	77	EPA-1246	109
DWM-580-1	246, 266	EPA-1003	80	EPA-1066	76	EPA-1127	98	EPA-1193-1	297	EPA-1246	305
DWM-583-1	116, 145	EPA-1004	82	EPA-1067	77	EPA-1128	98	EPA-1194	80	EPA-1247	93
DWM-583-1	247, 268	EPA-1005	82	EPA-1068	76	EPA-1129	98	EPA-1195	81	EPA-1249	110
DWM-583-1	365	EPA-1006	82	EPA-1069	77	EPA-1130	98	EPA-1196	81	EPA-1250	112
DWM-583-1	365	EPA-1007	83	EPA-1070	77	EPA-1131	98	EPA-1198	82	EPA-1282	78
DWM-584-1	116, 145	EPA-1008	83	EPA-1071	80	EPA-1132	98	EPA-1199	82	EPA-1282	379
DWM-584-1	194, 218	EPA-100A-1	114	EPA-1072	80	EPA-1134	102	EPA-1201	82	EPA-1292	78
DWM-584-1	242, 247, 265, 269	EPA-1012	84	EPA-1073	80	EPA-1135	102	EPA-1202	82	EPA-1292	379
DWM-584-1	302	EPA-1012	236	EPA-1074	80	EPA-1136	102	EPA-1203	84	EPA-1302	78
DWM-588-1	115, 144	EPA-1013	84	EPA-1075	81	EPA-1137	102	EPA-1204	84	EPA-1302	379
DWM-588-1	246, 266	EPA-1014	84	EPA-1076	81	EPA-1138	102	EPA-1205	84	EPA-1312	78
DWM-589N-1	116, 145	EPA-1016	85	EPA-1078	81	EPA-1139	102	EPA-1206	85	EPA-1312	379
DWM-589N-1	247, 268	EPA-1016-1	192, 217	EPA-1079	81	EPA-1140	102	EPA-1207	85	EPA-1342	78
DWM-589N-1	365	EPA-1016-1	242, 246	EPA-1080	82	EPA-1141	102	EPA-1208	85	EPA-1342	379
DWM-589N-1	365	EPA-1017	85	EPA-1081	82	EPA-1143	103	EPA-1209	85	EPA-1352	78
DWM-589N-1	365	EPA-1018	86	EPA-1082	82	EPA-1144	103	EPA-1210	86	EPA-1352	379
DWM-590-1	156	EPA-1019	86	EPA-1083	82	EPA-1145	103	EPA-1211	89	EPA-1362	79
DWM-591-1	156	EPA-1020	89	EPA-1084	83	EPA-1149	103	EPA-1211A	89	EPA-1362	379
DWM-591A-1	114	EPA-1021	89	EPA-1085	83	EPA-1150	104	EPA-1212	89	EPA-1372	79
DWM-592-1	144	EPA-1022	89	EPA-1086	84	EPA-1151	104	EPA-1212A	89	EPA-1372	379
DWM-593A-1	156	EPA-1023	89	EPA-1086-1	161	EPA-1152	104	EPA-1213	92	EPA-1382	79
DWM-594-1	156	EPA-1024	91	EPA-1087	84	EPA-1153	105	EPA-1214	90	EPA-1382	379
DWM-595-1	156	EPA-1025	91	EPA-1088	85	EPA-1154	105	EPA-1215	90	EPA-1390	94
DWM-596-1	116	EPA-1026	91	EPA-1089	85	EPA-1155	105	EPA-1215A	90	EPA-1390-1	133
DWM-596-1	247	EPA-1027	91	EPA-1090	86	EPA-1156	106	EPA-1217	91	EPA-1391-1	190
DWM-600-1	152	EPA-1028	91	EPA-1091	86	EPA-1157	106	EPA-1218	92	EPA-1392-1	190
DWM-602-1	151	EPA-1029	91	EPA-1092	86	EPA-1159	107	EPA-1219	93	EPA-1411	82
DWM-603-1	151	EPA-1030	92	EPA-1093	86	EPA-1160	108	EPA-1220	95	EPA-2004N-1	110
DWM-604-1	152	EPA-1034	92	EPA-1094	86	EPA-1160A	108	EPA-1221	98	EPA-2008N-1	199, 225, 226
DWM-605-1	152	EPA-1035	96	EPA-1095	87	EPA-1160A	305	EPA-1221-1	297	EPA-2010N-1	225
DWM-610-1	117	EPA-1036	96	EPA-1097	88	EPA-1161	110	EPA-1222	98	EPA-2011N-1	225
DWM-615-1	117	EPA-1037	98	EPA-1098	88	EPA-1161-1	159, 160	EPA-1223	99	EPA-2015N-1	262
DWM-620-1	117	EPA-1038	98	EPA-1099	88	EPA-1162	111	EPA-1224	100	EPA-2017-1	212
DWM-625-1	117	EPA-1039	98	EPA-1100	89	EPA-1163	111	EPA-1225	101	EPA-2018-1	212
DWM-630-1	117	EPA-1039	331	EPA-1101	90	EPA-1164	97	EPA-1226	102	EPA-2037N-1	201
DWM-635-1	117	EPA-1040	99	EPA-1102	90	EPA-1165	87	EPA-1227	103	EPA-2037N-1	251
DWM-640-1	118	EPA-1041	100	EPA-1103	90	EPA-1165	236	EPA-1227-1	297	EPA-2038N-1	211
DWM-645-1	118	EPA-1042	100	EPA-1104	90	EPA-1168	107	EPA-1228	103	EPA-2039N-1	211
DWM-650-1	118	EPA-1043	101	EPA-1105	90	EPA-1168	236	EPA-1228-1	297	EPA-2039N-1	211
DWM-655-1	118	EPA-1044	106	EPA-1106	92	EPA-1169	80	EPA-1229	103	EPA-2041N-1	193, 218
DWM-660-1	119	EPA-1045	106	EPA-1107	93	EPA-1169	236	EPA-1229-1	297	EPA-2042N-1	193
DWM-665-1	118	EPA-1046	108	EPA-1108	93	EPA-1170	104	EPA-1230	106	EPA-2043N-1	147
DWM-670-1	119	EPA-1047	108	EPA-1109	93	EPA-1170	236	EPA-1232	106	EPA-2045N-1	147
DWM-675-1	119	EPA-1048	109	EPA-1110	93	EPA-1171	80	EPA-1233	107	EPA-2101N-1	204
DWM-680-1	119	EPA-1049	109	EPA-1111	93	EPA-1171	236	EPA-1233-1	297	EPA-2138N-1	211
DWM-685-1	119	EPA-1050	110	EPA-1112	93	EPA-1172	99	EPA-1234	108	EPA-2139N-1	211
DWM-690-1	120	EPA-1051	110	EPA-1113	94	EPA-1172	236	EPA-1235	108	EPA-2141N-1	193, 218
DWM-690A-1	120	EPA-1052	110	EPA-1114	94	EPA-1173	236	EPA-1236	109	EPA-2142N-1	193, 218
DWM-705-1	155	EPA-1053	110	EPA-1115	94	EPA-1174	80	EPA-1237	109		
DWM-710-1	149	EPA-1054	110	EPA-1116	94	EPA-1174	236	EPA-1237-1	297		

F		FLMS-021	431	FLSA-054	429	FLSA-134	429	GCS-200	366	HBM-400M-1	134
FIDM	366	FLMS-022	429	FLSA-055	430	FLSA-135	429	GCS-200	366	HBM-405-1	137
FIDM	366	FLMS-023	429	FLSA-056	428	FLSA-136	430			HBM-410M-1	137
FLBA-001	430	FLMS-024	430	FLSA-057	431	FLSA-137	430	H		HBM-415-1	137
FLBA-002	429	FLMS-026	431	FLSA-058	431	FLSA-138	428	HAH-001	421	HBM-420-1	138
FLBA-003	430	FLMS-035	431	FLSA-059	428	FLSA-142	431	HAH-002	418	HBM-430M-1	138
FLBA-004	429	FLPK-001	432	FLSA-062	430	FLSA-144	430	HAH-003	411	HBM-435-1	139
FLBA-006	430	FLPK-002	426	FLSA-063	431	FLSA-147	429	HAH-004	412	HBM-440-1	140
FLBA-007	429	FLPK-003	432	FLSA-064	431	FLSA-148	429	HAH-005	412	HBM-505-1	189
FLBA-008	430	FLPK-004	432	FLSA-065	430	FRCK-001	423	HAH-006	420	HBM-510M-1	140
FLBA-011	430	FLPK-005	432	FLSA-066	428	FRCK-002	424	HAH-008	412	HBM-512-1	136
FLBA-012	430	FLPK-007	426	FLSA-067	430	FRCK-003	424	HAH-009	411	HBM-513-1	138
FLBA-013	430	FLSA-001	428	FLSA-068	430	FRCK-005	424	HAH-010	411	HBM-513M-1	138
FLBA-014	429	FLSA-002	428	FLSA-069	431	FRCK-006	423	HAH-011	418	HBM-5152A-1	136
FLBA-015	430	FLSA-003	429	FLSA-070	431	FRCK-007	424	HAH-012	419	HBM-5152M-1	136
FLBA-016	430	FLSA-004	430	FLSA-071	431	FRCK-008	424	HAH-013	419	HBM-5153A-1	136
FLBA-017	429	FLSA-005	428	FLSA-072	428	FRCK-009	425	HAH-014	419	HBM-5154A-1	134, 157
FLBA-018	430	FLSA-006	428	FLSA-073	428	FRCK-010	426	HAH-015	419	HBM-5154M-1	134, 157
FLBA-021	429	FLSA-007	431	FLSA-074	430	FRCK-013	425	HAH-016	419	HBM-5155A-1	134
FLBA-022	430	FLSA-008	429	FLSA-076	430	FRCK-014	425	HAH-017	419	HBM-5155M-1	134
FLBA-026	430	FLSA-009	430	FLSA-077	431	FRCK-015	424	HAH-018	416	HBM-5156A-1	137
FLBA-027	430	FLSA-010	428	FLSA-078	431	FRCS-156	425	HAH-018	416	HBM-5156M-1	137
FLBA-028	430	FLSA-011	428	FLSA-079	430	FRCS-275	426	HAH-020	414	HBM-5157A-1	139
FLBA-030	429	FLSA-012	431	FLSA-080	428	FRNH-068	425	HAH-022	84	HBM-515M-1	140
FLBA-031	430	FLSA-013	429	FLSA-081	430	FRNH-179	426	HAH-022	412	HBM-520M-1	140
FLBA-032	430	FLSA-014	430	FLSA-082	430	FRSP-180	408	HAH-024	418	HBM-525-1	163
FLBA-034	429	FLSA-015	431	FLSA-083	431	FRSP-181	408	HAH-025	418	HBM-526M-1	140
FLBA-035	430	FLSA-016	428	FLSA-084	431			HAH-026	418	HBM-530-1	140
FLBA-036	430	FLSA-017	428	FLSA-085	431	G		HAH-027	418	HBM-531-1	141
FLBA-038	429	FLSA-018	429	FLSA-086	428	GCM-100K	228	HAH-028	418	HBM-535-1	141
FLBA-042	431	FLSA-019	430	FLSA-087	428	GCM-111-1	201	HAH-029	416	HBM-536-1	141
FLBA-043	431	FLSA-020	428	FLSA-088	430	GCM-130-1	228	HAH-030	416	HBM-541-1	214
FLHC-009	418	FLSA-021	428	FLSA-089	429	GCM-140-1	228	HAH-031	419	HBM-543-1	214
FLHC-010	419	FLSA-022	431	FLSA-090	429	GCM-150-1	280	HAH-032M20000	91	HBM-545-1	214
FLHC-012	418	FLSA-023	429	FLSA-091	428	GCM-151-1	228	HAH-906-100MG	80	HBM-555A-1	189
FLHC-014	418	FLSA-024	430	FLSA-092	429	GCM-151-1	280	HAH-908-100MG	102	HBM-555B-1	189
FLHC-015	419	FLSA-025	428	FLSA-093	429	GCM-152-1	228	HAP-100-1	100	HBM-8150A-1	214
FLHC-016	422	FLSA-026	428	FLSA-094	428	GCM-152-1	280	HAP-100-1	361	HBM-8150A-1	262
FLHC-017	422	FLSA-027	431	FLSA-095	429	GCM-153-1	280	HAP-110-1	361	HBM-8150A-1	355
FLM-001-1	360	FLSA-028	429	FLSA-096	429	GCM-156-1	228	HAP-110-1	361	HBM-8150A-1	355
FLM-001-1	360	FLSA-029	430	FLSA-097	428	GCM-160A-1	161	HB-100-1	87	HBM-8150M-1	214
FLM-002-1	360	FLSA-031	431	FLSA-098	428	GCM-161-1	161	HB-101-1	87	HBM-8150M-1	262
FLM-002-1	360	FLSA-032	431	FLSA-100	428	GCM-162-1	161	HB-110-1	107	HBM-8150M-1	355
FLM-003-1	360	FLSA-033	431	FLSA-104	429	GCM-163-1	161	HB-111-1	107	HBM-8150M-1	355
FLM-003-1	360	FLSA-034	429	FLSA-105	429	GCM-164-1	161	HB-120-1	108	HBM-8151A-1	262
FLM-004-1	360	FLSA-035	430	FLSA-106	428	GCM-170-1	133	HB-121-1	108	HBM-8151M-1	263
FLM-004-1	360	FLSA-036	428	FLSA-107	428	GCM-110-1	80	HB-130-1	94	HBM-8152M-1	263
FLM-005-1	360	FLSA-037	431	FLSA-109	428	GCS-110-1	228	HB-131-1	94	HBM-8153A-1	263
FLM-005-1	360	FLSA-038	431	FLSA-113	428	GCS-111-1	80	HB-140-1	87	HBM-815A-1	263
FLM-010-1	360	FLSA-039	429	FLSA-114	431	GCS-112-1	80	HB-141-1	87	HC-010-1	82
FLM-010-1	360	FLSA-040	430	FLSA-115	428	GCS-112-1	228	HB-150-1	87	HC-020-1	83
FLMS-010	431	FLSA-041	428	FLSA-117	429	GCS-112-1	280	HB-151-1	87	HC-030-1	83
FLMS-012	429	FLSA-046	428	FLSA-118	429	GCS-113-1	80	HB-160-1	90	HC-040-1	84
FLMS-013	429	FLSA-047	431	FLSA-119	430	GCS-113-1	228	HB-161-1	90	HC-050-1	84
FLMS-014	430	FLSA-048	431	FLSA-120	430	GCS-120-1	104	HB-170-1	92	HC-060-1	85
FLMS-015	430	FLSA-049	429	FLSA-121	428	GCS-120-1	228	HB-171-1	92	HC-060-1	364
