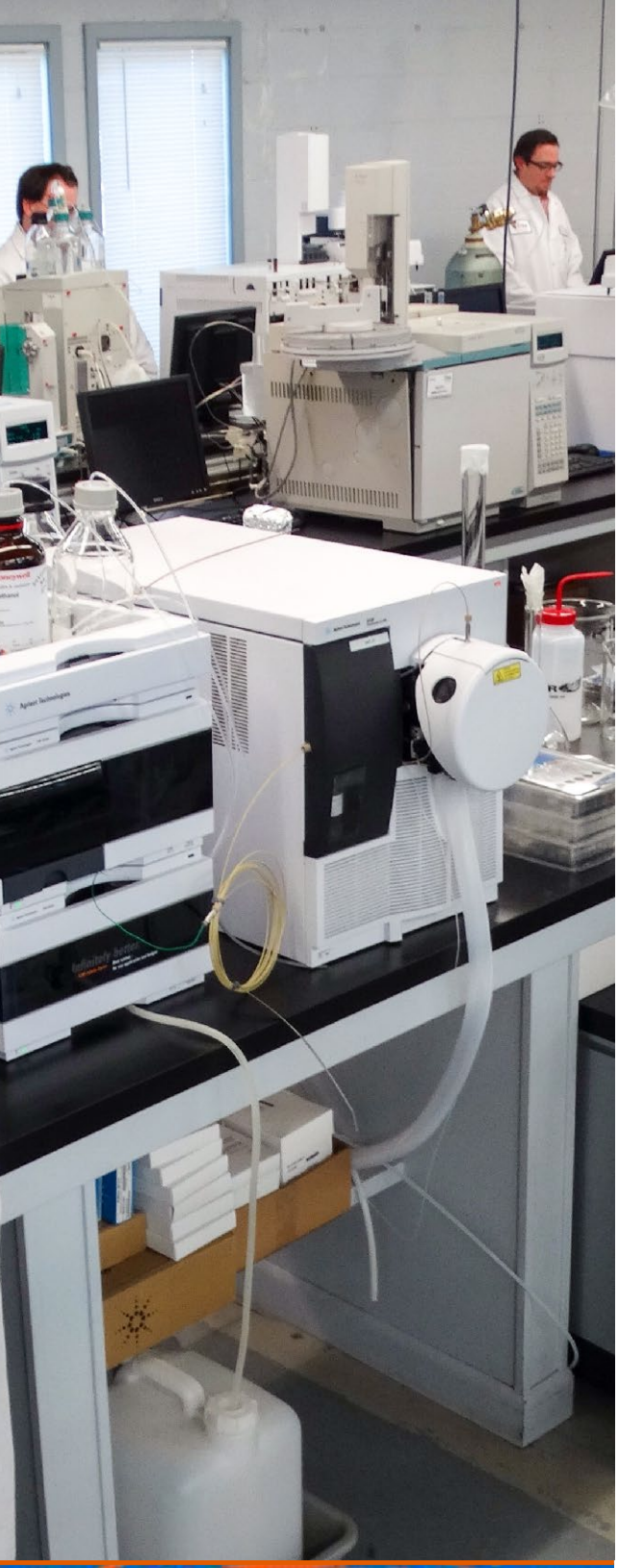

ULTRA SCIENTIFIC
Analytical Solutions

Table of Contents

Ordering Information

Order

Register an account awww.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.

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)
Reference Materials (RM)
Calibration Standards
IQ/OQ/PQ Standards
Mobile Phases
Linearity Standards
Quality Check Samples
Buffers & Reagents
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 Liscensed

Accuracy and Precision
- ✓ Data Capture for Manafacturing 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

Certifications and Scopes of Accreditation
www.ultrasci.com/certifications

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 commited 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

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

ISO Guide 34 CRM Documentation

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_{pk}), the transportation of the reference material to the end user (u_{trs}), and the long term storage of the reference material (u_{lts}). The uncertainty (U) is reported as an expanded uncertainty, calculated as:

$$U = k\sqrt{u_{char}^2 + u_{bb}^2 + u_{sts}^2 + u_{lts}^2}$$

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_{bb}) is the reported expanded uncertainty. There is no minimum sub-sample size required.

ISO 9001 Registered Quality System – TUV USA

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

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 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 chilled prior to opening to minimize headspace pressure.

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 nullified 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. Substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

William T. Terry
Vice President QA/RA

ISO Guide 34 ACCREDITED
ISO 17025 ACCREDITED

ISO 9001 Registered Quality System TUV USA

Page 2 of 2

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

Intended Use

Instructions for Proper Use

Period of Validity

Certified by ULTRA Scientific

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: PST-010K500
Lot Number: CM-2063

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

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 dissolution 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:

ISO 9001 Registered Quality System – TÜV USA Page 1 of 2

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: PST-010K500
Lot Number: CM-2063

Intended Use:
This RM is intended 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 true value to be valid within the stated uncertainties. Each unit contains slightly more than the stated label volume to facilitate transfer of the material for 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 cooled 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 void if the RM is damaged, contaminated, or otherwise modified.

Maintenance of Certification:
The real-time, long-term stability of this 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.

William J. Lotty
Vice President QA/RA

ANAB ANAB

ISO 9001 Registered Quality System – TÜV USA Page 2 of 2

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.

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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.

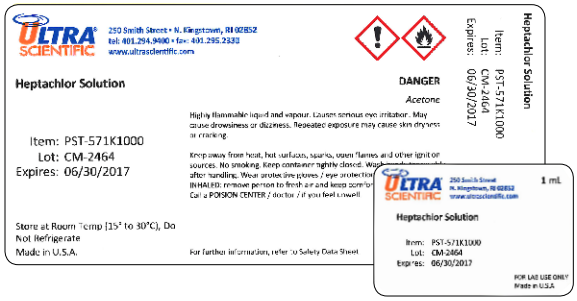
Catalog Neat RM are offered in standard packaging sizes of 10mg, 25mg, 50mg and 100mg. The analytical weight is reported directly on the product label and the purity is listed on the Certificate of Analysis. Custom fill amounts and bulk requests are always available.

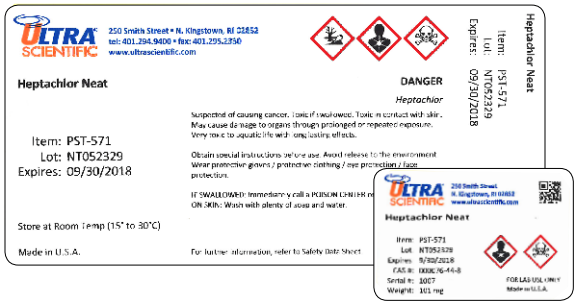
Single Analyte Solutions are typically formulated at either 100 µg/mL or 1000 µg/mL concentrations in suitable organic solvents, chosen with regard to solubility and stability. Our Part Number Convention key is helpful to identify solvents and concentrations across our product line. If our offering does 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





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

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

ISO GUIDE 34 CRM DOCUMENTATION

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_{lt}), the transportation of the reference material to the end user (u_{tr}), and the long term storage of the reference material (u_{lts}). The uncertainty (U) is reported as an expanded uncertainty, calculated as:

$$U = k\sqrt{u_{char}^2 + u_{bb}^2 + u_{lts}^2 + u_{lts}^2}$$

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_{bb}) 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 crystallization 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 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 nullified 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 T. Leary
Vice President/QA/RA

ISO 9001 Registered Quality System – TUV USA

Page 1 of 2

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ISO 9001 Registered Quality System TUV USA