FLMS-016	428	FLSA-050	430	FLSA-125	431	GCS-122-1	104	HB-180-1	99	HC-060-1	364
FLMS-017	428	FLSA-051	428	FLSA-127	430	GCS-122-1	228	HB-181-1	99	HC-070-1	85
FLMS-018	428	FLSA-052	431	FLSA-130	428	GCS-122-1	280	HB-190-1	99	HC-070-1	192, 217
FLMS-019	431	FLSA-053	431	FLSA-131	431	GCS-124-1	104	HB-191-1	99	HC-070-1 242, 246, 265,	267
FLMS-020	431			FLSA-132	428	GCS-124-1	228	HBM-400-1	134		

HC-072-1	85	HCM-540-1	178	IAA-012	25	IAA-216	23	IBF-040	50	ICK-600A	38
HC-072-1	194	HCM-545-1	177	IAA-013	24	IAA-219	23	IBF-040-L	50	ICK-610A	39
HC-080-1	85	HCM-546-1	179	IAA-014	25	IAA-220	22	IBF-040A-20L	50	ICM-100	29
HC-090-1	85	HCM-547-1	177	IAA-015	25	IAA-221	23	IBF-040A-4L	50	ICM-101	28
HC-090-1	364	HCM-548-1	179	IAA-016	25	IAA-222	23	IBF-040A-CS	50	ICM-102	28
HC-090-1	364	HCM-550-1	177	IAA-019	25	IAA-223	23	IBF-040A-L	50	ICM-103	28
HC-100-1	89	HCM-551B-1	177	IAA-020	24	IAA-224	22	IBF-070	50	ICM-104	29
HC-110-1	90	HCM-551D-1	177	IAA-022	25	IAA-225	23	IBF-070-L	50	ICM-105	29
HC-120-1	90	HCM-551E-1	178	IAA-023	25	IAA-226	22	IBF-074	50	ICM-106	29
HC-130-1	90	HCM-555-1	179	IAA-024	24	IAA-227	22	IBF-074-L	50	ICM-107	29
HC-140-1	91	HCM-560-1	179	IAA-025	25	IAA-228	23	IBF-080-20L	50	ICM-108	29
HC-140-1	364	HCM-565-1	180	IAA-026	25	IAA-229	22	IBF-092	50	ICM-109	29
HC-140-1	364	HCM-575-1	180	IAA-027	24	IAA-230	23	IBF-092-L	50	ICM-110-5	30
HC-150-1	91	HCM-580-1	179	IAA-028	25	IAA-231	22	IBF-100	50	ICM-111-5	30
HC-160-1	91	HCM-585-1	179	IAA-029	24	IAA-232	22	IBF-100-L	50	ICM-120	30
HC-170-1	91	HCM-590-1	178	IAA-030	25	IAA-233	22	IBF-1245	50	ICM-150	30
HC-180-1	91	HCM-600-1	195	IAA-031	25	IAA-234	23	IBF-168	50	ICM-202	34
HC-190-1	92	HCM-601-1	192	IAA-032	25	IAA-237	23	IBF-500	51	ICM-203	34
HC-200-1	92	HCM-601G-1	192, 218	IAA-033	24	IAA-238	23	IBF-500-L	51	ICM-204	34
HC-200M1000	92	HCM-605-1	195	IAA-034	25	IAA-239	23	IBF-501	51	ICM-205	34
HC-210-1	92	HCM-610-1	195	IAA-038	25	IAA-240	23	IBF-501-L	51	ICM-211	35
HC-210M1000	92	HCM-615-1	195	IAA-039	25	IAA-241	23	IBF-502	51	ICM-212	35
HC-220-1	100	HCM-620-1	316	IAA-040	25	IAA-242	23	IBF-502-L	51	ICM-213	35
HC-230-1	109	HCM-621-1	193	IAA-041	25	IAA-244	23	IBF-505	51	ICM-215	35
HC-240-1	109	HCM-625-1	195, 197	IAA-042	25	IAA-245	23	IBF-505-L	51	ICM-221	35
HC-250-1	110	HCM-630-1	196, 197	IAA-047	25	IAA-246	23	IBF-510	51	ICM-223	35, 39
HC-260-1	110	HCM-801-1	242	IAA-048	24	IAA-247	23	IBF-510-L	51	ICM-224	35, 39
HC-270-1	110	HCM-812-1	122	IAA-049	25	IAA-248	22	IBF-520	51	ICM-231	32
HC-280-1	110	HCM-812-1	243	IAA-050	25	IAA-249	22	IBF-520-L	51	ICM-232	32
HC-280-1	364	HCM-815-1	122	IAA-051	24	IAA-250	23	IBF-550	51	ICM-233	32
HC-280-1	364	HCM-822A-1	246	IAA-052	25	IAA-251	22	IBF-550-L	51	ICM-234	32
HC-290-1	112	HMB-540-1	214	IAA-055	24	IAA-252	23	IBF-560	51	ICM-235	32
HC-300-1	82	HMM-100A-H	174	IAA-056	24	IAA-255	22	IBF-560-L	51	ICM-237	33
HC-310-1	82	HMM-100A-L	174	IAA-057	25	IAA-256	22	IBF-570	51	ICM-238	33
HC-320-1	86	HMM-100B	174	IAA-058	24	IAA-257	22	IBF-570-L	51	ICM-240A	33
HC-330-1	86	HPCK-2C	255	IAA-059	25	IAA-258	22	IBF-580	51	ICM-240B	33
HC-340-1	89	HPCK-2C	417	IAA-060	25	IAA-259	23	IBF-580-L	51	ICM-240C	33
HC-341-1	89	HPCK-2D	255	IAA-062	25	IAA-260	23	IBF-600	51	ICM-241	32
HC-341-1	292	HPCK-2D	417	IAA-063	24	IAA-262	23	IBF-600-L	51	ICM-242	32
HC-350-1	89	HPCK-2E	255	IAA-064	24	IAA-263	22	ICC-008	47	ICM-243	32
HC-360-1	89	HPCK-2E	417	IAA-065	25	IAA-264	22	ICC-009	47	ICM-245	33
HC-370-1	91	HPCK-2F	255	IAA-066	24	IAA-265	22	ICC-033	47	ICM-301	44
HC-380-1	92	HPCK-2F	417	IAA-067	25	IAA-266	22	ICC-033-5	47	ICM-303	43, 44
HC-390-1	92	HPCK-2G	255	IAA-068	24	IAA-267	22	ICC-033-L	47	ICM-304	44
HC-400-1	92	HPCK-2G	417	IAA-070	25	IAA-268	22	ICC-200	45	ICM-411	40
HC-410-1	108	HSS-100	299	IAA-073	25	IAA-269	23	ICC-210	45	ICM-413	40
HC-420-1	110	HSS-201	310	IAA-074	25	IAA-270	23	ICC-300	46	ICM-421	42
HC-440-1	111	HSS-202	310	IAA-080	25	IAA-271	22	ICC-310	46	ICM-422	42
HC-450-1	77	HSS-211	310	IAA-081	25	IAA-272	22	ICC-320	46	ICM-423	42
HC-460-1	91	HSS-221	310	IAA-082	25	IAA-273	23	ICC-330	30	ICM-431	41
HC-470-1	100	HSS-231	310	IAA-083	24	IAA-274	23	ICC-759	45	ICM-432	41
HC-480-1	111	HSS-241	310	IAA-090	25	IAA-275	23	ICK-200A	34	ICM-433	41
HC-480-1	364	HSS-251	310	IAA-092	25	IAA-277	22	ICK-210A	35	ICM-441	41
HC-480-1	364	HSS-261	310	IAA-203	22	IAA-278	23	ICK-220A	35	ICM-442	41
HC-491-1	86	HSS-271	310	IAA-204	22	IAA-279	22	ICK-300A	44	ICM-443	41
HC-491-1	242, 265, 267			IAA-205	22	IAA-280	23	ICK-410A	40	ICM-451	40
HC-500-1	91			IAA-211	23	IAA-281	23	ICK-420	42	ICM-452	40
HCK-601	193	IAA-003	25	IAA-212	23	IAA-282	22	ICK-430	41	ICM-453	40
HCM-530-1	178	IAA-004	24	IAA-213	22	IAA-283	22	ICK-440	41	ICM-461	43
HCM-535-1	178	IAA-005	24	IAA-214	23	IAA-290	23	ICK-450	40	ICM-462	43
HCM-536-1	178	IAA-011	25	IAA-215	23	IAA-292	23	ICK-460A	43	ICM-463	43

ICM-464	43	IMS-120	31	ISM-305-1	162	ISM-750-1	356	IST-192-1	97	IST-342-1	279, 280
ICM-601	38	IMS-121	31	ISM-308-1	159	ISM-750-1	356	IST-192-1	234	IST-342-1	309
ICM-601-5	38	IMS-130-5	31	ISM-309-1	159	ISM-765-1	151	IST-200-1	102	IST-343-1	88
ICM-602	38	IMS-131	31	ISM-310-1	159	ISM-765A-1	151	IST-200-1	234	IST-343-1	159
ICM-602-5	38	IMS-132	31	ISM-312-1	159	IST-100-1	77	IST-201-1	102	IST-343-1	234
ICM-603	38	IMS-133-L	31	ISM-320-1	203	IST-100-1	234	IST-201-1	234	IST-343-1	279, 280
ICM-603-5	38	IND-110	52	ISM-320-1 253, 254, 279		IST-101-1	77	IST-202-1	102	IST-343-1	309
ICM-604	38	INR-0129S	52	ISM-320-1	310	IST-101-1	234	IST-202-1	234	IST-344-1	88
ICM-604-5	38	INR-0129S-L	52	ISM-321X	279	IST-110-1	78	IST-210-1	102	IST-344-1	234
ICM-605	38	INR-0129SX	52	ISM-321X	311	IST-110-1	234	IST-210-1	234	IST-344-1	279, 280
ICM-605-5	38	INR-0129SX-L	52	ISM-331-1	278	IST-111-1	78	IST-210A-1	102	IST-344-1	309
ICM-607	38	INR-2017S	52	ISM-332-1	278	IST-111-1	234	IST-211-1	102	IST-370-1	106
ICM-611	39	INR-2017S-L	52	ISM-333X	278	IST-120-1	80	IST-211-1	234	IST-370-1	159
ICM-611-5	39	IQC-001	47	ISM-333X-25	278	IST-120-1	234	IST-212-1	102	IST-400-1	81
ICM-641	44	IQC-007	27	ISM-333XC	278	IST-121-1	80	IST-212-1	234	IST-400-1	251
ICM-641-5	44	IQC-007-5	27	ISM-333XC-25	278	IST-121-1	234	IST-220-1	104	IST-420-1	110
ICM-642	32, 44	IQC-019	27	ISM-335N-1	306	IST-130-1	89	IST-220-1	234	IST-420-1	259
ICM-642-5	44	IQC-019-5	27	ISM-336X	307	IST-130-1	234	IST-230-1	105	IST-440-1	109
ICM-801	36	IQC-026	27	ISM-336X-25	307	IST-131-1	89	IST-230-1	234, 237	IST-440-1	256, 279
ICM-801-5	36	IQC-026-5	27	ISM-336XC	307	IST-132-1	89	IST-230-1	375	IST-440-1	311
ICM-802	36	IQC-100-5	47	ISM-336XC-25	307	IST-132-1	132	IST-231-1	105	IST-440-1	376
ICM-802-5	36	IQC-100-5	51	ISM-336XC-500	307	IST-133-1	89	IST-231-1	234	IST-470-1	85
ICM-810	36	IQC-100-L	47	ISM-337-1	306	IST-133-1	234	IST-231-1	375	IST-470-1	327, 329, 332, 334, 336
ICM-810-5	36	IQC-100-L	51	ISM-380-1	249	IST-134-1	89	IST-240-1	107	IST-471-1	85
ICM-820	36	IQC-101	47	ISM-390-1	251	IST-134-1	234	IST-241-1	107	IST-480-1	108
ICM-820-5	36	IQC-101-5	47	ISM-411-1	259	IST-140-1	89	IST-241-1	234	IST-480-1	318, 320, 327, 329, 331, 332, 334, 336
ICP-015	38	IQC-102	47	ISM-430-1	276	IST-140-1	234	IST-242-1	234	IST-481-1	320
ICP-015-5	38	IQC-102-5	47	ISM-450-1	253, 279	IST-141-1	89	IST-250-1	97	IST-490-1	108
ICP-051	34, 35, 39, 40	IQC-103	47	ISM-451-1	132	IST-141-1	234	IST-250-1	234	IST-490-1	336
ICP-079	36	IQC-103-5	47	ISM-452-1	129	IST-150-1	88	IST-251-1	97	IST-500-1	77
ICP-079-5	36	IQC-104	47	ISM-452-1	206	IST-150-1	234	IST-251-1	199, 234	IST-500-1	318, 327, 329, 331, 333, 334, 336
ICP-156	44	IQC-104-5	47	ISM-454-1	205	IST-151-1	88	IST-251-1	250	IST-510-1	100
ICPK-3	21	IQC-105	47	ISM-460-1	120	IST-152-1	88	IST-252-1	97	IST-510-1	120
ICPK-4A	42	IQC-105-5	47	ISM-510-1	161	IST-152-1	177	IST-252-1	234	IST-540-1	83
ICPK-5A	42	IQC-106	47	ISM-520-1 161, 165, 166		IST-153-1	88	IST-260-1	105	IST-540-1	83
IMK-109	37	IQC-106-5	47	ISM-521-1	161	IST-153-1	234	IST-260-1	234	IST-550-1	83
IMM-001	43	IQC-107	47	ISM-522-1	161	IST-154-1	88	IST-261-1	105	IST-551-1	83
IMM-002	43	IQC-107-5	47	ISM-523-1	162	IST-154-1	234	IST-261-1	199, 234	IST-551-1	327, 336
IMM-003	43	IQC-108	47	ISM-530-1	161	IST-160-1	93	IST-261-1	250	IST-590-1	94
IMM-004	43	IQC-108-5	47	ISM-531-1	162	IST-160-1	234	IST-262-1	105	IST-590-1	297
IMM-005	43	IQC-111	47	ISM-560-1 224, 226, 227		IST-161-1	93	IST-262-1	234	IST-600-1	94
IMM-007	43	IQC-111-5	47	ISM-560-1	276	IST-161-1	234	IST-263-1	105	IST-600-1	297
IMS-100	37	IQCK	27	ISM-560-1	304, 306	IST-162-1	93	IST-263-1	234	IST-600-1	297
IMS-101	37	ISH-100-1	174	ISM-563-1	277	IST-162-1	234	IST-270-1	105	IST-620-1	90