Page 2 of 2

Intended Use

Instructions for Proper Use

Period of Validity

Certified by ULTRA Scientific

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

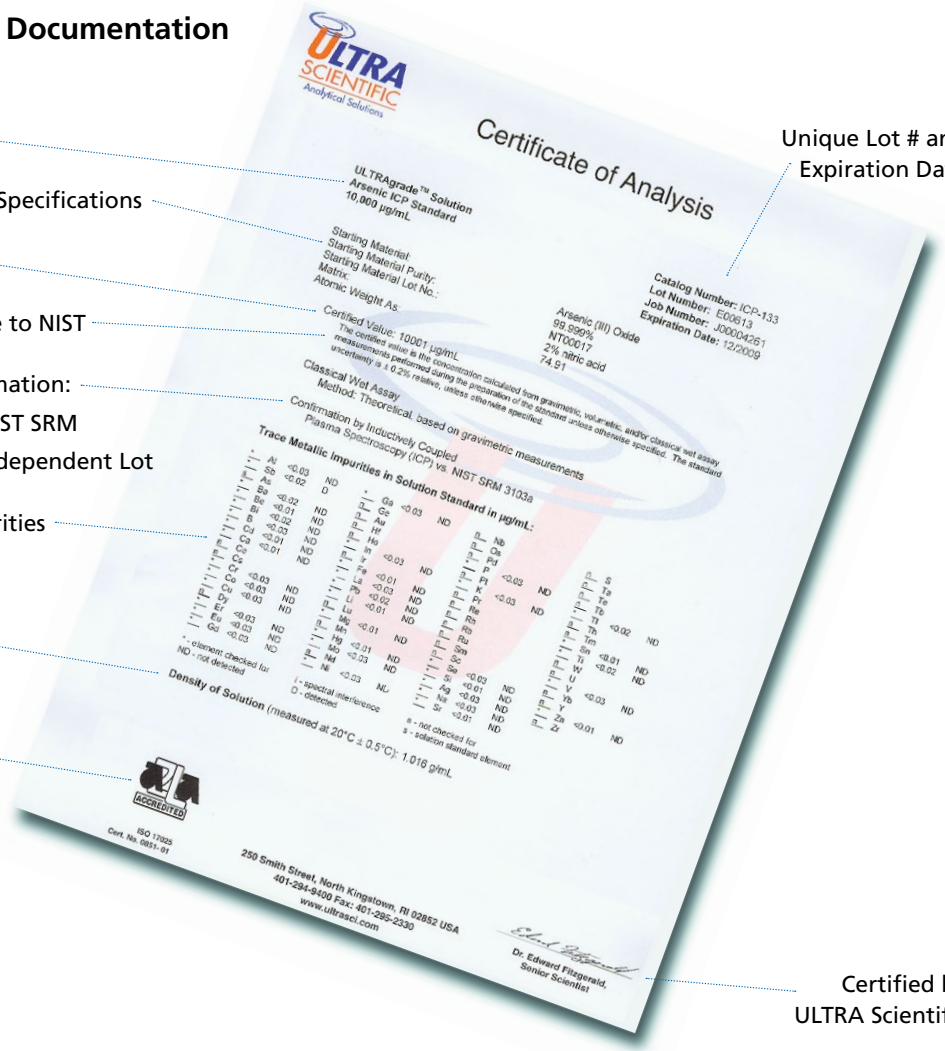
Weights Traceable to NIST

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

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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) *in dilute HNO_3*	3101	125 mL 1 L	ICP-013 ICP-013-L	ICP-113 ICP-113-L	ECK-013
Antimony (Sb) *in dilute HNO_3 / tr. tartaric*	3102	125 mL 1 L	ICP-051 ICP-051-L	ICP-151 ICP-151-L	ECK-051
Arsenic (As) *in dilute HNO_3*	3103	125 mL 1 L	ICP-033 ICP-033-L	ICP-133 ICP-133-L	ECK-033
Barium (Ba) *in dilute HNO_3*	3104	125 mL 1 L	ICP-056 ICP-056-L	ICP-156 ICP-156-L	ECK-056
Beryllium (Be) *in dilute HNO_3*	3105	125 mL 1 L	ICP-004 ICP-004-L	ICP-104 ICP-104-L	ECK-004
Bismuth (Bi) *in dilute HNO_3*	3106	125 mL 1 L	ICP-083 ICP-083-L	ICP-183 –	–
Boron (B) *in H_2O / trace NH_4OH*	3107	125 mL 1 L	ICP-005 ICP-005-L	ICP-105 ICP-105-L	ECK-005
Cadmium (Cd) *in dilute HNO_3*	3108	125 mL 1 L	ICP-048 ICP-048-L	ICP-148 ICP-148-L	ECK-048
Calcium (Ca) *in dilute HNO_3*	3109	125 mL 1 L	ICP-020 ICP-020-L	ICP-120 ICP-120-L	ECK-020
Cerium (Ce) *in dilute HNO_3*	3110	125 mL 1 L	ICP-058 ICP-058-L	ICP-158 –	–

*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) *in dilute HNO_3*	3111	125 mL 1 L	ICP-055 ICP-055-L	ICP-155 –	–
Chromium (Cr) *in dilute HNO_3*	3112	125 mL 1 L	ICP-024 ICP-024-L	ICP-124 ICP-124-L	ECK-024
Hexavalent Chromium (Cr(VI)) *in H_2O*	3112	125 mL 1 L	ICP-024A ICP-024A-L	– –	–
Cobalt (Co) *in dilute HNO_3*	3113	125 mL 1 L	ICP-027 ICP-027-L	ICP-127 ICP-127-L	ECK-027
Copper (Cu) *in dilute HNO_3*	3114	125 mL 1 L	ICP-029 ICP-029-L	ICP-129 ICP-129-L	ECK-029
Dysprosium (Dy) *in dilute HNO_3*	3115	125 mL 1 L	ICP-066 ICP-066-L	ICP-166 –	–
Erbium (Er) *in dilute HNO_3*	3116	125 mL 1 L	ICP-068 ICP-068-L	ICP-168 –	–
Europium (Eu) *in dilute HNO_3*	3117	125 mL 1 L	ICP-063 ICP-063-L	ICP-163 –	–
Gadolinium (Gd) *in dilute HNO_3*	3118	125 mL 1 L	ICP-064 ICP-064-L	ICP-164 –	–
Gallium (Ga) *in dilute HNO_3*	3119	125 mL 1 L	ICP-031 ICP-031-L	ICP-131 –	–
Germanium (Ge) *in H_2O / trace HF*	3120	125 mL 1 L	ICP-032 ICP-032-L	ICP-132 –	–
Gold (Au) *in dilute HCl*	3121	125 mL 1 L	ICP-079 ICP-079-L	ICP-179 ICP-179-L	–
Hafnium (Hf) *in dilute HCl*	3122	125 mL 1 L	ICP-072 ICP-072-L	ICP-172 –	–
Holmium (Ho) *in dilute HNO_3*	3123	125 mL 1 L	ICP-067 ICP-067-L	ICP-167 –	–
Indium (In) *in dilute HNO_3*	3124	125 mL 1 L	ICP-049 ICP-049-L	ICP-149 –	–
Iridium (Ir) *in dilute HCl*	N/A	125 mL 1 L	ICP-077 ICP-077-L	ICP-177 –	–
Iron (Fe) *in dilute HNO_3*	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) *in dilute HNO_3*	3127	125 mL 1 L	ICP-057 ICP-057-L	ICP-157 –	–
Lead (Pb) *in dilute HNO_3*	3128	125 mL 1 L	ICP-082 ICP-082-L	ICP-182 ICP-182-L	ECK-082
Lithium (Li) *in dilute HNO_3*	3129	125 mL 1 L	ICP-003 ICP-003-L	ICP-103 ICP-103-L	ECK-003
Lutetium (Lu) *in dilute HNO_3*	3130	125 mL 1 L	ICP-071 ICP-071-L	ICP-171 –	–
Magnesium (Mg) *in dilute HNO_3*	3131	125 mL 1 L	ICP-012 ICP-012-L	ICP-112 ICP-112-L	ECK-012
Manganese (Mn) *in dilute HNO_3*	3132	125 mL 1 L	ICP-025 ICP-025-L	ICP-125 ICP-125-L	ECK-025
Mercury (Hg) *in dilute HNO_3*	3133	125 mL 1 L	ICP-080 ICP-080-L	ICP-180 ICP-180-L	ECK-080
Molybdenum (Mo) *in H_2O / trace NH_4OH*	3134	125 mL 1 L	ICP-042 ICP-042-L	ICP-142 ICP-142-L	ECK-042
Neodymium (Nd) *in dilute HNO_3*	3135	125 mL 1 L	ICP-060 ICP-060-L	ICP-160 –	–
Nickel (Ni) *in dilute HNO_3*	3136	125 mL 1 L	ICP-028 ICP-028-L	ICP-128 ICP-128-L	ECK-028
Niobium (Nb) *in H_2O / trace HF*	3137	125 mL 1 L	ICP-041 ICP-041-L	ICP-141 –	–
Palladium (Pd) *in dilute HNO_3*	3138	125 mL 1 L	ICP-046 ICP-046-L	ICP-146 –	–
Phosphorus (P) *in dilute HNO_3*	3139	125 mL 1 L	ICP-015 ICP-015-L	ICP-115 ICP-115-L	ECK-015
Platinum (Pt) *in dilute HCl*	3140	125 mL 1 L	ICP-078 ICP-078-L	ICP-178 ICP-178-L	–
Potassium (K) *in dilute HNO_3*	3141	125 mL 1 L	ICP-019 ICP-019-L	ICP-119 ICP-119-L	ECK-019
Praseodymium (Pr) *in dilute HNO_3*	3142	125 mL 1 L	ICP-059 ICP-059-L	ICP-159 –	–
Rhenium (Re) *in H_2O*	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) *in dilute HCl*	3144	125 mL 1 L	ICP-045 –	– –	–
Rubidium (Rb) *in dilute HNO_3*	3145	125 mL 1 L	ICP-037 ICP-037-L	ICP-137 –	–
Ruthenium (Ru) *in dilute HCl*	N/A	125 mL 1 L	ICP-044 ICP-044-L	ICP-144 –	–
Samarium (Sm) *in dilute HNO_3*	3147	125 mL 1 L	ICP-062 ICP-062-L	ICP-162 –	–
Scandium (Sc) *in dilute HNO_3*	3148	125 mL 1 L	ICP-021 ICP-021-L	ICP-121 ICP-121-L	–
Selenium (Se) *in dilute HNO_3*	3149	125 mL 1 L	ICP-034 ICP-034-L	ICP-134 ICP-134-L	ECK-034
Silicon (Si) *in dilute HNO_3*	3150	125 mL 1 L	ICP-014 ICP-014-L	ICP-114 ICP-114-L	ECK-014
Silica (SiO2) *in dilute NaOH*	N/A	125 mL 1 L	ICP-014A ICP-014A-L	– –	–
Silver (Ag) *in dilute HNO_3*	3151	125 mL 1 L	ICP-047 ICP-047-L	ICP-147 ICP-147-L	ECK-047
Sodium (Na) *in dilute HNO_3*	3152	125 mL 1 L	ICP-011 ICP-011-L	ICP-111 ICP-111-L	ECK-011
Strontium (Sr) *in dilute HNO_3*	3153	125 mL 1 L	ICP-038 ICP-038-L	ICP-138 ICP-138-L	ECK-038
Sulfur (S) *in H_2O*	3154	125 mL 1 L	ICP-016 ICP-016-L	ICP-116 ICP-116-L	–
Tantalum (Ta) *in H_2O / trace HF*	3155	125 mL 1 L	ICP-073 ICP-073-L	ICP-173 –	–
Tellurium (Te) *in dilute HCl*	3156	125 mL 1 L	ICP-052 ICP-052-L	ICP-152 –	–
Terbium (Tb) *in dilute HNO_3*	3157	125 mL 1 L	ICP-065 ICP-065-L	ICP-165 –	–
Thallium (Tl) *in dilute HNO_3*	3158	125 mL 1 L	ICP-081 ICP-081-L	ICP-181 ICP-181-L	ECK-081
Thorium (Th) *in dilute HNO_3*	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) *in dilute HNO_3*	3160	125 mL 1 L	ICP-069 ICP-069-L	ICP-169 –	–
Tin (Sn) *in dilute HNO_3*	3161	125 mL 1 L	ICP-050 ICP-050-L	ICP-150 ICP-150-L	ECK-050
Titanium (Ti) *in dilute NH_4OH*	3162	125 mL 1 L	ICP-022 ICP-022-L	ICP-122 ICP-122-L	ECK-022
Tungsten (W) *in H_2O / trace NH_4OH*	3163	125 mL 1 L	ICP-074 ICP-074-L	ICP-174 –	–
Uranium (U) *in dilute HNO_3*	3164	125 mL 1 L	ICP-092 ICP-092-L	ICP-192 –	–
Vanadium (V) *in dilute HNO_3 / trace HF*	3165	125 mL 1 L	ICP-023 ICP-023-L	ICP-123 ICP-123-L	ECK-023
Ytterbium (Yb) *in dilute HNO_3*	3166	125 mL 1 L	ICP-070 ICP-070-L	ICP-170 –	–
Yttrium (Y) *in dilute HNO_3*	3167	125 mL 1 L	ICP-039 ICP-039-L	ICP-139 –	–
Zinc (Zn) *in dilute HNO_3*	3168	125 mL 1 L	ICP-030 ICP-030-L	ICP-130 ICP-130-L	ECK-030
Zirconium (Zr) *in dilute HNO_3*	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 Syste
- ✔ 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 #
Aluminum (Al) *in dilute HNO_3*	125 mL	IAA-213
Antimony (Sb) *in dilute HNO_3/ tr. tartaric*	125 mL	IAA-251
Arsenic (As) *in dilute HNO_3*	125 mL	IAA-233
Barium (Ba) *in dilute HNO_3*	125 mL	IAA-256
Beryllium (Be) *in dilute HNO_3*	125 mL	IAA-204
Bismuth (Bi) *in dilute HNO_3*	125 mL	IAA-283
Boron (B) *in H_2O / trace NH_4OH*	125 mL	IAA-205
Cadmium (Cd) *in dilute HNO_3*	125 mL	IAA-248
Calcium (Ca) *in dilute HNO_3*	125 mL	IAA-220
Cerium (Ce) *in dilute HNO_3*	125 mL	IAA-258
Cesium (Cs) *in dilute HNO_3*	125 mL	IAA-255
Chromium (Cr) *in dilute HNO_3*	125 mL	IAA-224
Cobalt (Co) *in dilute HNO_3*	125 mL	IAA-227
Copper (Cu) *in dilute HNO_3*	125 mL	IAA-229
Dysprosium (Dy) *in dilute HNO_3*	125 mL	IAA-266