IMS-102	31, 37	ISH-110-1	82	ISM-564-1	277	IST-170-1	97	IST-270-1	234	IST-620-1	249
IMS-103	37	ISH-110-1	174	ISM-565-1	237	IST-170-1	234	IST-271-1	105	IST-630-1	257
IMS-104	37	ISH-120-1	174	ISM-565-1	375	IST-171-1	97	IST-271-1	199	IST-641-1	91
IMS-105	36, 37	ISH-130-1	174	ISM-566-1	237	IST-171-1	234	IST-271-1	250	IST-670-1	107
IMS-105-5	36, 37	ISM-280N-1	224, 227	ISM-566-1	375	IST-172-1	97	IST-272-1	105	IST-670-1	318, 336
IMS-110	37	ISM-280N-1	276	ISM-567-1	237	IST-172-1	234	IST-272-1	234	IST-680-1	103
IMS-110-5	37	ISM-281-1	227	ISM-567-1	375	IST-180-1	97	IST-340-1	88	IST-680-1	320
IMS-111	36	ISM-285-1	306	ISM-570-1	261	IST-180-1	234	IST-340-1	234	IST-701-1	94
IMS-111-5	36	ISM-287-1	306	ISM-580-1	326, 334	IST-180-1	258	IST-340-1	279, 280	IST-701-1	257
IMS-112	36	ISM-290N-1	199, 224, 227	ISM-581X	327	IST-181-1	97	IST-340-1	309	IST-701A-1	94
IMS-112-5	36	ISM-290N-1	276	ISM-610-1	249	IST-181-1	234	IST-341-1	88	IST-702-1	101
IMS-113	36	ISM-290N-1	276	ISM-650-1	326	IST-182-1	97	IST-341-1	159, 161	IST-702-1	257
IMS-113-5	36	ISM-295-1	306	ISM-651X	327	IST-182-1	234	IST-341-1	228	IST-705-1	112
IMS-114	36	ISM-297-1	306	ISM-660-1	335	IST-190-1	97	IST-341-1	280	IST-705A-1	112
IMS-114-5	36	ISM-300-1	279	ISM-710-1	166	IST-190-1	234	IST-341-1	309	IST-706-1	112
IMS-115	36	ISM-300-1	310	ISM-740A-1	356	IST-191-1	97	IST-342-1	159	IST-706A-1	112
IMS-115-5	36	ISM-301-1	203	ISM-740A-1	356	IST-191-1	234	IST-342-1	234		
		ISM-301-1	310								

IST-720-1	318, 336	N		NH-262-1	100	NV-152-1	94	PAH-471-1	358	PANAL0212-4	344
IST-730-1	329, 336			NH-262-1	292	NV-152-1	292	PAH-600-1	208	PANAL0212-5	344
IST-740-1	143	NAI-100-1	94	NH-265-1	100	NV-153-1	94	PAH-605-1	208	PANAL0212-6	344
IST-745-1	173	NAI-100-1	297	NH-265-1	292	NV-153-1	292	PAH-615-1	208	PANAL0213	345
IST-750-1	143	NAI-110-1	94	NH-270-1	102	NV-155-1	94	PAH-630-1	208	PANAL0213-1	345
IST-755-1	173	NAI-110-1	297	NH-290-1	106	NV-155-1	292	PAH-635-1	208	PANAL0213-2	345
IST-760-1	142	NAI-120-1	98	NH-300-1	76	NV-160-1	96	PAH-640-1	208	PANAL0213-3	345
IST-771-1	103	NAI-130-1	102	NH-310-1	84	NV-170-1	96	PAH-645-1	209	PANAL0213-4	345
IST-771-1	142	NAI-130-1	297	NH-315-1	77	NV-180-1	98	PAH-650-1	209	PANAL0213-5	345
IST-780-1	143	NAI-140-1	94	NH-315-1	292	NV-190-1	98	PAH-655-1	209	PANAL0213-6	345
IST-785-1	173	NAI-140-1	297	NH-320-1	112	NV-200-1	99	PAH-660-1	209	PANAL0214	344
IST-790-1	143	NAI-150A-1	102	NH-320-1	292	NV-210-1	100	PAH-665-1	209	PANAL0214-1	344
IST-795-1	173	NAI-155-1	77	NH-325-1	100	NV-220-1	101	PAH-715-1	208	PANAL0214-2	344
IST-800-1	109	NAI-155-1	292	NH-325-1	292	NV-230-1	106	PANAL0013	352	PANAL0214-3	344
IST-800-1	133	NAI-160-1	104	NPM-101-1	126	NV-240B-1	112	PANAL0084	352	PANAL0214-4	344
IST-805-1	173	NAI-170-1	112	NPM-102-1	126	NV-240B-1	265, 267	PANAL0094	349	PANAL0214-5	344
ITR-011	52	NAI-170-1	297	NPM-103-1	126	NV-250-1	100, 83	PANAL0095	349	PANAL0214-6	344
ITR-011-L	52	NAI-171-1	112	NPM-104A-1	126	NV-255-1	93	PANAL0096	349	PANAL0215	344
ITR-021	52	NAI-171-1	292	NPM-104B-1	126	NV-255-1	292	PANAL0097	349	PANAL0215-1	344
ITR-021-L	52	NAI-172-1	112	NPM-106-1	126	NV-260-1	112	PANAL0099	352	PANAL0215-2	344
ITR-022	52	NAI-172-1	292	NPM-107A-1	126	NV-260-1	292	PANAL0100	352	PANAL0215-3	344
ITR-022-L	52	NAI-175-1	111	NPM-108-1	88	NV-265-1	112	PANAL0101	349	PANAL0215-4	344
ITR-024	52	NAI-175-1	292	NPM-108-1	127	NV-265-1	292	PANAL0102	349	PANAL0215-5	344
ITR-024-L	52	NAI-200-1	110	NPM-108B-1	88	NVM-8015-1	244	PANAL0103	352	PANAL0215-6	344
		NAI-200-1	292	NPM-108B-1	161	NVM-8015A-1	243	PANAL0104	352	PANAL0216	345
		NAI-270-1	298	NPM-109-1	127	NVM-8015B-1	243	PANAL0131	349	PANAL0216-1	345
J		NAIM-100-1	286	NPM-112-1	162	NVM-8115-1	244	PANAL0133	352	PANAL0216-2	345
JTB-0005	356	NAIM-529A-1	168	NPM-112-5ML	162	NVM-8241-1	264	PANAL0152	352	PANAL0216-3	345
JTB-0005	356	NAIM-529B-1	168	NPM-507-1	126	NVM-826-1	267	PANAL0153	352	PANAL0216-4	345
		NAIM-529C-1	168	NPM-508-1	127			PANAL0155	349	PANAL0216-5	345
		NAIM-529D-1	168	NPM-520-1	163	P		PANAL0156	349	PANAL0216-6	345
		NAIM-529E-1	168	NPM-525B-1	160	P-610-1	76	PANAL0157	349	PANAL0217	345
KGCC-101	366	NAIM-529F-1	168	NPM-525C-1	160	P-620-1	76	PANAL0158	349	PANAL0217-1	345
KGCC-101	366	NAIM-529G-1	168	NPM-526-1	160	P-630-1	77	PANAL0159	349	PANAL0217-2	345
KPST-102	408	NAIM-529H-1	168	NPM-531-1	187	P-640-1	80	PANAL0167	352	PANAL0217-3	345
		NAIM-529I-1	168	NPM-619-1	216	P-650-1	81	PANAL0169	350	PANAL0217-4	345
		NAIM-529K	169	NPM-621-1	216	P-660-1	80	PANAL0170	350	PANAL0217-5	345
LCS-4045	366	NAIM-530-1	169	NPM-625-1	216	P-670-1	81	PANAL0171	352	PANAL0217-6	345
LCS-4045	366	NAIM-535-1	169	NPM-633-1	235	P-680-1	80	PANAL0172	352	PANAL0218	346
LCS-6762	366	NAIM-540-1	169	NS-100-1	103	P-690-1	86	PANAL0175	350	PANAL0218-1	346
LCS-6762	366	NAIM-545-1	169	NS-110-1	103	P-700-1	89	PANAL0179	350	PANAL0218-2	346
LCS-6917	366	NAIM-609-1	207	NS-120-1	103	P-710-1	96	PANAL0180	350	PANAL0218-3	346
LCS-6917	366	NAIM-610-1	207	NS-130-1	102	P-720-1	96	PANAL0181	350	PANAL0218-4	346
LMPK-1	374, 378	NAIM-611-1	207	NS-140-1	103	P-730-1	98	PANAL0183	350	PANAL0218-5	346
		NAIM-615-1	207	NS-150-1	103	P-740-1	102	PANAL0186	350	PANAL0218-6	346
		NAIM-620-1	207	NS-160-1	103	P-750-1	105	PANAL0187	350	PANAL0219	346
		NAIM-625-1	207	NS-170-1	103	P-760-1	106	PANAL0188	352	PANAL0219-1	346
MISA-160-1	354	NAIM-630-1	207	NS-180-1	103	P-770-1	100	PANAL0194	351	PANAL0219-2	346
MISA-160-1	354	NAIM-8095A-1	257	NSM-800-1	142	P-781-1	100	PANAL0195	351	PANAL0219-3	346
MISA-170-1	354	NAIM-8095B-1	257	NSM-805-1	142	P-781-1	292	PANAL0196	351	PANAL0219-4	346
MISA-170-1	354	NAIM-809B-1	257	NSM-807-1	202	P-782-1	100	PANAL0211	344	PANAL0219-5	346
MISA-191-1	354	NAIM-833A-1	297	NSM-807-1	252	P-782-1	292	PANAL0211-1	344	PANAL0219-6	346
MISA-191-1	354	NAIM-833B-1	297	NSM-810-1	202	P-791-1	414	PANAL0211-2	344	PANAL0220	346
MISA-192-1	354	NAIM-833E-1	297	NSM-815-1	202	P-801-1	414	PANAL0211-3	344	PANAL0220-1	346
MISA-201-1	355	NDM-110-1	301	NV-100-1	76	P-802-1	89	PANAL0211-4	344	PANAL0220-2	346
MISA-201-1	355	NH-130-1	77	NV-110-1	76	P-802-1	292	PANAL0211-5	344	PANAL0220-3	346
MISA-220-1	355	NH-150-1	93	NV-110-1	248	P-810-1	89	PANAL0211-6	344	PANAL0220-4	346
MISA-220-1	355	NH-200-1	102	NV-120-1	83	P-810-1	292	PANAL0212	344	PANAL0220-5	346
MISA-221-1	232	NH-230-1	103	NV-130-1	84	P-811-1	414	PANAL0212-1	344	PANAL0220-6	346
MISA-231-1	355	NH-230-1	292	NV-140-1	93	P-821-1	414	PANAL0212-2	344	PANAL0221	347
MISA-231-1	355	NH-250-1	110	NV-150-1	94	PAH-471-1	358	PANAL0212-3	344	PANAL0221-1	347
		NH-260-1	100								

PANAL0221-2	347	PHM-100-1	286	PM-025-1	210	PP-160-1	88	PP-300-1	310	PP-350-1	379
PANAL0221-3	347	PHM-490-1	183	PM-030-1	210	PP-170-1	88	PP-300-1	379	PP-351-1	78
PANAL0221-4	347	PHM-495-1	183	PM-035-1	210	PP-180-1	88	PP-301-1	78	PP-351-1	253
PANAL0221-5	347	PHM-495M-1	183	PM-040-1	210	PP-190-1	93	PP-301-1	253	PP-351-1	355
PANAL0221-6	347	PHM-500M-1	183	PM-045-1	210	PP-200-1	95	PP-301-1	355	PP-351-1	355
PANAL0222	352	PHM-501-1	167	PM-050-1	210	PP-210-1	95	PP-301-1	355	PP-351-1	379
PANAL0222-1	352	PHM-502-1	167	PM-055-1	211	PP-220-1	95	PP-301-1	379	PP-352-1	78
PANAL0222-2	352	PHM-505-1	183	PM-060-1	211	PP-230-1	95	PP-302-1	78	PP-352-1	256
PANAL0222-3	352	PHM-505M-1	183	PM-525-1	163	PP-240-1	95	PP-302-1	256	PP-352-1	379
PANAL0222-4	352	PHM-506-1	184	PM-525A-1	158	PP-250-1	97	PP-302-1	379	PP-353-1	78
PANAL0222-5	352	PHM-506M-1	184	PM-525B-1	158	PP-260-1	97	PP-303-1	78	PP-353-1	124
PANAL0222-6	352	PHM-507M-1	184	PM-551-1	176	PP-261-1	97	PP-303-1	124	PP-354-1	78
PANAL0223	348	PHM-508-1	184	PM-552-1	176	PP-270-1	110	PP-304-1	78	PP-354-1	124
PANAL0224	348	PHM-510M-1	184	PM-553-1	176	PP-270-1	124	PP-304-1	124	PP-355-1	78
PANAL0225	351	PHM-515M-1	184	PM-610-1	208	PP-270-1	204	PP-304-1	204	PP-355-1	204
PANAL0226	351	PHM-520M-1	184	PM-611-1	208	PP-270-1	310	PP-305-1	78	PP-360-1	79
PANAL0227	351	PHM-525-1	184	PM-612-1	211	PP-271-1	110	PP-305-1	204	PP-360-1	124
PANAL0227-1	351	PHM-530-1	184	PM-613A-1	211	PP-271-1	253, 255	PP-310-1	78	PP-360-1	204
PANAL0227-2	351	PHM-535-1	184	PM-613A-1	258, 295	PP-280-1	78	PP-310-1	124	PP-360-1	310
PANAL0227-3	351	PHM-540-1	184	PM-810-1	258	PP-280-1	124	PP-310-1	204	PP-360-1	379
PANAL0227-4	351	PHM-541-1	184	PM-811-1	258	PP-280-1	204	PP-310-1	310	PP-361-1	79
PANAL0227-5	351	PHM-545-1	184	PM-831-1	295	PP-280-1	310	PP-310-1	379	PP-361-1	253
PANAL0227-6	351	PHM-550-1	185	PM-831A-1	295	PP-280-1	379	PP-311-1	78	PP-361-1	355
PANAL0228	350	PHM-550M-1	185	PMK-624	217	PP-281-1	78	PP-311-1	253	PP-361-1	355
PANAL0228-1	350	PHM-551-1	185	PMX-100-1	217	PP-281-1	253	PP-311-1	355	PP-361-1	379
PANAL0228-2	350	PHM-5521A-1	182	PMX-105-1	223	PP-281-1	355	PP-311-1	355	PP-362-1	79
PANAL0228-3	350	PHM-5521M-1	182	PMX-110-1	217	PP-281-1	355	PP-311-1	379	PP-362-1	124
PANAL0228-4	350	PHM-5522A-1	181	PMX-111-1	223	PP-281-1	379	PP-312-1	78	PP-362-1	256
PANAL0228-5	350	PHM-5522M-1	181	PMX-115-1	196	PP-282-1	78	PP-312-1	124	PP-362-1	379
PANAL0228-6	350	PHM-5523A-1	182	PMX-130-1	264	PP-282-1	256	PP-312-1	256	PP-363-1	79
PANAL0229	349	PHM-5524A-1	181	PMX-141A-1	264	PP-282-1	379	PP-312-1	379	PP-363-1	124
PANAL0230	349	PHM-5524M-1	181	PMX-144-1	267	PP-283-1	78	PP-313-1	78	PP-363-1	204
PANAL0237	350	PHM-552A-1	181	PMX-145-1	267	PP-283-1	124	PP-313-1	124	PP-364-1	79
PANAL0238	350	PHM-552M-1	181	PMX-146-1	267	PP-284-1	78	PP-314-1	78	PP-364-1	204
PANAL0239	349	PHM-553M-1	185	PMX-160-1	217	PP-284-1	124	PP-314-1	204	PP-370-1	79
PANAL0241	352	PHM-555-1	185	PMX-165-1	196	PP-284-1	204	PP-315-1	78	PP-370-1	379
PANAL0242	352	PHM-557-1	190	PMX-170-1	223	PP-285-1	78	PP-315-1	204	PP-371-1	79
PANAL0243	352	PHM-565-1	185	PMX-180-1	150, 151	PP-285-1	204	PP-340-1	78	PP-371-1	379
PH-100-1	85	PHM-575-1	185	PMX-185-1	219	PP-290-1	78	PP-340-1	124	PP-372-1	79
PH-110-1	86	PHM-580-1	185	PMX-190-1	220	PP-290-1	124	PP-340-1	204	PP-372-1	256
PH-120-1	92	PHM-585-1	185	PMX-200-1	220	PP-290-1	204	PP-340-1	310	PP-372-1	379
PH-130-1	93	PHM-585M-1	186	PMX-205-1	221	PP-290-1	310	PP-340-1	379	PP-373-1	79
PH-140-1	94	PHM-595M-1	186, 187	PMX-210-1	221	PP-290-1	379	PP-341-1	78	PP-373-1	124
PH-150-1	94	PHM-604-1	199, 224	PMX-215-1	221	PP-291-1	78	PP-341-1	253	PP-373-1	204
PH-160-1	102	PHM-610-1	199	PMX-220-1	222	PP-291-1	253	PP-341-1	355	PP-374-1	79
PH-170-1	102	PHM-615-1	200	PMX-230-1	222	PP-291-1	355	PP-341-1	355	PP-374-1	204
PH-180-1	104	PHM-624-1	199	PMX-235-1	222	PP-291-1	355	PP-341-1	379	PP-380-1	79
PH-190-1	105	PHM-625-1	199	PMX-240-1	222	PP-291-1	379	PP-342-1	78	PP-380-1	379
PH-200-1	111	PHM-635-1	199	PMX-245-1	222	PP-292-1	78	PP-342-1	256	PP-381-1	79
PH-210-1	86	PHM-640-1	200	PMX-250-1	222	PP-292-1	256	PP-342-1	379	PP-381-1	379
PH-220-1	86	PHM-804-1	250	PP-100-1	77	PP-292-1	379	PP-343-1	78	PP-382-1	79
PH-221-1	86	PHM-814-1	249	PP-110-1	81	PP-293-1	78	PP-343-1	124	PP-382-1	256
PH-221-1	292	PHM-824-1	249	PP-120-1	81	PP-293-1	124	PP-344-1	78	PP-382-1	379
PH-230-1	87	PHM-834A-1	250	PP-130-1	81	PP-294-1	78	PP-344-1	124	PP-383-1	79
PH-240-1	92	PK-610	208	PP-140-1	81	PP-294-1	124	PP-344-1	204	PP-383-1	124
PH-250-1	109	PM-006-1	356	PP-150-1	84	PP-294-1	204	PP-345-1	78	PP-383-1	204
PH-260-1	111	PM-006-1	356	PP-150-1	124, 159, 161	PP-295-1	78	PP-345-1	204	PP-384-1	79
PH-270-1	98	PM-007-1	356	PP-150-1	204	PP-295-1	204	PP-350-1	78	PP-384-1	204
PH-280-1	109	PM-007-1	356	PP-150-1	310	PP-300-1	78	PP-350-1	124	PP-390-1	100
PH-280-1	292	PM-022-1	356	PP-151-1	84	PP-300-1	124	PP-350-1	204	PP-400-1	78
PHK-604A	199	PM-022-1	356	PP-151-1	253, 255	PP-300-1	204	PP-350-1	310	PP-410A-1	85

PP-420-1	88	PPM-527B-1	166	PPS-140-1	132	PPS-250-1	181	PPS-400-1	90	PST-005M500	79
PP-430-1	98	PPM-527C-1	166	PPS-141-1	79	PPS-251-1	111	PPS-400-1	190	PST-005M500	173
PP-440A-1	99	PPM-528-1	166	PPS-141-1	132	PPS-251-1	181	PPS-410-1	111	PST-005Y2000	79
PP-460-1	106	PPM-530B-1	170	PPS-150-1	88	PPS-251B2000	181	PPS-410-1	190	PST-005Y2000	143
PP-470-1	84	PPM-531-1	170	PPS-150-1	132	PPS-260-1	77	PPS-411-1	111	PST-010	77
PP-480-1	84	PPM-532-1	171	PPS-150-1	256	PPS-260-1	174	PPS-411-1	190	PST-024	77
PP-490-1	103	PPM-532A-1	171	PPS-150-1	311	PPS-261-1	90	PPS-412-1	111	PST-024A1000	77
PP-500-1	103	PPM-533-1	171	PPS-150-1	376	PPS-261-1	182	PPS-412-1	190	PST-024A100A01	77
PP-510-1	98	PPM-534-1	171	PPS-160-1	92	PPS-261B2000	90	PPS-420-1	89	PST-024M100A01	77
PP-521-1	95	PPM-535-1	172	PPS-160-1	134	PPS-261B2000	182	PPS-420-1	132	PST-024Y1200	77
PP-530A-1	107	PPM-536-1	171	PPS-161-1	92	PPS-261M1000	90	PPS-430-1	82	PST-024Y1200	143
PPK-608B	205	PPM-542-1	171	PPS-161-1	134	PPS-261M1000	182	PPS-430-1	182	PST-025	84
PPK-8081	254	PPM-543-1	171	PPS-162-1	92	PPS-262-1	100	PPS-430B10000	82	PST-025M100A01	84
PPM-017-1	356	PPM-549-1	175	PPS-162-1	136	PPS-262-1	182	PPS-430B10000	182	PST-035	88
PPM-017-1	356	PPM-550M-1	135	PPS-163-1	92	PPS-262M1000	100	PPS-430B2000	82	PST-040	101
PPM-100-1	286	PPM-551B-1	178	PPS-163-1	136	PPS-262M1000	182	PPS-430B2000	182	PST-040A1000	101
PPM-105-1	286	PPM-552-1	178	PPS-164X	263	PPS-262M2000	100	PPS-430M2000	82	PST-040M100A01	101
PPM-110-1	286	PPM-553-1	180	PPS-165-1	92	PPS-262M2000	182	PPS-440-1	172	PST-050	90
PPM-115-1	286	PPM-554-1	179	PPS-165-1	137	PPS-270-1	93	PPS-441-1	93	PST-050B200	90
PPM-120-1	287	PPM-555-1	178	PPS-165-1	214	PPS-270-1	176	PPS-450-1	172	PST-050B200	215
PPM-125-1	287	PPM-560-1	171	PPS-165-1	263	PPS-271-1	93	PPS-451-1	83	PST-050M200	90
PPM-130-1	123	PPM-608B-1	203	PPS-166-1	92	PPS-271-1	176	PPS-451-1	172	PST-050M200	215
PPM-140-1	123	PPM-608C-1	205	PPS-166-1	214	PPS-280-1	175	PPS-501-1	112	PST-051	90
PPM-145-1	287	PPM-608C-1	253, 255	PPS-166-1	263	PPS-281-1	93	PPS-580X	78	PST-060	106
PPM-150-1	287	PPM-608F-1	204	PPS-167-1	92	PPS-281-1	175	PPS-590X	77	PST-060A100A01	106
PPM-155-1	287	PPM-608G-1	204, 229	PPS-167-1	137, 139	PPS-282-1	93	PPS-640-1	96	PST-060K1000	106
PPM-165-1	130	PPM-609-1	205	PPS-167-1	214	PPS-282-1	175	PPS-640-1	133	PST-060M1000	106
PPM-170-1	130	PPM-610-1	205	PPS-168-1	92	PPS-290-1	92	PPS-641-1	96	PST-060M100A01	106
PPM-175-1	131	PPM-625B-1	225	PPS-168-1	137	PPS-290-1	182	PPS-641-1	133	PST-071	81
PPM-180-1	135, 136	PPM-632A-1	235	PPS-169-1	92	PPS-300-1	83	PPS-642-1	106	PST-071A100A01	81
PPM-200-1	123	PPM-632B-1	235	PPS-169-1	135	PPS-300-1	182	PPS-642-1	133	PST-071K1000	81
PPM-210-1	123	PPM-650-1	287	PPS-170-1	89	PPS-300B2000	83	PPS-645-1	76	PST-072	81
PPM-251-1	170	PPM-655-1	206	PPS-170-1	134	PPS-300B2000	182	PPS-645-1	293	PST-072A100A01	81
PPM-255-1	171	PPM-660-1	206	PPS-171-1	89	PPS-301-1	100	PS-100-1	82	PST-072K1000	81
PPM-471-1	358	PPM-665-1	203	PPS-171-1	214	PPS-301-1	182	PS-110-1	83	PST-073	81
PPM-471-1	358	PPM-680-1	203	PPS-171-1	263	PPS-301B20000	100	PS-120-1	90	PST-073K1000	81
PPM-480-1	205	PPM-685-1	206	PPS-172-1	89	PPS-302-1	100	PS-130-1	93	PST-090	83
PPM-485-1	205	PPM-695-1	203	PPS-172-1	136	PPS-310-1	80	PS-140-1	93	PST-090K100A01	83
PPM-500-1	175	PPM-8082-1	256	PPS-173-1	89	PPS-315-1	187	PS-140-1	248	PST-100	83
PPM-505D-1	123	PPM-8082-1	376	PPS-173-1	263	PPS-320-1	83	PS-150-1	94	PST-100A100A01	83
PPM-505E-1	123	PPM-808B-1	252	PPS-174-1	89	PPS-321-1	83	PSK-531	170	PST-100M100A01	83
PPM-505M-1	138	PPM-808C-1	254	PPS-174-1	137, 139	PPS-325-1	187	PSK-606	201	PST-1010	101
PPM-506-1	132	PPM-808F-1	254	PPS-175-1	89	PPS-330-1	90	PSK-8061	251	PST-1010M100A01	101
PPM-507-1	130	PPM-808G-1	255	PPS-175-1	234	PPS-331-1	90	PSM-250-1	164	PST-1030	109
PPM-508-1	130	PPM-828-1	253, 255	PPS-180-1	82	PPS-335-1	187	PSM-252-1	164	PST-110	84
PPM-508B-1	129	PPM-831-1	296	PPS-180-1	170	PPS-340-1	88	PSM-506-1	125	PST-110H1000	84
PPM-508D-1	129	PPM-831A-1	296	PPS-190-1	97	PPS-341-1	88	PSM-510-1	125	PST-110H1000	124
PPM-508G-1	131	PPM-838-1	253, 255	PPS-190-1	174	PPS-342-1	88	PSM-516-1	125	PST-110H1000	204
PPM-509-1	132	PPS-100-1	93	PPS-191-1	174	PPS-345-1	187	PSM-520-1	125	PST-110M1000	159
PPM-515-1	141	PPS-100-1	126	PPS-210-1	95	PPS-350-1	83	PSM-524-1	163	PST-110M2000	84
PPM-515A-1	136	PPS-110-1	112	PPS-210-1	175	PPS-350-1	261	PSM-525-1	158	PST-110M2000	124, 159
PPM-515M-1	136	PPS-110-1	126	PPS-211-1	95	PPS-351-1	83	PSM-525A-1	158	PST-111	84
PPM-521-1	164	PPS-120-1	90	PPS-211-1	175	PPS-351-1	254	PSM-606-1	201	PST-1111100A01	84
PPM-522-1	164	PPS-120-1	129	PPS-220-1	95	PPS-360-1	85	PSM-606-1	251	PST-111K1000	84
PPM-523-1	166	PPS-130-1	104	PPS-220-1	175	PPS-360-1	255, 261	PSM-620-1	201	PST-112	84
PPM-524-1	166, 167	PPS-130-1	129	PPS-231-1	175	PPS-390-1	90	PSM-625-1	201	PST-1121100A01	84
PPM-525C-1	158	PPS-132-1	104	PPS-232-1	95	PPS-390-1	182	PSM-630-1	201	PST-112K1000	84
PPM-525D-1	158	PPS-132-1	131	PPS-232-1	175	PPS-390B2000	90	PSM-806-1	201	PST-1130	107
PPM-525E-1	160	PPS-133-1	104	PPS-240-1	110	PPS-390B2000	182	PSM-806-1	251	PST-1130A100A01	107
PPM-525F-1	154, 158	PPS-133-1	254	PPS-240-1	129, 159, 160	PPS-390B20000	90	PSM-826-1	251	PST-1130K1000	107
PPM-527A-1	166	PPS-140-1	79	PPS-250-1	111	PPS-390B20000	182	PST-005	79	PST-1130M100A01	107

PST-1130M100A01	173	PST-1275	83	PST-1420	96	PST-1580	104	PST-1740A100A01	111	PST-1850W1000	97
PST-1130Y500	107	PST-1275K100A01	83	PST-1420M100A01	96	PST-1580A100A01	104	PST-1740K1000	111	PST-1855	98
PST-1130Y500	143	PST-1275M100A01	83	PST-1425	96	PST-1580K1000	104	PST-1740M100A01	111	PST-1860	99