Element	Volume	1000 µg/mL Catalog #
Erbium (Er) *in dilute HNO_3*	125 mL	IAA-268
Europium (Eu) *in dilute HNO_3*	125 mL	IAA-263
Gadolinium (Gd) *in dilute HNO_3*	125 mL	IAA-264
Gallium (Ga) *in dilute HNO_3*	125 mL	IAA-231
Germanium (Ge) *in H_2O / trace HF*	125 mL	IAA-232
Gold (Au) *in dilute HCl*	125 mL	IAA-279
Hafnium (Hf) *in dilute HCl*	125 mL	IAA-272
Holmium (Ho) *in dilute HNO_3*	125 mL	IAA-267
Indium (In) *in dilute HNO_3*	125 mL	IAA-249
Iridium (Ir) *in dilute HCl*	125 mL	IAA-277
Iron (Fe) *in dilute HNO_3*	125 mL	IAA-226
Lanthanum (La) *in dilute HNO_3*	125 mL	IAA-257
Lead (Pb) *in dilute HNO_3*	125 mL	IAA-282
Lithium (Li) *in dilute HNO_3*	125 mL	IAA-203
Lutetium (Lu) *in dilute HNO_3*	125 mL	IAA-271

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

Element	Volume	1000 µg/mL Catalog #
Magnesium (Mg) *in dilute HNO_3*	125 mL	IAA-212
Manganese (Mn) *in dilute HNO_3*	125 mL	IAA-225
Mercury (Hg) *in dilute HNO_3*	125 mL	IAA-280
Molybdenum (Mo) *in H_2O / trace NH_4OH*	125 mL	IAA-242
Neodymium (Nd) *in dilute HNO_3*	125 mL	IAA-260
Nickel (Ni) *in dilute HNO_3*	125 mL	IAA-228
Niobium (Nb) *in H_2O / trace HF*	125 mL	IAA-241
Palladium (Pd) *in dilute HNO_3*	125 mL	IAA-246
Phosphorus (P) *in dilute HNO_3*	125 mL	IAA-215
Platinum (Pt) *in dilute HCl*	125 mL	IAA-278
Potassium (K) *in dilute HNO_3*	125 mL	IAA-219
Praseodymium (Pr) *in dilute HNO_3*	125 mL	IAA-259
Rhenium (Re) *in H_2O*	125 mL	IAA-275
Rhodium (Rh) *in dilute HCl*	125 mL	IAA-245
Rubidium (Rb) *in dilute HNO_3*	125 mL	IAA-237
Ruthenium (Ru) *in dilute HCl*	125 mL	IAA-244
Samarium (Sm) *in dilute HNO_3*	125 mL	IAA-262
Scandium (Sc) *in dilute HNO_3*	125 mL	IAA-221
Selenium (Se) *in dilute HNO_3*	125 mL	IAA-234
Silicon (Si) *in dilute HNO_3*	125 mL	IAA-214
Silver (Ag) *in dilute HNO_3*	125 mL	IAA-247
Sodium (Na) *in dilute HNO_3*	125 mL	IAA-211
Strontium (Sr) *in dilute HNO_3*	125 mL	IAA-238
Sulfur (S) *in H_2O*	125 mL	IAA-216
Tantalum (Ta) *in H_2O / trace HF*	125 mL	IAA-273
Tellurium (Te) *in dilute HCl*	125 mL	IAA-252
Terbium (Tb) *in dilute HNO_3*	125 mL	IAA-265
Thallium (Tl) *in dilute HNO_3*	125 mL	IAA-281
Thorium (Th) *in dilute HNO_3*	125 mL	IAA-290
Thulium (Tm) *in dilute HNO_3*	125 mL	IAA-269
Tin (Sn) *in dilute HNO_3*	125 mL	IAA-250
Titanium (Ti) *in dilute HNO_3*	125 mL	IAA-222
Tungsten (W) *in H_2O / trace NH_4OH*	125 mL	IAA-274
Uranium (U) *in dilute HNO_3*	125 mL	IAA-292
Vanadium (V) *in dilute HNO_3 / tr. HF*	125 mL	IAA-223
Ytterbium (Yb) *in dilute HNO_3*	125 mL	IAA-270
Yttrium (Y) *in dilute HNO_3*	125 mL	IAA-239
Zinc (Zn) *in dilute HNO_3*	125 mL	IAA-230
Zirconium (Zr) *in dilute HNO_3*	125 mL	IAA-240

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 #
Aluminum (Al) *in dilute HNO_3*	10 mL	IAA-013w
Antimony (Sb) *in dilute HNO_3 / tr. tartaric*	10 mL	IAA-051
Arsenic (As) *in dilute HNO_3*	10 mL	IAA-033
Barium (Ba) *in dilute HNO_3*	10 mL	IAA-056
Beryllium (Be) *in dilute HNO_3*	10 mL	IAA-004
Bismuth (Bi) *in dilute HNO_3*	10 mL	IAA-083
Boron (B) *in H_2O / trace NH_4OH*	10 mL	IAA-005
Cadmium (Cd) *in dilute HNO_3*	10 mL	IAA-048
Calcium (Ca) *in dilute HNO_3*	10 mL	IAA-020

Element	Volume	Catalog #
Cerium (Ce) *in dilute HNO_3*	10 mL	IAA-058
Cesium (Cs) *in dilute HNO_3*	10 mL	IAA-055
Chromium (Cr) *in dilute HNO_3*	10 mL	IAA-024
Cobalt (Co) *in dilute HNO_3*	10 mL	IAA-027
Copper (Cu) *in dilute HNO_3*	10 mL	IAA-029
Dysprosium (Dy) *in dilute HNO_3*	10 mL	IAA-066
Erbium (Er) *in dilute HNO_3*	10 mL	IAA-068
Europium (Eu) *in dilute HNO_3*	10 mL	IAA-063
Gadolinium (Gd) *in dilute HNO_3*	10 mL	IAA-064

EnviroConcentrates™ for Atomic Absorption

Element	Volume	Catalog #
Gallium (Ga) *in dilute HNO_3*	10 mL	IAA-031
Germanium (Ge) *in H_2O / trace HF*	10 mL	IAA-032
Holmium (Ho) *in dilute HNO_3*	10 mL	IAA-067
Indium (In) *in dilute HNO_3*	10 mL	IAA-049
Iron (Fe) *in dilute HNO_3*	10 mL	IAA-026
Lanthanum (La) *in dilute HNO_3*	10 mL	IAA-057
Lead (Pb) *in dilute HNO_3*	10 mL	IAA-082
Lithium (Li) *in dilute HNO_3*	10 mL	IAA-003
Magnesium (Mg) *in dilute HNO_3*	10 mL	IAA-012
Manganese (Mn) *in dilute HNO_3*	10 mL	IAA-025
Mercury (Hg) *in dilute HNO_3*	10 mL	IAA-080
Molybdenum (Mo) *in H_2O / trace NH_4OH*	10 mL	IAA-042
Neodymium (Nd) *in dilute HNO_3*	10 mL	IAA-060
Nickel (Ni) *in dilute HNO_3*	10 mL	IAA-028
Niobium (Nb) *in H_2O / trace HF*	10 mL	IAA-041
Phosphorus (P) *in dilute HNO_3*	10 mL	IAA-015
Potassium (K) *in dilute HNO_3*	10 mL	IAA-019
Praseodymium (Pr) *in dilute HNO_3*	10 mL	IAA-059
Samarium (Sm) *in dilute HNO_3*	10 mL	IAA-062
Selenium (Se) *in dilute HNO_3*	10 mL	IAA-034
Silicon (Si) *in H_2O*	10 mL	IAA-014

Element	Volume	Catalog #
Silver (Ag) *in dilute HNO_3*	10 mL	IAA-047
Sodium (Na) *in dilute HNO_3*	10 mL	IAA-011
Strontium (Sr) *in dilute HNO_3*	10 mL	IAA-038
Sulfur (S) *in H_2O*	10 mL	IAA-016
Tantalum (Ta) *in H_2O / trace HF*	10 mL	IAA-073
Tellurium (Te) *in dilute HCl*	10 mL	IAA-052
Terbium (Tb) *in dilute HNO_3*	10 mL	IAA-065
Thallium (Tl) *in dilute HNO_3*	10 mL	IAA-081
Thorium (Th) *in dilute HNO_3*	10 mL	IAA-090
Tin (Sn) *in H_2O*	10 mL	IAA-050
Titanium (Ti) *in H_2O / trace HF*	10 mL	IAA-022
Tungsten (W) *in H_2O / trace NH_4OH*	10 mL	IAA-074
Uranium (U) *in dilute HNO_3*	10 mL	IAA-092
Vanadium (V) *in dilute HNO_3 / tr. HF*	10 mL	IAA-023
Ytterbium (Yb) *in dilute HNO_3*	10 mL	IAA-070
Yttrium (Y) *in dilute HNO_3*	10 mL	IAA-039
Zinc (Zn) *in dilute HNO_3*	10 mL	IAA-030
Zirconium (Zr) *in dilute HNO_3*	10 mL	IAA-040

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% confidencve 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% HNO_3

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% HNO_3

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

Quality Control Standards Kit

Kit - contains two bottles:

125 mL of each of the following standards

IQC-007 IQC-019

IQCK	**Kit**

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% HNO_3

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

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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% HNO_3

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% HNO_3

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% HNO_3 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% HNO_3

ICM-105 **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% HNO_3 with trace HF

ICM-106 **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% HNO_3

ICM-109 **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% HNO_3 with trace HF

ICM-104 **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% HNO_3 with trace HF, tartaric acid

ICM-108 **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% HNO_3

ICM-100 **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 HNO_3, HF, tartaric

ICM-107 **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% HNO_3 with trace HF

ICM-110-5 **500 mL**

IC 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% HNO_3

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% HNO_3

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% HNO_3 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 HNO_3

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% HNO_3

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% HNO_3 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% HNO_3 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% HNO_3 with trace HF

IMS-133-L **1 L**

Mercury ICP-MS Standard (XXI)

1 Analyte

mercury (Hg)

@ 10 µg/mL in 5% HNO_3

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% HNO_3 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% HNO_3

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% HNO_3

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% HNO_3

ICM-232 **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% HNO_3

ICM-233 **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% HNO_3

ICM-234 **125 mL**

Mercury Standard (CAL IVa)

1 Analyte

mercury (Hg)

@ 20 µg/mL in 2% HNO_3

ICM-642 **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% HNO_3

ICM-235 **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% HNO_3

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% HNO_3

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% HNO_3

ICM-243 **125 mL**

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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% HNO_3

ICM-240A **125 mL**

Laboratory 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% HNO_3

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% HNO_3

Solution #2

1 Analyte

mercury (Hg)	5 µg/mL

in 2% HNO_3

ICM-245-KIT **Kit** **2x125 mL**

Laboratory 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% HNO_3

ICM-240C **125 mL**

Plasma Solution

4 Analytes

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

@ 10 µg/mL in 2% HNO_3

ICM-237 **125 mL**

Tuning Solution

2 Analytes

copper (Cu)
lead (Pb)

@ 10 µg/mL in 2% HNO_3

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**

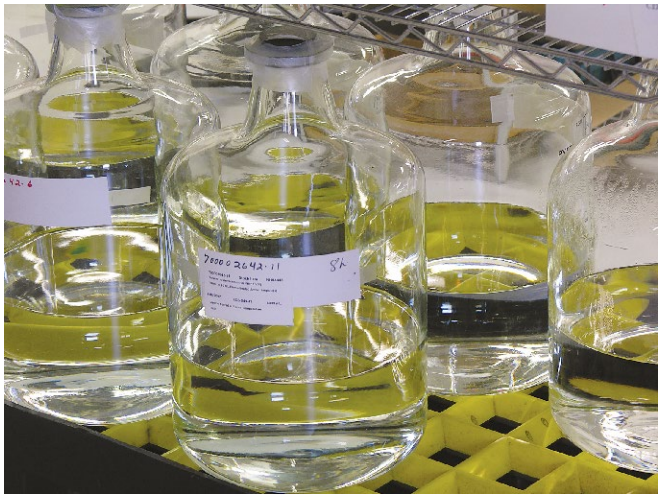
EPA Method 200.7 Calibration Standards Kit

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**



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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 H_2O

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% HNO_3

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% HNO_3

ICM-223 **50 mL**

Antimony Standard (ICS #2)

antimony (Sb)

@ 1000 µg/mL in 2% HNO_3 / 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% HNO_3

ICM-213 **50 mL**

Antimony Standard

antimony (Sb)

@ 1000 µg/mL in 2% HNO_3 / 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% HNO_3

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% HNO_3

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% HNO_3 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

Trace Elements by ICP-MS

ULTRAGRADE®

- ✔ 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% HNO_3 / 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**

Mercury Standard

mercury (Hg)

@ 10 µg/mL in 5% HNO_3

IMS-105	**125 mL**
IMS-105-5	**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**

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% HNO_3

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

@ 10 µg/mL in 5% HNO_3

IMS-101 **125 mL**

ICP-MS Calibration Standard

29 Analytes

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

@ 10 µg/mL in 5% HNO_3

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 H_2O

IMS-104 **125 mL**

ICP-MS Calibration Standard

10 Analytes

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

@ 10 µg/mL in 10% HCl

IMS-103 **125 mL**

Mercury ICP-MS Standard

mercury (Hg)

@ 10 µg/mL in 5% HNO_3

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% HNO_3

IMS-110 **125 mL**
IMS-110-5 **500 mL**

ICP-MS Verification Standard

9 Analytes

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

@ 10 µg/mL in 2% HNO_3

IMS-100 **125 mL**

EPA Method 6010C

Inorganics by ICP - AES

ULTRAgrade®

- ✔ 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% HNO_3

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% HNO_3

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% HNO_3

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% HNO_3

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% HNO_3

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

Mixed Standard Solution VI

phosphorus (P)

@ 1000 µg/mL in 2% HNO_3

ICP-015	**125 mL**

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% HNO_3

ICM-607	**125 mL**

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**

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**

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**

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**

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) ULTRAgrade®

Inorganics Analysis

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

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% HNO_3

ICM-411 **125 mL**

CLP ICP Calibration Standard

antimony (Sb)

@ 1000 µg/mL in 2% HNO_3 / 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% HNO_3

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% HNO_3

ICM-451 **125 mL**

CLP ICP Spike Standard

antimony (Sb)

@ 500 µg/mL in dilute HNO_3

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% HNO_3

ICM-453 **125 mL**

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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% HNO_3

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% HNO_3

ICM-423 **125 mL**

CLP ICP/AA Detection Limits Standard

antimony (Sb)

@ 600 µg/mL in dilute HNO_3

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

Inorganics Analysis

ULTRAGRADE®

- ✔ NIST traceable
- ✔ ULTRAgrade® certificate of analysis
- ✔ 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% HNO_3

ICM-301 **125 mL**

Primary Safe Drinking Water Act Standard #2

barium (Ba)

@ 10,000 µg/mL in 2% HNO_3

ICP-156 **125 mL**

Primary Safe Drinking Water Act Standard #3

mercury (Hg)

@ 100 µg/mL in 5% HNO_3

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% HNO_3

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% HNO_3

ICM-641 **125 mL**
ICM-641-5 **500 mL**

TCLP Mercury Standard

mercury (Hg)

@ 20 µg/mL in 2% HNO_3

ICM-642 **125 mL**
ICM-642-5 **500 mL**

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Anion Standards for Ion Chromatography

Ion	Volume	1000 µg/mL Catalog #
Acetate	125 mL	ICC-014
Benzoate	125 mL	ICC-015
Bromate	125 mL	ICC-010
Bromide	125 mL	ICC-001
Chlorate	125 mL	ICC-011
Chloride	125 mL	ICC-002
Chlorite	125 mL	ICC-012
Chromate	125 mL	ICC-016
Citrate	125 mL	ICC-017
Fluoride	125 mL	ICC-003
Formate	125 mL	ICC-018
Glycolate	125 mL	ICC-019
Iodide	125 mL	ICC-020
Lactate	125 mL	ICC-021
Malate	125 mL	ICC-022
Maleate	125 mL	ICC-023
Methanesulfonate	125 mL	ICC-024

Ion	Volume	1000 µg/mL Catalog #
Nitrate	125 mL	ICC-004
Nitrate (as N)	125 mL	ICC-004A
Nitrilotriacetate	125 mL	ICC-025
Nitrite	125 mL	ICC-007
Nitrite (as N)	125 mL	ICC-007A
Oxalate	125 mL	ICC-026
Perchlorate	125 mL	ICC-013
Phosphate	125 mL	ICC-005
ortho-Phosphate (as P)	125 mL	ICC-005A
Phthalate	125 mL	ICC-027
Propionate	125 mL	ICC-028
Succinate	125 mL	ICC-029
Sulfate	125 mL	ICC-006
Tartrate	125 mL	ICC-030
Thiocyanate	125 mL	ICC-031
Thiosulfate	125 mL	ICC-032

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 H_2O

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 H_2O

ICC-210 **125 mL**

IC Detector Linearity Kit

Kit – contains five ampules:

1 x 10 mL of each individual standard in H_2O

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	Volume	1000 µg/mL Catalog #
Ammonium (NH_4^+) *in H_2O*	125 mL	ICC-101
Barium (Ba^{+2}) *in 0.2% HNO_3*	125 mL	ICC-102
Calcium (Ca^{+2}) *in 0.2% HNO_3*	125 mL	ICC-103
Lithium (Li^+) *in 0.2% HNO_3*	125 mL	ICC-104
Magnesium (Mg^{+2}) *in 0.2% HNO_3*	125 mL	ICC-105
Potassium (K^+) *in 0.2% HNO_3*	125 mL	ICC-106
Sodium (Na^+) *in 0.1% HNO_3*	125 mL	ICC-107
Strontium (Sr^{+2}) *in 0.2% HNO_3*	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% HNO_3

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% HNO_3

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% HNO_3

ICC-320 **125 mL**

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Ordering is easy. Visit us online anytime – designed with our customers in mind, ULTRA Scientific's website is easy to use and informative. Search functions allow you to easily find the catalog items you need. If we don't have the items you need in our listings, you can request a custom quote online. You can also call our experienced customer service representatives Monday through Friday, 8:30 am to 5:00 pm, and they can tell you what you want to know about ULTRA Scientific's products and, more importantly, your order.