PST-1160	90	PST-1280	83	PST-1425K1000	96	PST-1580M100A01	104	PST-1745	112	PST-1860M100A01	99
PST-1160M100A01	90	PST-1280K100A01	83	PST-1425M100A01	96	PST-1590	104	PST-1745A1000	112	PST-1865	111
PST-1170	87	PST-1285	84	PST-1430	96	PST-1590K1000	104	PST-1750	112	PST-1881M100A01	76
PST-1170A1000	87	PST-1285M100A01	84	PST-1440	96	PST-1590M100A01	104	PST-1750	236	PST-1881M100A01	172
PST-1170B200	87	PST-1285M100A01	236	PST-1440M100A01	96	PST-1595	104	PST-1750M100A01	112	PST-1882M100A01	76
PST-1170B200	215	PST-1285M250	84	PST-1450	96	PST-1595A1000	104	PST-1755	76	PST-1882M100A01	172
PST-1170M200	87	PST-1290-10MG	98	PST-1450A1000	96	PST-1595M100A01	104	PST-1755B100A01	76	PST-190	90
PST-1170M200	215	PST-1290M1000	98	PST-1450M100A01	96	PST-160	88	PST-1755M100A01	76	PST-190K1000	90
PST-1171	87	PST-1295	84	PST-1460	98	PST-1600	104	PST-1760-10MG	77	PST-190M100A01	90
PST-1171H200	87	PST-1295A100A01	84	PST-1460M100A01	98	PST-1600A100A01	104	PST-1760A100A01	77	PST-190M100A01	255
PST-1171H200	215	PST-1295M100A01	84	PST-1475	98	PST-1600K1000	104	PST-1760M1000	77	PST-220	88
PST-1180	99	PST-130	86	PST-1475M100A01	98	PST-1600M100A01	104	PST-1760M100A01	77	PST-220A100A01	88
PST-1180A100A01	99	PST-1305	84	PST-1480	99	PST-1605	105	PST-1765	94	PST-220I100A01	88
PST-1180B2000	99	PST-1305A1000	84	PST-1480M100A01	99	PST-1605A100A01	105	PST-1765A1000	94	PST-220K1000	88
PST-1180B2000	215	PST-130M100A01	86	PST-1490	99	PST-1605K1000	105	PST-1770	96	PST-220M1000	88
PST-1180M2000	99	PST-1325	84	PST-1490A100A0	99	PST-1605M100A01	105	PST-1770K1000	96	PST-250	88
PST-1180M2000	215	PST-1325K1000	84	PST-1490M100A01	99	PST-160M100A01	88	PST-1770M100A01	96	PST-250A1000	88
PST-1181	99	PST-1325M100A01	84	PST-150	87	PST-1620	105	PST-1775	96	PST-250A100A01	88
PST-1181H2000	99	PST-1330	85	PST-1500	99	PST-1620A100A01	105	PST-1775K1000	96	PST-250I100A01	88
PST-1181H2000	215	PST-1330M100A01	85	PST-1500H100A01	99	PST-1620M100A01	105	PST-1775M100A01	96	PST-250K1000	88
PST-1190	99	PST-1335	86	PST-150H200	87	PST-1640	106	PST-1780	96	PST-2725-100MG	87
PST-1190B2000	99	PST-1335I100A01	86	PST-150H200	215	PST-1640A1000	106	PST-1780A1000	96	PST-2725M1000	87
PST-1190B2000	215	PST-1340	86	PST-1510	100	PST-1645	106	PST-1780M100A01	96	PST-2725M1000	293
PST-1190K1000	99	PST-1340A1000	86	PST-1510M1000	100	PST-1645M100A01	106	PST-1785	97	PST-280	88
PST-1190M2000	99	PST-1340K100A01	86	PST-1510M100A01	100	PST-1650	106	PST-1785M100A01	97	PST-298	88
PST-1190M2000	215	PST-1340M100A01	86	PST-1525	100	PST-1650A1000	106	PST-1790	101	PST-298M100A01	88
PST-1191	99	PST-1345	86	PST-1525A1000	100	PST-1665	106	PST-1790M100A01	101	PST-300	88
PST-1191H2000	99	PST-1345K1000	86	PST-1525A100A01	100	PST-1665K1000	106	PST-1795	103	PST-300I100A01	88
PST-1191H2000	215	PST-1345M100A01	86	PST-1525M100A01	100	PST-1665M100A01	106	PST-1795M100A01	103	PST-320	88
PST-120	85	PST-1350	86	PST-1530	101	PST-1680	107	PST-1800	107	PST-320A100A01	88
PST-1200	103	PST-1350K1000	86	PST-1530I100A01	101	PST-1680A1000	107	PST-1800M100A01	107	PST-320AS	88
PST-1201	103	PST-1350M1000	86	PST-1530K1000	101	PST-1685	108	PST-1805	107	PST-320I100A01	88
PST-1201C100A01	103	PST-1350M100A01	86	PST-1530K100A01	101	PST-1685M100A01	108	PST-1805K1000	107	PST-370	92
PST-1201K1000	103	PST-1355	87	PST-1531M100A01	101	PST-1695	108	PST-1805K100A01	107	PST-370B200	92
PST-120K100A01	85	PST-1355M100A01	87	PST-1531M100A01	172	PST-1695M100A01	108	PST-1805Y840	107	PST-370B200	215
PST-1215	76	PST-1360	87	PST-1532M100A01	101	PST-170	87	PST-1805Y840	143	PST-370K1000	92
PST-1215A100A01	76	PST-1360K1000	87	PST-1532M100A01	172	PST-1700	108	PST-1810	109	PST-370M200	92
PST-1215M1000	76	PST-1360M100A01	87	PST-1535	101	PST-1700M1000	108	PST-1810K1000	109	PST-370M200	215
PST-1215M100A01	76	PST-1360M500	87	PST-1535A1000	101	PST-1700M1000	213	PST-1815	108	PST-371	92
PST-1220	79	PST-1360M500	173	PST-1535A100A01	101	PST-1700M100A01	108	PST-1815M100A01	108	PST-371H200	92
PST-1220M100A01	79	PST-1360Y2000	87	PST-1535M100A01	101	PST-1705	108	PST-1820	108	PST-380	92
PST-1225	80	PST-1360Y2000	143	PST-1540	177	PST-1705K1000	108	PST-1820A1000	108	PST-380M100A01	92
PST-1225M100A01	80	PST-1390	90	PST-1540	101	PST-1705M100A01	108	PST-1825	109	PST-391	92
PST-1230	80	PST-1390M100A01	90	PST-1540K1000	101	PST-1705Y2000	108	PST-1825H100A01	109	PST-391A1000	92
PST-1230M100A01	80	PST-140	87	PST-1540M100A01	101	PST-1705Y2000	143	PST-1825K1000	109	PST-391M100A01	92
PST-1235	80	PST-1405	94	PST-1545	101	PST-171	87	PST-1830	110	PST-400	93
PST-1235A1000	80	PST-1405K1000	94	PST-1545M100A01	101	PST-1710	108	PST-1830M100A01	110	PST-400-10MG	78
PST-1235A100A01	80	PST-1405M100A01	94	PST-1555	102	PST-1710K1000	108	PST-1835	110	PST-4000H2000	293
PST-1240	80	PST-140A5000	87	PST-1555A100A01	102	PST-1710M100A01	108	PST-1835M100A01	110	PST-4005-100MG	79
PST-1240A1000	80	PST-140B200	87	PST-1555K1000	102	PST-1715	109	PST-1840	111	PST-4005A1000	79
PST-1250	80	PST-140B200	215	PST-1555M100A01	102	PST-1715M1000	109	PST-1840A1000	111	PST-4005M500	79
PST-1250M100A01	80	PST-140M200	87	PST-1560	102	PST-1715M1000	293	PST-1840A100A01	111	PST-4005M500	173
PST-1255	80	PST-140M200	215	PST-1560M100A01	102	PST-171H200	215	PST-1845	95	PST-4005Y500	79
PST-1255A1000	80	PST-1410	94	PST-1570	104	PST-1720	109	PST-1845K1000	95	PST-4005Y500	143
PST-1255A100A01	80	PST-1410AS	94	PST-1570A100A01	104	PST-1720A100A01	109	PST-1845K1000	175	PST-400A100A01	93
PST-1255M100A01	80	PST-1415	95	PST-1575	104	PST-1720M1000	109	PST-1845M1000	175	PST-400H2000	78
PST-1265	82	PST-1415A1000	95	PST-1575K1000	104	PST-1720M100A01	109	PST-1845M100A1	95	PST-400K1000	93
PST-1265M100A01	82	PST-1415A100A01	95	PST-1575M100A01	104	PST-1740	111	PST-1850	97	PST-4010-100MG	79

PST-4010M500	79	PST-470A1000	94	PST-625K100A01	76	PST-810	105			QCM-112	62
PST-4010M500	173	PST-470K1000	94	PST-625M100A01	76	PST-810M100A01	105			QCM-115	59
PST-4010Y1000	79	PST-470M1000	213	PST-626M100A01	76	PST-830	106	QCI-700	67	QCM-116	59
PST-4010Y1000	143	PST-4745-100MG	98	PST-626M100A01	172	PST-830K1000	106	QCI-701	57	QCM-120	62
PST-4015-100MG	82	PST-4745M1000	98	PST-627M100A01	76	PST-830M100A01	106	QCI-702	68	QCM-125	59
PST-4015A100A01	170	PST-4745M1000	293	PST-627M100A01	172	PST-830Y1200	106	QCI-705A	65	QCM-130	62
PST-4015M1000	82	PST-480	86	PST-630	81	PST-830Y1200	143	QCI-705B	65	QCM-135	59
PST-4015M100A01	170	PST-480H1000	86	PST-630A100A01	81	PST-840	106	QCI-705C	65	QCM-140	73
PST-4015M2000	82	PST-480K1000	86	PST-630K1000	81	PST-840K1000	106	QCI-706A	55	QCM-150	74
PST-4030-100MG	92	PST-480M100A01	86	PST-630K100A01	81	PST-840K100A01	106	QCI-706B	55	QCM-151	74
PST-4040B200	87	PST-490	110	PST-641	99	PST-840M100A01	106	QCI-706C	55	QCM-200	72
PST-4040B200	215	PST-490A1000	110	PST-641A1000	99	PST-840Y900	106	QCI-710	57, 67	QCM-205	70
PST-4040M200	87	PST-490A100A01	110	PST-641A100A01	99	PST-840Y900	143	QCI-711	58, 68	QCM-210	63
PST-4040M200	215	PST-501	95	PST-641M100A01	99	PST-850	106	QCI-711-100	58, 68	QCM-211	60
PST-4050-100MG	95	PST-501A100A01	95	PST-6560-100MG	106	PST-850M100A01	106	QCI-712	57	QCM-212	60
PST-4065-100MG	92	PST-501K1000	95	PST-6590M1000	111	PST-850M500	106	QCI-713	66, 67	QCM-213	64
PST-4065H200A01	139	PST-501T1000	95	PST-660	77	PST-850M500	173	QCI-715	66	QCM-220	60, 64, 72
PST-4065H200A01	214, 215	PST-501T1000	175	PST-660A1000	77	PST-850Y2000	106	QCI-716	66	QCM-230	60, 64, 70, 72
PST-4065H200A1	92	PST-502	95	PST-6790Y1000	143	PST-850Y2000	143	QCI-717	55	QCM-240	72, 74
PST-4075H200	215	PST-502A100A01	95	PST-680	100	PST-865	106	QCI-718	56	QCM-241	74
PST-4100H200	90	PST-502K1000	95	PST-680A1000	100	PST-865M1000	106	QCI-720	57, 67	QCM-242	74
PST-4100H200	215	PST-503	95	PST-680A100A01	100	PST-865M100A01	106	QCI-731	57	QCM-243	74
PST-41050H200	94	PST-503A100A01	95	PST-680M1000	100	PST-880	107	QCI-735	66, 68	QCM-244	74
PST-4105H200	215	PST-503K1000	95	PST-6850A1000	108	PST-880A1000	107	QCI-740	68	QCM-245	74
PST-4125-100MG	100	PST-510	95	PST-6850Y850	108	PST-880K1000	105	QCI-745	66	QCM-246	74
PST-4125B2000	182	PST-510K1000	95	PST-6850Y850	143	PST-880M100A01	107	QCI-750	58, 67	QCM-247	74
PST-4130-100MG	100	PST-510K100A01	95	PST-691	100	PST-890	107	QCI-751	58	QCM-248	74
PST-4130B2000	182	PST-512	95	PST-691K1000	100	PST-911	107	QCI-755	66	QCM-249	60, 64, 74
PST-4130B20000	182	PST-513	95	PST-691K100A01	100	PST-911B200	107	QCI-756	56	QCM-250	63
PST-4140H200	107	PST-513M1000	95	PST-6935A100A01	79	PST-911B200	215	QCI-757	56	QCM-251	60
PST-4140H200	215	PST-520	96	PST-6935M500	79	PST-911K1000	107	QCI-760	67	QCM-260	60, 64