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8:30 am – 5:00 pm (M-F)

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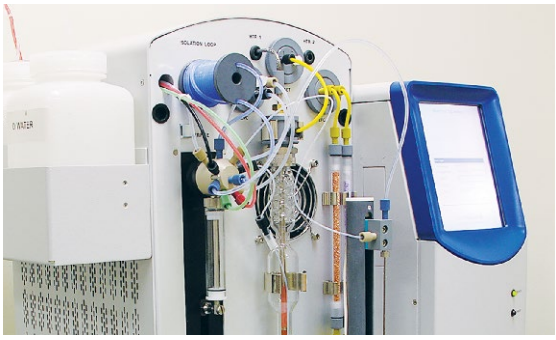
401-295-2330

Total Organic Carbon (TOC) & Total Inorganic Carbon (TIC) ULTRAgrade®



- ✔ NIST traceable
- ✔ ULTRAgrade® certificate of analysis
- ✔ Ultra low TOC (< 50 ppb) water

Total Organic Carbon (TOC) Standards

Concentration	Volume	Catalog #
TOC @ 0.5 mg/L *benzoquinone in H_2O*	250 mL	IQC-111
	500 mL	IQC-111-5
TOC @ 1 mg/L *KHP in H_2O*	250 mL	IQC-107
	500 mL	IQC-107-5
TOC @ 10 mg/L *KHP in H_2O*	250 mL	IQC-108
	500 mL	IQC-108-5
TOC @ 25 mg/L *KHP in H_2O*	250 mL	IQC-101
	500 mL	IQC-101-5
TOC @ 50 mg/L *KHP in H_2O*	250 mL	IQC-102
	500 mL	IQC-102-5
TOC @ 100 mg/L *KHP in H_2O*	250 mL	IQC-103
	500 mL	IQC-103-5
TOC @ 250 mg/L *KHP in H_2O*	250 mL	IQC-104
	500 mL	IQC-104-5
TOC @ 500 mg/L *KHP in H_2O*	250 mL	IQC-105
	500 mL	IQC-105-5
TOC @ 1000 mg/L *KHP in H_2O*	250 mL	IQC-106
	500 mL	IQC-106-5

Total Inorganic Carbon (TIC)

total inorganic carbon (TIC)

@ 1000 mg/L in H_2O

ICC-033 **125 mL**
ICC-033-5 **500 mL**
ICC-033-L **1 L**

TOC Standard (Preserved)

total organic carbon 50 mg/L

in H_2O tr. H_2SO_4

IQC-001 **125 mL**

ULTRA Low TOC Water

water *(less than 50 ppb TOC)*

IQC-100-5 **500 mL**
IQC-100-L **1 L**

Standards for Cyanide Testing

Free Cyanide Standard

cyanide (from KCN) 1000 mg/L

in dilute NaOH

ICC-008 **125 mL**

Complex Cyanide Standard

cyanide (from $K_3Fe(CN)_6$) 1000 mg/L

in dilute NaOH

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

ISO Guide 34

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

ISO Guide 34

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 1 L	IBF-040 IBF-040-L
pH 4.00	Acetate Buffer		1L 4 L 6X1L 20 L	IBF-040A-L IBF-040A-4L IBF-040A-CS IBF-040A-20L
pH 7.00	pH Buffer 7.00 Reference Standard (Color Coded Yellow)	✓	500 mL 1 L	IBF-070 IBF-070-L
pH 7.416	pH Buffer Reference Standard	✓	500 mL 1 L	IBF-074 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 1 L	IBF-092 IBF-092-L
pH 10.01	pH Buffer 10.01 Reference Standard (Color Coded Blue)	✓	500 mL 1 L	IBF-100 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 µmhos/cm @ 25°C, 23.6 PPM	500 mL	IBF-500
		1 L	IBF-500-L
Conductivity, TDS as NaCl	100 µmhos/cm @ 25°C, 47.2 PPM	500 mL	IBF-501
		1 L	IBF-501-L
Conductivity, TDS as NaCl	200 µmhos/cm @ 25°C, 95.0 PPM	500 mL	IBF-502
		1 L	IBF-502-L
Conductivity, TDS as NaCl	500 µmhos/cm @ 25°C, 240 PPM	500 mL	IBF-505
		1 L	IBF-505-L
Conductivity, TDS as NaCl	1,000 µmhos/cm @ 25°C, 495 PPM	500 mL	IBF-510
		1 L	IBF-510-L
Conductivity, TDS as NaCl	2,000 µmhos/cm @ 25°C, 1000 PPM	500 mL	IBF-520
		1 L	IBF-520-L
Conductivity, TDS as NaCl	5,000 µmhos/cm @ 25°C, 2620 PPM	500 mL	IBF-550
		1 L	IBF-550-L
Conductivity, TDS as NaCl	10,000 µmhos/cm @ 25°C, 5400 PPM	500 mL	IBF-600
		1 L	IBF-600-L
Conductivity Standard, KCl	147 µmhos/cm @ 25°C, 0.001 mol/ L KCl	500 mL	IBF-560
		1 L	IBF-560-L
Conductivity Standard, KCl	1413 µmhos/cm @ 25°C, 0.01 mol/ L KCl	500 mL	IBF-570
		1 L	IBF-570-L
Conductivity Standard, KCl	12880 µmhos/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 1 L	INR-0129S INR-0129S-L
Boric Acid	2% (w/v), with methyl red-methylene, pH indicator	500 mL 1 L	INR-0129SX INR-0129SX-L
Calcium Chloride	2.75% (w/v), aqueous solution, APHA for BOD	500 mL 1 L	INR-2017S INR-2017S-L
Disodium EDTA	0.100 M, titrant, standardized	500 mL 1 L	ITR-011 ITR-011-L
Sodium Hydroxide	6.0 N, standardized	500 mL 1 L	ITR-021 ITR-021-L
Sodium Hydroxide	1.00 N, standardized, N/1	500 mL 1 L	ITR-022 ITR-022-L
Sodium Hydroxide	0.100 N, standardized, N/10	500 mL 1 L	ITR-024 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 out 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.

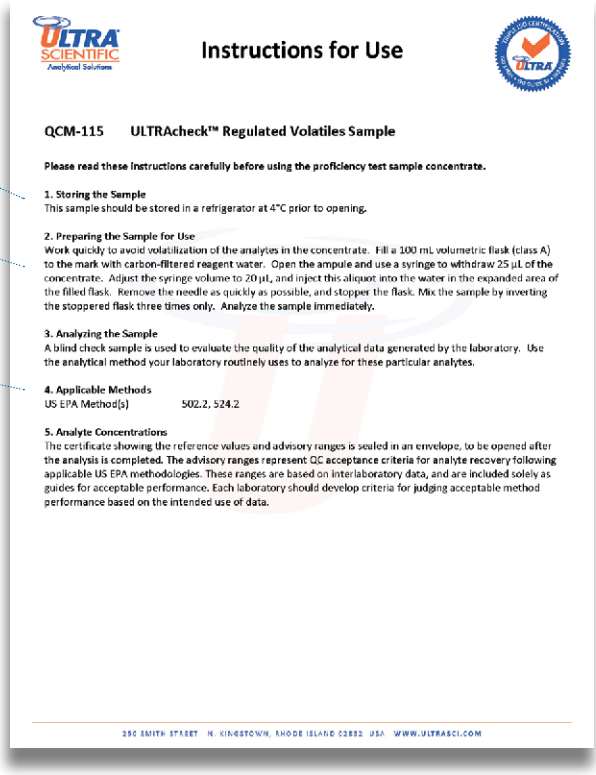
ULTRAcheck® Documentation

Instruction Sheet Provided to the Analyst:

Storage instructions

Dilution instructions mimic those of PT samples

List of applicable EPA Methods



ULTRA SCIENTIFIC Analytical Solutions

Instructions for Use

QCM-115 ULTRAcheck™ Regulated Volatiles Sample

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

1. Storing the Sample
This sample should be stored in a refrigerator at 4°C prior to opening.

2. 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.

3. 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.