PST-421	93	PST-520AS	96	PST-6935M500	173	PST-911M200	107	QCI-761	68	QCM-276	70, 74
PST-421K1000	93	PST-520K1000	96	PST-6935Y100A01	79	PST-911M200	215	QCI-765	66	QCM-277	70, 74
PST-4230A1000	102	PST-520M1000	96	PST-6935Y100A01	143	PST-912	107	QCI-770	66, 67	QCM-300	71
PST-4230M1000	102	PST-520M1000	213	PST-700	101	PST-920M1000	88	QCI-780	58, 67	QCM-310	63
PST-4230M1000	293	PST-530	96	PST-700A100A01	101	PST-920M1000	213	QCI-785	66	QCM-311	61
PST-4235M1000	84	PST-530K1000	96	PST-700K1000	101	PST-920M100A01	88	QCI-786	56	QCM-312	61
PST-4250-100MG	108	PST-530K100A01	96	PST-710	101	PST-930	108	QCI-787	56	QCM-400	72
PST-4250A1000	108	PST-530M1000	96	PST-710M100A01	101	PST-930B200	108	QCI-790	58	QCM-500	64
PST-4250A1000	292	PST-530M1000	213	PST-720	101	PST-930B200	215	QCI-795	56	QCM-501	60
PST-4290-100MG	110	PST-530M100A01	96	PST-720M100A01	101	PST-930M200	108	QCK-800A	68	QCM-550	61
PST-4315-100MG	84	PST-540	96	PST-730	102	PST-930M200	215	QCK-801A	68	QCM-551	61
PST-4320M1000	109	PST-540M100A01	96	PST-730K1000	101, 102	PST-931	108	QCK-803	65	QCM-600	73
PST-4385M1000	98	PST-560	80	PST-730M100A01	102	PST-931H200	108	QCK-804	65	QCM-610	73
PST-4490M1000	90	PST-560K1000	80	PST-740	104	PST-931H200	215	QCK-810	58	QCM-620	73
PST-450	94	PST-560M1000	213	PST-740AS	104	PST-940	76	QCK-812	55	QCM-630	73
PST-450B200	94	PST-560M1000	80	PST-761	104	PST-940A1000	76	QCK-900	72	QCM-631	73
PST-450B200	215	PST-560M100A01	80	PST-761A100A01	104	PST-940A100A01	76	QCK-901	72		
PST-450M200	94	PST-571	97	PST-761K1000	104	PST-940M1000	76	QCK-902	70		
PST-450M200	215	PST-571I100A01	97	PST-761K100A01	104	PST-970	110	QCK-910	64	R	
PST-451	94	PST-571K1000	97	PST-761M1000	104	PST-970A1000	110	QCK-913	64	RAB-001	110
PST-455	94	PST-581	97	PST-761M1000	213	PST-970H1000	110	QCK-915	61	RAB-001	422
PST-4555-100MG	81	PST-582	97	PST-770	104	PST-970H1000	124	QCK-920	73	RAB-002	112
PST-455M1000	94	PST-582C100A01	97	PST-770B1000	104	PST-970H1000	204	QCK-921	73	RAB-002	423
PST-455M1000	213	PST-582K1000	97	PST-770B1000	131	PST-970M4000	110	QCK-922	73	RAB-002K1000	112
PST-455M100A01	94	PST-590A100A01	97	PST-770K1000	104	PST-970M4000	124, 129	QCM-100	71	RAB-003	112
PST-460	94	PST-600	105	PST-770K100A01	104	PST-990	84	QCM-105	69	RAB-003	423
PST-460K1000	94	PST-600K100A01	105	PST-770Y100A01	104	PST-990K100A01	84	QCM-106	69	RAB-004	112
PST-460M100A01	94	PST-620	99	PST-770Y100A100	131	PST-990M100A01	84	QCM-110	62	RAB-004	423
PST-470	94	PST-625	76	PST-800	105	PST-990M100A01	255	QCM-111	62	RAB-004K1000	112
		PST-625K1000	76	PST-800K100A01	105					RAB-005	111
										RAB-005	423

RAB-006	423	RAH-007	86	RAH-059	410, 423	RBF-004	421	RBF-102	382	RCC-008	93
RAB-007	112	RAH-007	409, 413	RAH-060	410, 423	RBF-005	417	RBF-102S	382	RCC-010	85
RAB-007	423	RAH-007M1000	82	RAH-061	410, 423	RBF-006A	412	RCA-001	412	RCC-011	418
RAB-008	422	RAH-008	106	RAH-062	409, 416	RBF-006B	412	RCA-002	412	RCC-012	102
RAB-009	422	RAH-008	410, 421	RAH-063	410, 421	RBF-006C	412	RCA-003	84	RCC-012	419
RAB-010	422	RAH-009	81	RAH-064	76	RBF-007	414	RCA-003	412	RCC-013	102
RAB-011	420	RAH-009	409, 411	RAH-064	409, 411	RBF-008	414	RCA-004	414	RCC-013	419
RAB-012	417	RAH-010	81	RAH-065	410, 418	RBF-009	110	RCA-005	414	RCC-015	103
RAB-013	96	RAH-010	409, 411	RAH-066	409, 416	RBF-009	422	RCA-006	414	RCC-015	420
RAB-013	417	RAH-010M1000	81	RAH-067	409, 416	RBF-010	420	RCA-007	414	RCC-016	103
RAB-014	106	RAH-012	409, 412	RAH-068	409, 416	RBF-011	412	RCA-008	414	RCC-016	420
RAB-014	421	RAH-013	409, 412	RAH-069	410, 423	RBF-012	83	RCA-009	414	RCC-017	103
RAB-014M1000	106	RAH-015	409, 413	RAH-071	409, 416	RBF-012	412	RCA-010	422	RCC-017	420
RAB-015	98	RAH-016	409, 413	RAH-072	80	RBF-013	414	RCA-011	422	RCC-018	106
RAB-015	418	RAH-017	409, 413	RAH-072	409, 411	RBF-014	414	RCA-012	422	RCC-018	421
RAB-015M1000	98	RAH-018	409, 414	RAH-073	80	RBF-015	412	RCA-013	421	RCC-025	411
RAB-016	83	RAH-019	89	RAH-073	409, 411	RBF-016	412	RCA-014	421	RCC-026	411
RAB-016	412	RAH-019	409, 414	RAH-074	409, 413	RBF-017	414	RCA-015	420	RCC-027	411
RAB-017	83	RAH-020	409, 417	RAH-075	409, 413	RBF-074	382	RCA-016-10MG	111	RCC-028	411
RAB-017	412	RAH-021	409, 415	RAH-076	414	RBF-075	382	RCB-001	86	RCC-029	413
RAB-018	83	RAH-022	409, 415	RAH-077	98	RBF-076	382	RCB-001	413	RCC-030	413
RAB-018	412	RAH-023	409, 415	RAH-077	410, 418	RBF-076S	382	RCB-001M1000	86	RCC-031	413
RAB-019	418	RAH-024	409, 416	RAH-078	410, 419	RBF-077	382	RCB-002	413	RCC-032	413
RAB-020	420	RAH-025	93	RAH-079	410, 422	RBF-077S	382	RCB-003	86	RCC-033	413
RAB-021	420	RAH-025	409, 416	RAH-080	102	RBF-078	382	RCB-003	413	RCC-034	413
RAB-022	420	RAH-026	409, 416	RAH-080	410, 419	RBF-078S	382	RCB-003M1000	86	RCC-040	421
RAB-023	418	RAH-027	409, 416	RAH-081	409, 412	RBF-079S	382	RCB-004	81	RCC-041	93
RAB-024	417	RAH-028	409, 416	RAH-082	409, 411	RBF-080	382	RCB-004	413	RCC-041	422
RAB-025	420	RAH-029	409, 416	RAH-083	409, 414	RBF-080S	89	RCB-005	415	RCC-043	80
RAB-026	420	RAH-030	409, 416	RAH-084	409, 415	RBF-080S	382	RCB-006	415	RCC-043	411
RAB-027	413	RAH-031	96	RAH-085	409, 416	RBF-081	382	RCB-007	415	RCC-044	411
RAB-028	421	RAH-031	409, 417	RAH-086	409, 417	RBF-081S	382	RCB-008	415	RCC-063	107
RAB-029	416	RAH-032	97	RAH-087	409, 417	RBF-082	382	RCB-009	415	RCC-063	421
RAB-030	416	RAH-032	410, 417	RAH-088	409, 413	RBF-082S	382	RCB-010	415	RCC-070	102
RAB-032	416	RAH-033	410, 417	RAH-089	410, 421	RBF-083	382	RCB-011	415	RCC-071	420
RAB-033	416	RAH-034	410, 418	RAH-091	410, 422	RBF-083S	382	RCB-012	423	RCC-072	103
RAB-034	416	RAH-035	410, 418	RAH-092	410, 422	RBF-084	382	RCB-013	422	RCC-072	420
RAB-035	417	RAH-036	410, 418	RAH-097	409, 416	RBF-084S	382	RCB-014	423	RCC-077	103
RAB-036	417	RAH-037	410, 418	RAH-098	410, 418	RBF-085	382	RCB-015	423	RCC-077	420
RAB-037	417	RAH-038	410, 418	RAH-099	410, 421	RBF-085S	382	RCB-016	423	RCC-078	103
RAB-038	415	RAH-039	410, 418	RAH-100	410, 421	RBF-086	382	RCB-017	81	RCC-078	420
RAB-039	415	RAH-040	410, 418	RBA-001	413	RBF-086S	382	RCB-017	423	RCC-080	103
RAB-040	415	RAH-041	100	RBA-002	413	RBF-087	382	RCB-018	422	RCC-080	420
RAB-041	80	RAH-041	410, 418	RBA-003	413	RBF-087S	382	RCB-019	421	RCC-088	82
RAB-041	411	RAH-043	410, 418	RBA-004	415	RBF-088S	382	RCB-020	420	RCC-088	413
RAB-041M1000	80	RAH-044	101	RBA-005	90	RBF-089	382	RCB-031	109	RCC-092	421
RAB-042	98	RAH-044	410, 418	RBA-005	415	RBF-089S	382	RCB-031	422	RCC-093	421
RAB-042	418	RAH-045	101	RBA-006	415	RBF-090	382	RCB-042	80	RCC-094	423
RAB-042M1000	98	RAH-045	410, 418	RBA-007	415	RBF-090S	382	RCB-042	411	RCC-103	416
RAB-043	108	RAH-046	410, 419	RBA-008	414	RBF-091	382	RCB-045	420	RCC-106	96
RAB-043	421	RAH-049	410, 420	RBA-009	414	RBF-091S	382	RCC-001	100	RCC-106	417
RAB-043M1000	108	RAH-050	410, 420	RBA-010	422	RBF-092	382	RCC-002	76	RCC-115	422
RAH-001	76	RAH-051	105	RBA-012-100MG	77	RBF-092S	382	RCC-002	411	RCC-117	416
RAH-001	409, 411	RAH-051	410, 420	RBF-001	82	RBF-093	382	RCC-003	411	RCC-121	422
RAH-002	77	RAH-054	410, 421	RBF-001	412	RBF-093S	382	RCC-004	77	RCC-125	422
RAH-002	409, 411	RAH-055	410, 421	RBF-001M1000	82	RBF-094S	382	RCC-004	411	RCC-126	421
RAH-003	409, 411	RAH-056	108	RBF-002A	414	RBF-095S	382	RCC-005	80	RCC-129	412
RAH-004	80	RAH-056	410, 421	RBF-002B	414	RBF-097	382	RCC-005	411	RCC-136	77
RAH-004	409, 411	RAH-057	410, 421	RBF-002C	414	RBF-097S	382	RCC-006	412	RCC-136	411
RAH-005	409, 411	RAH-058	108	RBF-003	110	RBF-098	382	RCC-007	90	RCC-137	77
RAH-006	409, 411	RAH-058	410, 421	RBF-003	422	RBF-098S	382	RCC-007	414	RCC-137	411

RCC-138	415	RCC-181	417	RCC-214	101	RCP-025	422	RGO-600-1	338	RHH-008	412
RCC-141	420	RCC-182	96	RCC-214	419	RCP-025K1000	110	RGO-601-1	324, 339	RHH-009	412
RCC-142	417	RCC-182	417	RCC-215	102	RCP-026	110	RGO-602-1	339	RHH-010	89
RCC-143	81	RCC-183	98	RCC-215	419	RCP-026	422	RGO-603-1	339	RHH-010	414
RCC-143	411	RCC-183	418	RCC-216	105	RCP-027	108	RGO-604-1	339	RHH-011	414
RCC-144	81	RCC-184	98	RCC-216	420	RCP-027	421	RGO-605-1	338	RHH-012	91
RCC-144	412	RCC-184	418	RCC-217	106	RCP-028	108	RGO-606-1	338	RHH-012	415
RCC-145	82	RCC-185	100	RCC-217	421	RCP-028	421	RGO-608-1	318, 321, 338	RHH-012M1000	91
RCC-145	412	RCC-185	418	RCC-218	112	RCP-029	108	RGO-609-1	318, 321, 338	RHH-013	91
RCC-147	82	RCC-186	102	RCC-218	423	RCP-029	421	RGO-610-1	338	RHH-013	415
RCC-148	83	RCC-186	419	RCC-235-10MG	80	RCP-030	104	RGO-611-1	318, 321, 329, 339	RHH-014	110
RCC-148	412	RCC-187	102	RCN-002	413	RCP-030	420	RGO-612-1	339	RHH-014	422
RCC-149	100, 83	RCC-187	419	RCN-003	85	RCP-031	97	RGO-613-1	339	RHH-015	110