4. Applicable Methods
US EPA Method(s) 502.2, 524.2

5. 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:

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

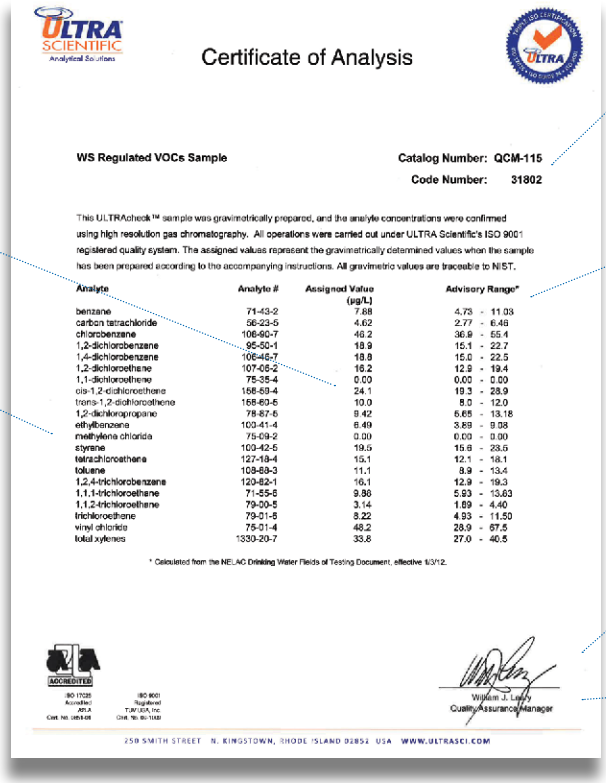
Advisory ranges based on EPA/NELAC specifications

Weights Traceable to NIST

Analyte list with assigned values

Certified by ULTRA Scientific

Results sealed in envelope for security



ULTRA SCIENTIFIC Analytical Solutions

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	108-90-7	46.2	36.9 - 55.4
1,2-dichlorobenzene	95-50-1	18.9	15.1 - 22.7
1,4-dichlorobenzene	106-46-7	18.8	15.0 - 22.5
1,2-dichloroethane	107-06-2	16.2	12.9 - 19.4
1,1-dichloroethene	75-35-4	0.00	0.00 - 0.00
cis-1,2-dichloroethene	156-59-4	24.1	19.3 - 28.9
trans-1,2-dichloroethene	156-60-5	10.0	8.0 - 12.0
1,2-dichloropropane	78-87-5	9.42	5.65 - 13.18
ethylbenzene	100-41-4	6.49	3.89 - 9.08
methylene chloride	75-09-2	0.00	0.00 - 0.00
styrene	100-42-5	19.5	15.6 - 23.5
tetrachloroethene	127-18-4	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	9.88	5.93 - 13.83
1,1,2-trichloroethane	79-00-5	3.14	1.89 - 4.40
trichloroethene	79-01-6	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 NELAC Drinking Water Fields of Testing Document, effective 6/3/12.

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William J. Leahy
Quality Assurance Manager

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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 $CaCO_3$
hardness as $CaCO_3$
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**

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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 $CaCO_3$
- 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 $CaCO_3$

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 $CaCO_3$
- pH
- calcium hardness
- total hardness as $CaCO_3$
- 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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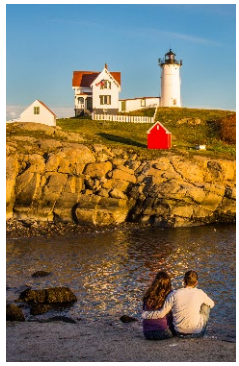

ULTRAcheck® Organic Blind QC Samples for WS Drinking Water Analysis

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® 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**

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**

Ordering Is Easy

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250 Smith Street
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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/DBCP

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
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
1,2-dichloroethane
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
1,1-dichloropropene
ethylbenzene
isopropylbenzene
4-isopropyltoluene
methylene chloride
n-propylbenzene
styrene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
tetrachloroethene
toluene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
vinyl chloride
o-xylene
m-xylene
p-xylene

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

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

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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® 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:

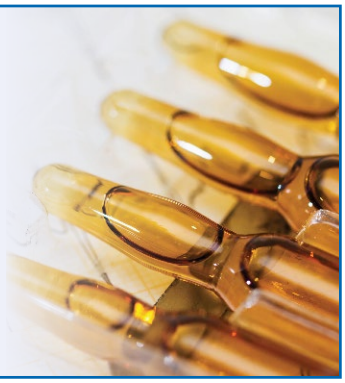
alachlor	dieldrin
aldrin	endosulfan I
atrazine	endosulfan II
α-BHC	endosulfan sulfate
β-BHC	endrin
δ-BHC	endrin aldehyde
γ-BHC *(lindane)*	heptachlor
4,4'-DDD	heptachlor epoxide
4,4'-DDE	methoxychlor
4,4'-DDT	

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**

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® Inorganic Blind QC Samples for WP/DMR-QA 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/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

11 Analytes

calcium
chloride
fluoride
magnesium
potassium
sodium
spec. conductance
sulfate
total dissolved solids
total alkalinity as $CaCO_3$
total hardness as $CaCO_3$

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

QCI-715 **2 x 20 mL**

ULTRAcheck® WP/DMR-QA Nutrients

5 Analytes

ammonia as N
nitrate as N
orthophosphate as P
total kjeldahl nitrogen as N
total phosphorus as P

Sample consists of two solutions. Dilute 10 mL of each solution to 1 L in separate flasks for final working test samples.

QCI-745 **2 x 20 mL**

ULTRAcheck® WP/DMR-QA 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 **1 x 20 mL**

ULTRAcheck® WP/DMR-QA 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® WP/DMR-QA Total Phenolics

total phenolics

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

QCI-765 **1 x 20 mL**

ULTRAcheck® WP/DMR-QA pH

pH

Ready-to-use, whole volume standard.

QCI-713 **1 x 250 mL**

ULTRAcheck® WP/DMR-QA Total Residual Chlorine

total residual chlorine

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

QCI-785 **1 x 20 mL**

ULTRAcheck® WP/DMR-QA Non-Filterable Residue

non-filterable residue

Add 500 mg of sample to 1 L of water for final working test sample.

QCI-716 **1 x 1 gm**

ULTRAcheck® WP/DMR-QA Total Cyanide (Complex)

total cyanide *(complex)*

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

QCI-755 **1 x 20 mL**

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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`

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® 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 $CaCO_3$
- 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 $CaCO_3$

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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Discover the ULTRA difference in e-commerce.

Designed with the customer in mind, ULTRA's website is easy to use and informative. Search functions allow you to easily find the catalog items you need. If we don't have the items you need in our listings, you can request a custom quote online. Order our latest brochure or catalog too!

Want to purchase standards online? ULTRA Scientific is up to speed. Locate the items you need, place them in your shopping cart and click "Submit". Need product information? Search by method, analyte, catalog number, CAS number or product line. And **when you order online, ground shipping is free!** (Note: additional shipping fees for HAZMAT materials may apply).

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

Online	Phone	Fax	Mail
www.ultrasci.com ultra@ultrasci.com	800-338-1754 Monday – Friday 8:30 a.m. - 5:00 p.m. ET	401-295-2330	ULTRA Scientific 250 Smith Street No. Kingstown, RI 02852

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

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® 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)
1,1,2,2-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**

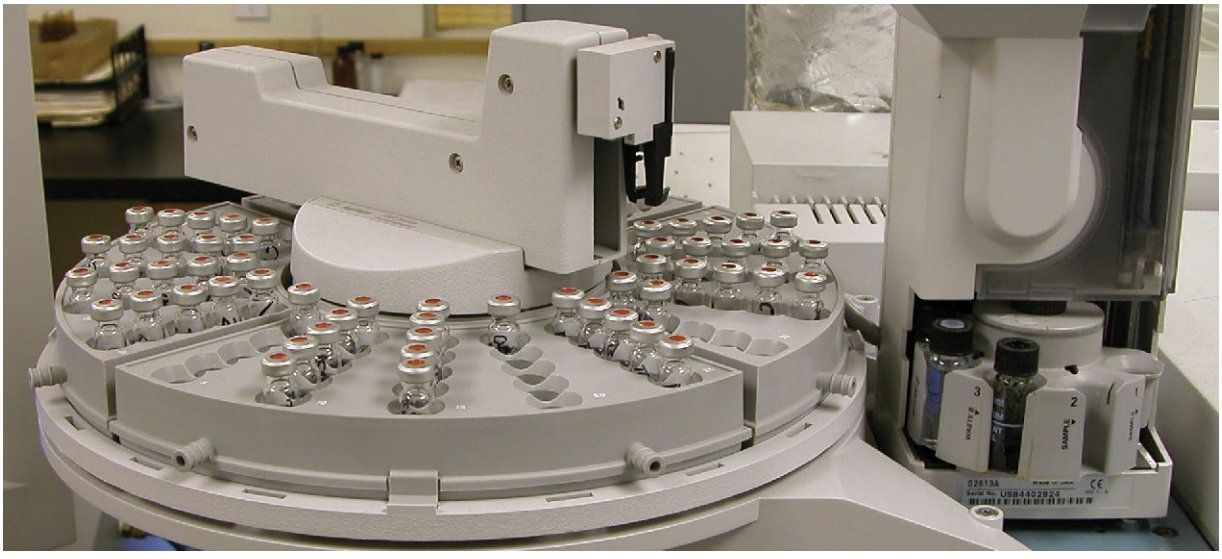
ULTRAcheck® Base/Neutrals

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

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 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260

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.

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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

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

Low range in Transformer Oil
QCM-241 **1 x 5 mL**

Hight range in Transformer Oil
QCM-242 **1 x 5 mL**

Aroclor 1254

Low range in Transformer Oil
QCM-245 **1 x 5 mL**

High range in Transformer Oil
QCM-246 **1 x 5 mL**

Aroclor 1248

Low range in Transformer Oil
QCM-243 **1 x 5 mL**

High range in Transformer Oil
QCM-244 **1 x 5 mL**

Aroclor 1260

Low range in Transformer Oil
QCM-247 **1 x 5 mL**

High range in Transformer Oil
QCM-248 **1 x 5 mL**

ULTRAcheck® 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 for final working test samples.

QCM-277 **1 x 2 gm**

ULTRAcheck® PCBs

Aroclor 1260 0.5 - 10 µg/L

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

QCM-249 **1 x 2 mL**

ULTRAcheck® PCBs

1 - 2 Aroclors from the Following List:

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

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

QCM-240 **1 x 2 mL**

ULTRAcheck® 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 for final working test samples.

QCM-276 **1 x 2 mL**

ULTRACHECK® BLIND QC SAMPLES FOR THE EPA CLUSTER RULE

ULTRAcheck® Methanol Sample

methanol

Ready-to-use, whole volume sample.

QCM-150 **1 x 5 mL**

ULTRAcheck® HAP Sample

4 Analytes

methanol
acetaldehyde
propionaldehyde (propanal)
2-butanone (MEK)

Ready-to-use, whole volume sample.

QCM-151 **1 x 5 mL**

Individual Analyte Standards for the EPA Methods

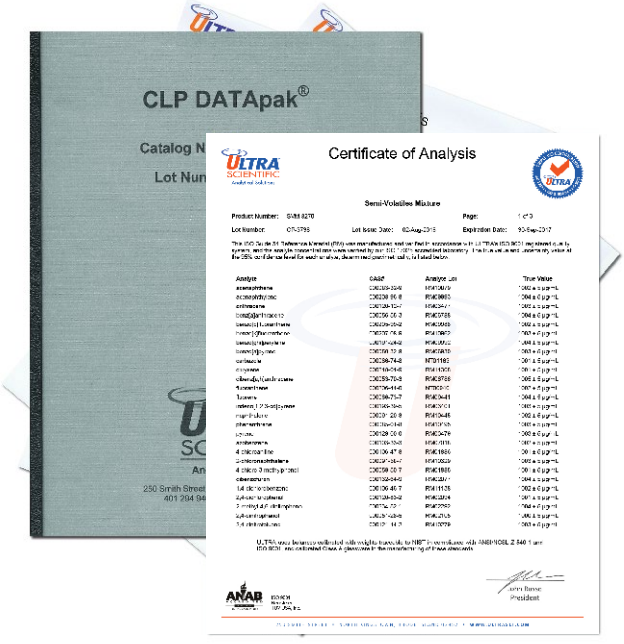
Reference Materials - Both Neat and in Solution

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 ± 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, LC\MS 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.

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

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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
		neat	-	RPC-1260	50 mg
Aroclor 1262 (PCB 1262)	**37324-23-5**	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
		neat	-	RPC-1262	50 mg
Aroclor 1268 (PCB 1268)	**11100-14-4**	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
		neat	-	RPC-1268	50 mg
Atraton	**1610-17-9**	100 µg/mL	methanol	PST-1220M100A01	1 x 1 mL
		neat	-	PST-1220	25 mg
Atrazine	**1912-24-9**	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
		neat	-	PST-005	100 mg
Atrazine-desethyl	**6190-65-4**	500 µg/mL	methanol	PST-4010M500	1 x 1 mL
		1000 µg/mL	ethyl acetate	PST-4010Y1000	1 x 1 mL
		neat	-	PST-4010-100MG	100 mg
Atrazine-desethyl Desisopropyl	**3397-62-4**	100 µg/mL	ethyl acetate	PST-6935Y100A01	1 x 1 mL
		100 µg/mL	acetonitrile	PST-6935A100A01	1 x 1 mL
		500 µg/mL	methanol	PST-6935M500	1 x 1 mL
Atrazine-desisopropyl	**1007-28-9**	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	actonitrile	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	actonitrile	PST-1255A100A01	1 x 1 mL
		1000 µg/mL	methanol	EPA-1174-1	1 x 1 mL
		1000 µg/mL	actonitrile	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
		neat	-	RCC-005	20 mg
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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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

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		100 µg/mL	methanol	BEC-130-1	1 x 1 mL
(Bis(2-Chloroisopropyl) Ether)	**108-60-1**	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}N2	**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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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

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-1335I100A01	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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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		neat		RAH-115-10MG	10 mg
	5594-90-1	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 Chlorendate	**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

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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)		100 µg/mL	methanol	NAI-140-1	1 x 1 mL
	99-65-0	5000 µg/mL	methanol	EPA-1113-1	1 x 1 mL
		neat	-	RNH-001	100 mg
4,6-Dinitro-2-methylphenol	**534-52-1**	1000 µg/mL	methanol	PH-150-1	1 x 1 mL
		neat	-	RCC-169	100 mg
2,4-Dinitrophenol	**51-28-5**	1000 µg/mL	methanol	PH-140-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1114-1	1 x 1 mL
		neat	-	RCC-159	100 mg
2,4-Dinitrotoluene	**121-14-2**	100 µg/mL	methanol	NAI-100-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1115-1	1 x 1 mL
		neat	-	RNH-002	100 mg
2,6-Dinitrotoluene	**606-20-2**	100 µg/mL	methanol	NAI-110-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1116-1	1 x 1 mL
		neat	-	RNH-003	100 mg
3,4-Dinitrotoluene	**610-39-9**	250 µg/mL	acetonitrile	IST-701-1	1 x 1 mL
		1000 µg/mL	acetonitrile	IST-701A-1	1 x 1 mL
		1000 µg/mL	methanol	IST-590-1	1 x 1 mL
Dinoseb	**88-85-7**	100 µg/mL	methanol	HB-130-1	1 x 1 mL
		200 µg/mL	methanol	PST-450M200	1 x 1 mL
		200 µg/mL	MTBE	PST-450B200	1 x 1 mL
		neat	-	PST-450	100 mg
Dinoseb Methyl Ether	**6099-79-2**	100 µg/mL	methanol	HB-131-1	1 x 1 mL
		200 µg/mL	hexane	PST-451H200	1 x 1 mL
		neat	-	PST-451	10 mg
Di-n-octyl Phthalate	**117-84-0**	100 µg/mL	methanol	PS-150-1	1 x 1 mL
		5000 µg/mL	methanol	EPA-1117-1	1 x 1 mL
		neat	-	DMP-020	100 mg
Dioxacarb	**6988-21-2**	1000 µg/mL	acetonitrile	PST-1765A1000	1 x 1 mL
		neat	-	PST-1765	10 mg
1,4-Dioxane	**123-91-1**	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
		neat	-	RCC-180	1 gm
Dioxathion	**78-34-2**	1000 µg/mL	methanol	PST-455M1000	1 x 1 mL
		neat	-	PST-455-100MG	100 mg
Diphenamid	**957-51-7**	100 µg/mL	methanol	PST-1405M100A01	1 x 1 mL
		1000 µg/mL	acetone	PST-1405K1000	1 x 1 mL
		neat	-	PST-1405	100 mg
Diphenylamine	**122-39-4**	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
		neat	-	PST-460	100 mg
Diquat (from dibromide)	**85-00-7**	100 µg/mL	water	PST-1410AS	1 x 1 mL
		neat	-	PST-1410	100 mg
Disulfoton	**298-04-4**	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
		neat	-	PST-470	100 mg
Dithiothreitol	**3483-12-3**	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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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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INDIVIDUAL ANALYTE STANDARDS FOR THE EPA METHODS

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

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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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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)		100 µg/mL	methanol	SP-160-1	1 x 1 mL
	3689-24-5	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
O,O,O-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 cloride	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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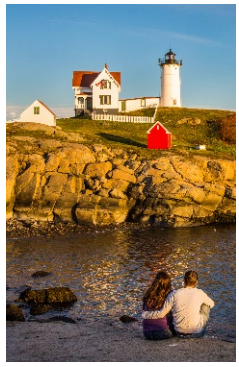

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EPA Method 500 Series

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 ± 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 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**

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**

Performance Check Mixture

8 Analytes

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

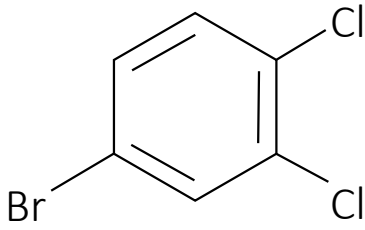
@ 2000 µg/mL in methanol
EPA-100A-1 **1 x 1 mL**

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**



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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-d_2	IST-510-1

(continued on next page)

EPA METHOD 502.2 *(continued)*

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
- dibromomethane
- 1,2-dibromoethane
- dibromochloromethane
- 1,2-dibromo-3-chloropropane
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- 1,2-dichloroethane
- 1,1-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-trichloropropane
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- o-xylene
- m-xylene
- p-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 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**

VOC Mixture with MTBE

55 Analytes

- benzene
- bromobenzene
- bromochloromethane
- bromodichloromethane
- bromoform
- n-butylbenzene
- sec-butylbenzene
- tert-butylbenzene
- carbon tetrachloride
- chlorobenzene
- chloroform
- 2-chlorotoluene
- 4-chlorotoluene
- dibromochloromethane
- dibromomethane
- 1,2-dibromoethane
- 1,2-dibromo-3-chloropropane
- 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
- n-propylbenzene
- styrene
- 1,1,1,2-tetrachloroethane
- 1,1,2,2-tetrachloroethane
- 1,2,3-trichlorobenzene
- 1,2,4-trichlorobenzene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- 1,2,3-trichloropropane
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- tert-butyl methyl ether
- tetrachloroethene
- toluene
- trichloroethene
- o-xylene
- m-xylene
- p-xylene

@ 2000 µg/mL in methanol

DWM-596-1 **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**

EPA Method 502.2 *(continued)*

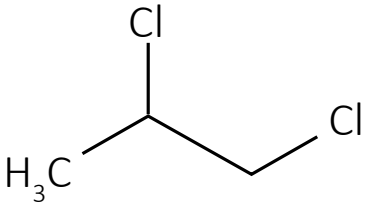
Haloalkanes Mixture

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

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

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

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

- 1,2-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

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
1,1,2,2-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**

EPA Method 502.2 *(continued)*

Calibration Mixture

39 Analytes

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

@ 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-dichloropropane
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**