RCC-149	412	RCC-188	102	RCN-003	413	RCP-031	417	RGO-614-1	339	RHH-015	422
RCC-150	76	RCC-188	419	RCN-005	415	RCP-032	413	RGO-615-1	338	RHH-016	108
RCC-150	411	RCC-189	102	RCN-006	415	RCP-033	413	RGO-616-1	338	RHH-016	421
RCC-153	93	RCC-189	419	RCN-008	415	RCP-034	413	RGO-621-1	321, 339	RHH-016M1000	108
RCC-153	412	RCC-190	102	RCN-012	103	RCP-035	414	RGO-622-1	339	RHH-017	109
RCC-154	85	RCC-190	420	RCN-012	420	RCP-036	414	RGO-623-1	339	RHH-017	421
RCC-154	413	RCC-192	103	RCN-013	413	RCP-037	414	RGO-624-1	339	RHH-018	104
RCC-155	86	RCC-192	420	RCN-014	415	RCP-038	414	RGO-625-1	338	RHH-018	420
RCC-155	413	RCC-193	110	RCP-001	86	RCP-039	422	RGO-626-1	338	RHH-018	98
RCC-156	86	RCC-193	422	RCP-001	413	RCP-040	422	RGO-631-1	338	RHH-019	417
RCC-156	413	RCC-194	105	RCP-001M1000	86	RCP-041	420	RGO-632-1	338	RHH-020	91
RCC-157	87	RCC-194	421	RCP-002	413	RCP-042	414	RGO-641-1	338	RHH-020	415
RCC-157	413	RCC-195	106	RCP-003	413	RCP-043	422	RGO-642-1	338	RHH-021	91
RCC-158	93	RCC-195	421	RCP-004	415	RCP-044	422	RGO-651-1	338	RHH-021	415
RCC-158	416	RCC-196	106	RCP-005	92	RCP-046	414	RGO-652-1	338	RHH-021M1000	91
RCC-158M1000	93	RCC-196	421	RCP-005	415	RCP-047	414	RGO-661-1	338	RHH-022	110
RCC-159	94	RCC-197	106	RCP-005M1000	92	RCP-048	422	RGO-662-1	338	RHH-022	422
RCC-159	416	RCC-197	421	RCP-006	415	RCP-049	422	RGO-671-1	338	RHH-023	109
RCC-161	95	RCC-198	106	RCP-007	92	RCP-050	421	RGO-672-1	338	RHH-023	421
RCC-161	417	RCC-198	421	RCP-007	415	RCP-052	421	RGO-691-1	338	RHH-023M1000	109
RCC-162	417	RCC-199	109	RCP-008	415	RGK-601	339	RGO-692-1	338	RHH-024	412
RCC-166	98	RCC-199	422	RCP-009	415	RGK-611	339	RGO-701-1	321, 339	RHH-025	412
RCC-166	417	RCC-200	76	RCP-010	422	RGK-621	339	RGO-702-1	339	RHH-026	89
RCC-167	418	RCC-200	411	RCP-011	422	RGK-701	339	RGO-703-1	339	RHH-026	414
RCC-169	94	RCC-201	76	RCP-012	422	RGO-100-1	298	RGO-704-1	339	RHH-027	414
RCC-169	418	RCC-201	411	RCP-013	111	RGO-100-1	337	RGO-711-1	336, 343	RHH-028	421
RCC-170	102	RCC-202	76	RCP-013	422	RGO-101X	239	RGO-722-1	318, 321, 329, 338	RHH-029	412
RCC-170	419	RCC-202	411	RCP-014	111	RGO-101X	337	RGO-723-1	318, 321, 329, 338	RHH-030	412
RCC-170M1000	102	RCC-203	76	RCP-014	422	RGO-102X	239	RGO-724-1	317	RHH-032	414
RCC-171	102	RCC-203	411	RCP-015	422	RGO-102X	337	RGO-730-1	316, 336	RHH-033	414
RCC-171	419	RCC-204	76	RCP-016	421	RGO-200	341	RGO-740-1	332	RHH-034	89
RCC-171M1000	102	RCC-204	411	RCP-017	109	RGO-210	340	RHH-001	100	RHH-034	414
RCC-172	105	RCC-205	83	RCP-017	421	RGO-220	340	RHH-001	415	RHH-035	413
RCC-172	420	RCC-205	412	RCP-018	421	RGO-230	340	RHH-002	85	RHH-036	413
RCC-172M1000	105	RCC-206	96	RCP-019	104	RGO-240	340	RHH-002	413	RHH-037	92
RCC-174	417	RCC-206	417	RCP-019	420	RGO-250	340	RHH-003	84	RHH-037	415
RCC-175	84	RCC-207	98	RCP-020	84	RGO-260	341	RHH-003	412	RHH-038	92
RCC-175	412	RCC-207	418	RCP-020	413	RGO-270	341	RHH-004	89	RHH-038	415
RCC-176	85	RCC-208	98	RCP-021	90	RGO-280-1	340	RHH-004	414	RHH-039	111
RCC-176	413	RCC-208	418	RCP-021	414	RGO-300-1	340	RHH-005	83	RHH-039	422
RCC-177	85	RCC-209	98	RCP-022	90	RGO-301-1	340	RHH-005	412	RHH-039B2000	111
RCC-177	413	RCC-209	418	RCP-022	414	RGO-302-1	340	RHH-006	412	RHH-040	421
RCC-178	92	RCC-210	99	RCP-022M1000	90	RGO-303-1	340	RHH-007	82	RHH-041	421
RCC-178	414	RCC-210	418	RCP-023	90	RGO-310-1	341	RHH-007	412	RHH-042	421
RCC-179	91	RCC-211	99	RCP-023	414	RGO-311-1	341	RHH-007	82	RHH-044	77
RCC-179	415	RCC-212	100	RCP-024	110	RGO-312-1	341	RHH-007	412	RHH-044	413
RCC-180	94	RCC-212	418	RCP-024	422	RGO-313-1	341	RHH-008	82	RHH-045	415
RCC-180	417	RCC-213	100	RCP-024M1000	110	RGO-314-1	341	RHH-008	82	RHH-047	98
RCC-181	96	RCC-213	418	RCP-025	110	RGO-422-1	343			RHH-047	417

RHH-048	412	RNA-033	420	RPC-012	368	RPC-073	373	RPC-1248	379	RPC-174	373
RHH-049	412	RNA-034	422	RPC-013	368	RPC-074	373	RPC-1248	411	RPC-DMC-1	374
RHH-050	414	RNA-035	422	RPC-014	368	RPC-075	373	RPC-125	369	RPC-EPA-1	374
RHH-050M2000	90	RNH-001	94	RPC-015	368	RPC-077	373	RPC-1254	78	RPC-EPA2-1	374
RHH-051	414	RNH-001	416	RPC-016	368	RPC-078	373	RPC-1254	379	RPCBR-1	374
RHH-052	412	RNH-002	94	RPC-017	368	RPC-080	373	RPC-1254	411	RPCBR-2	374
RHH-053	412	RNH-002	416	RPC-018	368	RPC-081	373	RPC-126	369	RPCBR-3	374
RHH-054	92	RNH-003	94	RPC-019	368	RPC-082	373	RPC-1260	79	RPCCK-1A	379
RHH-054	415	RNH-003	416	RPC-020	368	RPC-083A	368	RPC-1260	379	RPCCK-3A	379
RHH-055	85	RNH-004	102	RPC-021	368	RPC-084	368	RPC-1260	411	RPCCK-4A	379
RHH-055	413	RNH-004	419	RPC-022	368	RPC-086	369	RPC-1262	79	RPCM-200-1	357
RHH-056	91	RNH-005	103	RPC-023	368	RPC-087	370	RPC-1262	379	RPCM-200-1	357
RHH-056	415	RNH-005	420	RPC-024	369	RPC-088	371	RPC-1262	411	RPCM-200-1	377
RHH-057	91	RNH-006	103	RPC-025	369	RPC-089	368	RPC-1268	79	RPCM-210-1	357
RHH-057	415	RNH-006	420	RPC-026	370	RPC-090	372	RPC-1268	379	RPCM-210-1	357
RHH-057M1000	91	RNH-007	103	RPC-027	369	RPC-091	370	RPC-1268	411	RPCM-210-1	377
RHH-058	92	RNH-007	420	RPC-028	369	RPC-092	368	RPC-127	370	RPCM-220-1	357
RHH-058	415	RNH-097	419	RPC-029	369	RPC-093	369	RPC-128	369	RPCM-220-1	357
RHH-059	92	RNH-099	419	RPC-030	369	RPC-094	373	RPC-129	370	RPCM-220-1	377
RHH-059	415	RNH-100	419	RPC-031	369	RPC-095	373	RPC-130	370	RPCM-230-1	357
RHH-059K1000	92	RNH-106	423	RPC-032	369	RPC-096	370	RPC-131	371	RPCM-230-1	357
RHH-060	98	RNH-111	411	RPC-033	369	RPC-097	370	RPC-132	371	RPCM-230-1	377
RHH-060	417	RNH-112	419	RPC-034	370	RPC-098	370	RPC-133	371	RPCM-240-1	357
RHH-061	98	RNH-115	419	RPC-035	369	RPC-099	370	RPC-134	371	RPCM-240-1	357
RHH-062	100	RNH-117	419	RPC-036	370	RPC-100	372	RPC-135	373	RPCM-240-1	377
RHH-062	418	RNH-118	419	RPC-037	371	RPC-101	368	RPC-136	369	RPCM-525-1	158
RHH-063	85	RNH-120	419	RPC-038	370	RPC-1016	78	RPC-137	373	RPCM-525A-1	158
RHH-063	413	RNH-121	419	RPC-039	370	RPC-1016	379	RPC-138	370	RPCM-525B-1	162
RHH-064	91	RNH-123	419	RPC-040	370	RPC-1016	411	RPC-139	368	RPCM-8082-1	256
RHH-064	415	RNH-125	419	RPC-041	370	RPC-102	371	RPC-140	373	RPCM-8082-1	376
RNA-001	413	RNH-127	419	RPC-042	370	RPC-103	373	RPC-141	370	RPCW-100-1	378
RNA-002	423	RNH-130	419	RPC-043	370	RPC-104	368	RPC-142	370	RPCW-101-1	378
RNA-003	417	RNH-131	419	RPC-044	371	RPC-105	369	RPC-143	371	RPCW-102-1	378
RNA-004	423	RNH-132	419	RPC-045	371	RPC-106	371	RPC-144	372	RPCW-103-1	378
RNA-005	422	RNH-133	420	RPC-046	372	RPC-107	368	RPC-145	372	RPCW-104-1	378
RNA-006	420	RNH-134	416	RPC-047	372	RPC-108	371	RPC-147	371	RPCW-105-1	378
RNA-007	417	RNH-135	416	RPC-048	372	RPC-109	372	RPC-148	369	RPCW-106-1	378
RNA-008	417	RNH-137	416	RPC-049	371	RPC-110	372	RPC-149	372	RPCW-107-1	378
RNA-009	420	RNH-138	416	RPC-050	371	RPC-111	373	RPC-150	371	RPCW-108-1	378
RNA-010	420	RNH-139	416	RPC-051	372	RPC-112	368	RPC-151	371	RPCW-109-1	378
RNA-011	417	RNH-140	416	RPC-052	371	RPC-113	372	RPC-152	371	RPCW-110-1	378
RNA-012	417	RNH-141	416	RPC-053	371	RPC-114	371	RPC-153	371	RPCW-111-1	103
RNA-013	422	RNH-142	416	RPC-054	371	RPC-115	372	RPC-154	372	RPCW-111-1	378
RNA-014	420	RNH-144	419	RPC-055	372	RPC-116	373	RPC-155	372	RPCWK	378
RNA-015	417	RNH-145	419	RPC-056	371	RPC-117	371	RPC-156	371	RPE-001	86
RNA-016	422	RNH-146	419	RPC-057	373	RPC-118	368	RPC-157	372	RPE-001	383
RNA-017	418	RNH-147	419	RPC-058	373	RPC-119	369	RPC-158	371	RPE-001	413
RNA-018	418	RNH-148	419	RPC-059	373	RPC-120	368	RPC-159	372	RPE-002	383
RNA-019	417	RNH-149	419	RPC-060	373	RPC-121	368	RPC-160	372	RPE-003	383
RNA-020	420	RNH-150	419	RPC-060AS	88	RPC-122	369	RPC-161	372	RPE-004	383
RNA-021	420	RNH-151	420	RPC-060B5000	311	RPC-1221	78	RPC-162	373	RPE-005	91
RNA-022	420	RNH-166	419	RPC-060B5000	376	RPC-1221	379	RPC-163	372	RPE-005	383
RNA-023	417	RNH-177	419	RPC-060S	88	RPC-1221	411	RPC-164	372	RPE-006	383
RNA-024	417	RPC-001	368	RPC-062	368	RPC-123	368	RPC-165	373	RPE-007	383
RNA-025	423	RPC-001	409, 412	RPC-065	369	RPC-1232	78	RPC-166	372	RPE-008	383
RNA-026	420	RPC-006	368	RPC-066	369	RPC-1232	379	RPC-167	373	RPE-009	383
RNA-027	417	RPC-007	368	RPC-067	371	RPC-1232	411	RPC-168	373	RPE-010	383
RNA-028	417	RPC-008	368	RPC-068	373	RPC-124	369	RPC-169	373	RPE-011	383
RNA-029	420	RPC-009	368	RPC-069	370	RPC-1242	78	RPC-170	373	RPE-012	383
RNA-030	422	RPC-010	368	RPC-070	371	RPC-1242	379	RPC-171	370	RPE-014	383
RNA-031	417	RPC-011	90	RPC-071	371	RPC-1242	411	RPC-172	370	RPE-015	384
RNA-032	420	RPC-011	368	RPC-072	372	RPC-1248	78	RPC-173	368	RPE-015S	384

RPE-016	384	RPE-052	384	RTP-018	381	SP-150-1	105	STS-100-1	80	STS-201-1	91
RPE-016S	384	RPE-052S	384	RTP-019	381	SP-160-1	109	STS-101-1	80	STS-201-1	120
RPE-017A	384	RPE-053A	384	RTP-1A	381	SP-170-1	109	STS-101-1	219	STS-201-1	219
RPE-017S	294	RPE-053S	384			SP-180-1	111	STS-110N-1	82	STS-202-1	91
RPE-017S	384	RPE-054A	384	S		SPA-100-1	330	STS-110N-1	145	STS-202-1	219
RPE-018	385	RPE-054S	384	SAK-100-1	243	SPA-110-1	330	STS-110N-1	219	STS-210-1	90
RPE-018S	385	RPE-055A	384	SAK-100-1	317	SPA-200-1	330	STS-110N-1	265, 268	STS-220N-1	111
RPE-019A	385	RPE-055S	384	SAK-120-1	317	SPK-8141B	261	STS-110N-1	301	STS-220N-1	121
RPE-019S	294	RPE-056A	384	SAK-200-1	317	SPM-614-1	213	STS-110N-1	318, 321, 336	STS-220N-1	197
RPE-019S	385	RPE-056S	294	SAK-201-1	317	SPM-622A-1	216	STS-111-1	82	STS-220N-1	245
RPE-020	383	RPE-056S	384	SAK-202-1	317	SPM-622C-1	216	STS-111-1	265, 268	STS-220N-1	318, 321, 332, 336
RPE-021	383	RPE-057A	384	SAK-203-1	317	SPM-622D-1	102	STS-111-1	301	STS-221-1	111
RPE-022	89	RPE-057S	384	SAK-210-1	317	SPM-622D-1	216	STS-111-1	82	STS-221-1	121
RPE-022	385	RPE-058A	384	SAZ-100-1	318	SPM-624-1	213	STS-112-1	265, 268	STS-221-1	197
RPE-022	414	RPE-058S	294	SAZ-100-1	318	SPM-625-1	213	STS-112-1	301	STS-221-1	245
RPE-022S	385	RPE-058S	384	SCA-100-1	197	SPM-630-1	213	STS-112-1	82	STS-222-1	111
RPE-023	384	RPE-059	384	SCA-100-1	319	SPM-824-1	260	STS-113-1	178	STS-222-1	197
RPE-023S	384	RPE-059S	384	SCA-110-1	319	SPM-825-1	216	STS-113-1	301	STS-280N-1	90
RPE-024	383	RPE-060A	384	SCA-112-1	149	SPM-834-1	260	STS-113-1	82	STS-280N-1	279
RPE-025	384	RPE-060S	384	SFL-601-1	320	SPM-844A-1	260	STS-114-1	219	STS-300-1	84
RPE-025S	384	RPE-063A	384	SFL-610-1	320	SPM-854-1	260	STS-114-1	301	STS-310-1	110
RPE-026	384	RPE-063S	294	SKS-100	322	SPM-864-1	261	STS-114-1	82	STS-350-1	89
RPE-026S	384	RPE-063S	384	SKS-101	322, 324, 333	SPM-874-1	261	STS-115-1	178	STS-440-1	100, 83
RPE-027	384	RPE-064M	384	SKS-110	85	SPM-884-1	261	STS-115-1	301	STS-440-1	245
RPE-027S	384	RPE-065M	294	SKS-110	322	STM-240N-1	115	STS-115-1	145	STS-450-1	85
RPE-029S	213	RPE-065M	384	SKS-111	322	STM-240N-1	247	STS-116-1	91	STS-451-1	85
RPE-029S	384	RPE-080S	383	SKS-120	322	STM-245-1	120	STS-120-1	219	STS-451-1	120
RPE-029S*	294	RPE-081S	383	SKS-121	322	STM-250N-1	145	STS-120-1	91	STS-480-1	82
RPE-030	385	RPE-082S	383	SKS-130	322	STM-255-1	120	STS-121-1	219	STS-490-1	86
RPE-030S	385	RPE-083S	383	SKS-130-1	77	STM-260N-1	265	STS-121-1	91	STS-490-1	332, 336
RPE-032	385	RPM-001	381	SLM-100-1	361	STM-260N-1	300	STS-122-1	219	STS-550-1	90
RPE-032S	385	RPM-003	381	SLM-100-1	361	STM-262-1	265	STS-122-1	93	STS-550-1	324, 333
RPE-033	385	RPM-004	381	SLM-300-1	361	STM-262-1	300	STS-130-1	219	STS-570-1	85
RPE-033S	385	RPM-009	381	SLM-300-1	361	STM-270N-1	265	STS-130-1	93	STS-570-1	318, 336
RPE-034	385	RPM-010	381	SLM-400-1	361	STM-272-1	265	STS-131-1	219	STS-<2010>181<2010>1	219
RPE-034S	385	RPM-011	381	SLM-400-1	361	STM-272-1	300	STS-131-1	96	STX-100-1	332
RPE-035	385	RPM-013	381	SLM-401-1	285	STM-288-1	217	STS-150-1	219	STX-110-1	332
RPE-035S	385	RPM-017	381	SMA-100-1	325	STM-289-1	217	STS-150-1	97	STX-120-1	332
RPE-036	385	RPM-018	381	SMA-101-1	324	STM-290N-1	217	STS-160-1	219	SV-110-1	76
RPE-036S	385	RPM-020	381	SMA-110-1	325	STM-291-1	192, 217	STS-160-1	97	SV-120-1	80
RPE-037	385	RPM-021	381	SMA-111-1	324	STM-320N-1	144	STS-161-1	120, 145	SV-130-1	81
RPE-037S	294	RPM-022	381	SMA-120-1	325	STM-321-1	144	STS-161-1	96	SV-131-1	81
RPE-037S	385	RPM-023	381	SMA-121-1	324	STM-330N-1	269	STS-162-1	219	SV-131-1	293
RPE-039A	385	RPM-024	381	SMA-300-1	326, 328	STM-390-1	217	STS-162-1	96	SV-132-1	81
RPE-039S	385	RPM-025	381	SMA-301-1	176	STM-401-1	242	STS-163-1	219	SV-132-1	293
RPE-040A	385	RPM-027	381	SMA-310-1	319, 326	STM-410-1	245	STS-163-1	97	SV-140-1	81
RPE-040S	385	RPM-028	381	SMA-322X	327	STM-411-1	149	STS-164-1	145	SV-150-1	89
RPE-041A	385	RPM-029	381	SMA-330-1	326	STM-420-1	245	STS-164-1	219	SV-160-1	96
RPE-041S	385	RPM-030	381	SMA-331-1	326	STM-431-1	247	STS-170-1	104	SV-170-1	98
RPE-042A	385	RPM-032	381	SMA-335-1	288	STM-460-1	116	STS-170-1	219	SV-180A-1	100
RPE-042S	294	RPM-033	381	SMA-335-10ML	288	STM-510-1	245	STS-171-1	104	SV-190-1	107
RPE-042S	385	RPM-034	381	SMI-100-1	328	STM-520-1	266	STS-171-1	219	SV-200-1	101
RPE-043A	385	RTP-002	381	SMN-101-1	365	STM-525-1	120	STS-180-1	82	SV-210-1	99
RPE-043S	294	RTP-003	381	SMN-101-1	365	STM-530-1	266	STS-180-1	192, 219	SV-210-1	293
RPE-043S	385	RTP-004	381	SMN-102-1	365	STM-540-1	268	STS-181-1	82	SVK-625A	224
RPE-044A	385	RTP-005	381	SMN-102-1	365	STM-541-1	268	STS-190-1	82	SVK-8270	270
RPE-044S	294	RTP-008	381	SNJ-200-1	329	STM-560-1	335	STS-190-1	192, 219	SVK-8271	275
RPE-044S	385	RTP-010	381	SNY-100-1	330	STM-580-1	243	STS-191-1	82	SVM-102-1	225
RPE-045M	294	RTP-011	381	SP-100-1	93	STM-590-1	145	STS-191-1	219	SVM-110-1	229
RPE-045M	385	RTP-014	381	SP-110-1	94	STM-591-1	145	STS-200-1	91	SVM-111-1	229
RPE-051	384	RTP-015	381	SP-120-1	96	STM-600-1	301	STS-200-1	192, 219	SVM-112-1	229
RPE-051S	384	RTP-016	381	SP-130-1	101	STM-610-1	151				
				SP-140-1	104						

SVM-113-1	229			US-216-10ML	276	US-445-1	232	WRK-145	438
SVM-120A-1	274			US-216-5ML	276	US-450-1	231	WRK-150	436
SVM-121-1	274	US-100N-1	226	US-217-1	227	US-455-1	291	WRK-151	436
SVM-122-1	274	US-101N-1	226	US-218-1	276	US-808C-1	310	WRK-155	436
SVM-123-1	274	US-102BN-1	203	US-218-5ML	276	USPM-467A-1	363	WRK-160	437
SVM-124-1	274	US-103N-1	226	US-219-1	276	USPM-467A-1	363	WRK-161	437
SVM-125-1	274	US-104N-1	226	US-220-1	276	USPM-467B-1	363	WRK-170	438
SVM-126-1	275	US-104N-1	272	US-220-5ML	276	USPM-467B-1	363	WRK-180	438
SVM-127-1	275	US-105N-1	201, 226	US-221-1	277	USPM-467C-1	363	WRK-181	438
SVM-128-1	275	US-106N	330	US-221-5ML	277	USPM-467C-1	363	WRK-190	436
SVM-129-1	275	US-106N-1	208, 233	US-224-1	284	USPM-467D-1	363	WRK-203	437
SVM-131-1	275	US-106N-1	272	US-225-1	285	USPM-467D-1	363	WRK-204	437
SVM-140-1	275	US-107N	304	US-226-1	284	USPM-467E-1	363	WRK-205	437
SVM-160-1	285	US-107N-1	199, 226	US-227-1	230	USPM-467E-1	363	WRK-300	434
SVM-165-1	230	US-107N-1	272	US-227-1	285	USPM-467F-1	363	WRK-301	434
SVM-175-1	230, 231	US-108N	304, 306	US-228-1	230	USPM-467F-1	363	WRK-310	434
SVM-250-1	164	US-108N-1	224, 227	US-228-1	284	USPM-467G-1	363		
SVM-251-1	164	US-108N-1	276	US-230-1	289	USPM-467G-1	363		
SVM-500-1	157, 159	US-109K	226	US-231-1	289	USPM-467H-1	363		
SVM-525-1	160	US-110-1	272	US-232-1	289	USPM-467H-1	363	XY-0108-1	200, 233
SVM-526-1	165	US-111-1	272	US-233-1	289	USPM-467J-1	362	XY-0110	200
SVM-526A-1	165	US-112A-1	272	US-240-1	289	USPM-467J-1	362	XY-0112	200
SVM-527-1	165	US-112B-1	252, 272	US-241-1	289	USPM-467K-1	362	XY-0115-1	218
SVM-625-1	225	US-113N-1	142	US-242-1	290	USPM-467K-1	362	XY-0116-1	218
SVM-8270-1	271	US-113N-1	273	US-244-1	290	USPM-467L-1	362	XY-0122-1	229
SVM-8271-1	271	US-114-1	273	US-245-1	290	USPM-467L-1	362	XY-0126-1	200
SWA-100-1	333	US-115-1	273	US-250-1	164	USPM-467M-1	362	XY-0127-1	230
SWA-101-1	333	US-116N-1	273	US-255-1	290	USPM-467M-1	362	XY-0128-1	230
SWA-110-1	333	US-117N-1	273	US-260-1	290	USPM-467N-1	362	XY-0130-1	206, 230
SWA-300-1	334	US-118-1	273	US-265-1	291	USPM-467N-1	362	XY-0131-1	206, 230
SWA-310-1	334	US-119-1	273	US-270-1	290	UST-100-1	323, 335		
SWA-320X	334	US-119A-1	273	US-275-1	290	UST-110-1	316, 323		
SWA-330-1	334	US-120AN-1	273	US-280-1	291	UST-111-1	328, 331		
SWA-500-1	335	US-121K	270	US-280-5ML	291	UST-120-1	316		
		US-126	304	US-290-1	285	UST-140-1	319		
		US-127	310	US-295-1	232	UST-141-1	245		
		US-130	304	US-295-1	291	UST-141-1	319		
		US-130-1	233	US-300-1	162, 163	UST-200-1	244		
		US-130-1	291	US-305-1	127	UST-200-1	323, 335		
		US-132K-A	305	US-310-1	127	UST-210-1	317, 328, 331		
		US-133	305	US-315-1	130	UST-300-1	316		
		US-134	305	US-320-1	130	UST-310-1	316, 329		
		US-135	304	US-325-1	130				
		US-136-1	226	US-330-1	131				
		US-201-1	281, 282	US-340-1	131				
		US-201A-1	288	US-345-1	135	WRK-100	433		
		US-201A-5ML	288	US-350-1	135	WRK-101	433		
		US-203-1	282	US-355-1	127	WRK-102	433		
		US-204-1	283	US-360-1	127	WRK-103	433		
		US-205-1	283	US-365-1	127	WRK-104	433		
		US-206-1	283	US-370-1	128	WRK-105	433		
		US-207-1	283	US-375-1	128	WRK-110	434		
		US-208-1	283	US-385-1	128	WRK-111	434		
		US-209-1	283, 284	US-390-1	128	WRK-112	434		
		US-210-1	283	US-391-1	128	WRK-120	436		
		US-212-1	284	US-415-1	233	WRK-121	436		
		US-213-1	284	US-420-1	233	WRK-130	435		
		US-214-1	284	US-425-1	194, 219	WRK-131	435		
		US-215-1	276	US-430-1	194, 219	WRK-132	435		
		US-215-5ML	276	US-435-1	231	WRK-140	435		
		US-216-1	227	US-436-1	231	WRK-141	435		
		US-216-1	276	US-440-1	232	WRK-142	435		
						WRK-143	438		

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