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**

1-Chloro-2-Fluorobenzene Solution

1-chloro-2-fluorobenzene

@ 1000 µg/mL in methanol

STS-451-1 **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**

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**

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**

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**

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**

Methylene Chloride-d_2 Solution

methylene chloride-d_2

@ 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**

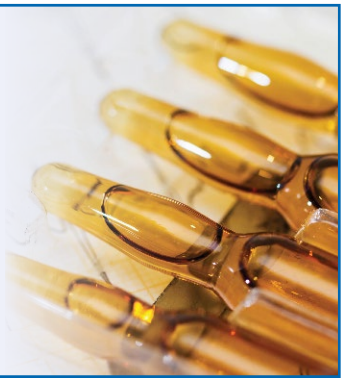
Halocarbons Mixture

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**



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**

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**

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 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

12 Analytes

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

16 Analytes

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**

EPA METHOD 505 *(continued)*

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

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

Find additional EPA Method 500 Series Standards online:

www.ultrasci.com/EPA500

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**

Phthalate Mixture

2 Analytes

- butyl benzyl phthalate
- di-n-butyl phthalate

@ 100 µg/mL in acetone

PSM-510-1 **1 x 1 mL**

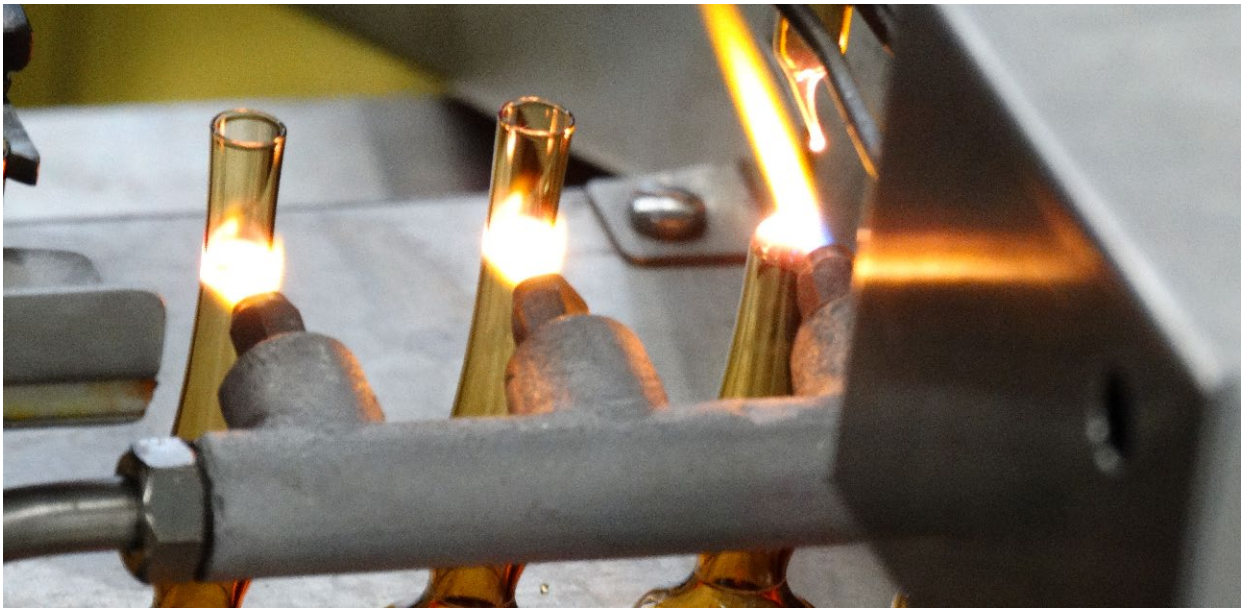
Phthalates Mixture

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 mL**

Recommended Method 507 Surrogate Standard Solution

1,3-dimethyl-2-nitrobenzene

@ 250 µg/mL in methyl tert-butyl ether

PPS-100-1 **1 x 1 mL**

Recommended Method 507 Internal Standard Solution

triphenyl phosphate (TPP)

@ 500 µg/mL in methyl tert-butyl ether

PPS-110-1 **1 x 1 mL**

Method 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**

EPA Method 507 *(continued)*

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**

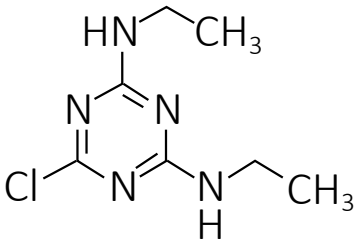
Laboratory Performance Check Solution

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**

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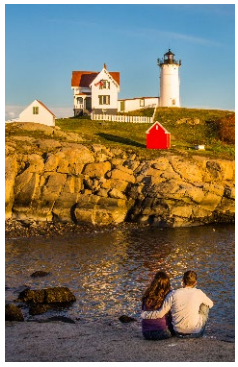

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EPA Method 508, 508.1

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 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**

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 Standard

toxaphene

@ 2500 µg/mL in acetone

PPS-240-1 **1 x 1 mL**

Recommended Method 508 Internal Standard Solution

pentachloronitrobenzene (PCNB)

@ 100 µg/mL in methyl tert-butyl ether

PPS-130-1 **1 x 1 mL**

Toxaphene Solution

toxaphene

@ 4000 µg/mL in methanol

PST-970M4000 **1 x 1 mL**

Pesticide Degradation Check Solution

2 Analytes

4,4-DDT	200 µg/mL
endrin	100 µg/mL

methyl tert-butyl ether

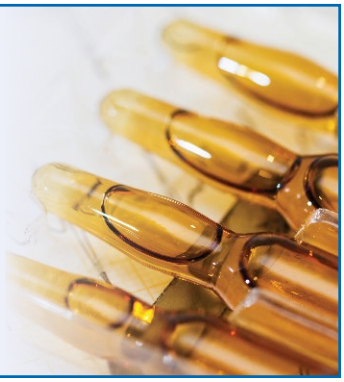
ISM-452-1 **1 x 1 mL**

Cyanazine Standard

cyanazine

@ 1000 µg/mL in methanol

EPA-1165-1 **1 x 1 mL**



EPA METHOD 508, 508.1 *(continued)*

Laboratory Performance Check Solution

4 Analytes

chlorothalonil	25 µg/mL
chlorpyriphos	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
- chlorpyriphos
- 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**

EPA Method 508, 508.1 *(continued)*

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
permethrins (mixed isomers,total)
propachlor

@ 5000 µg/mL in ethyl acetate

US-340-1 **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 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**

Recommended Method 508.1 Internal Standard Solution

pentachloronitrobenzene (PCNB)

@ 100 µg/mL in ethyl acetate

PST-770Y100A01 **1 x 1 mL**

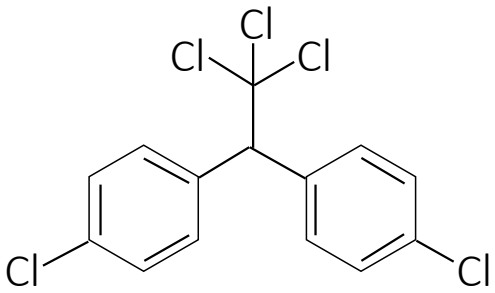
@ 1000 µg/mL in ethyl acetate

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**

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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

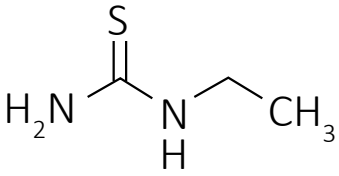
IST-800-1 **1 x 1 mL**

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**

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 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**

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**

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**

Recommended Method 515.2 Internal Standard Solution

4,4-dibromooctafluorobiphenyl (DBOB)

@ 5000 µg/mL in methanol

PPS-172-1 **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**

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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**

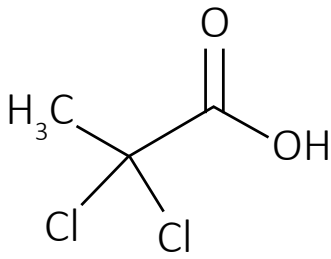
MCPA/MCPP Methyl Ester Solution

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**

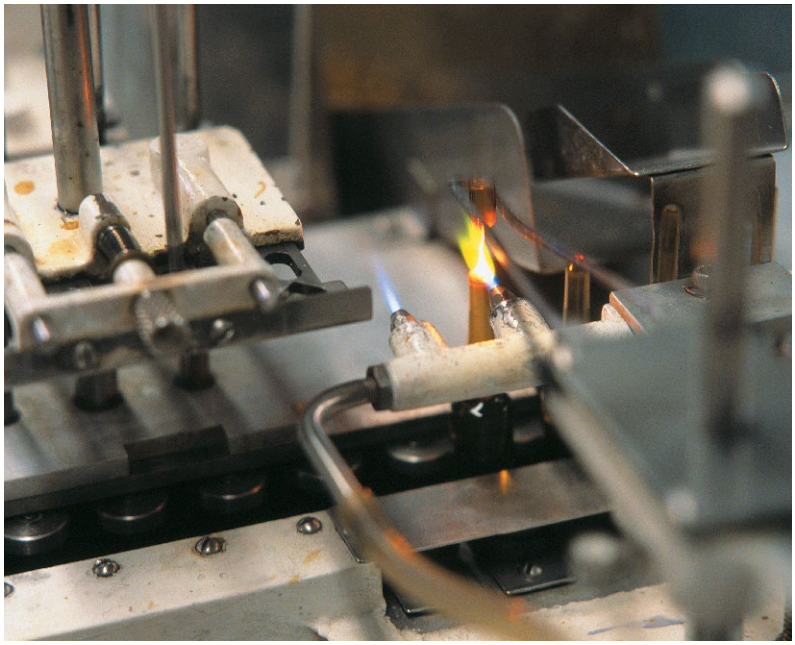
Chlorinated Herbicides Mixture

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	600µg/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**

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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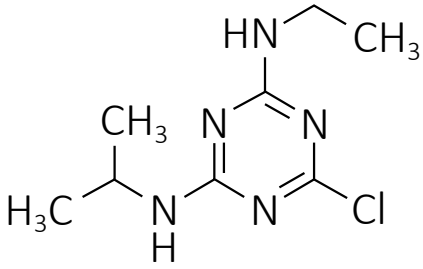
EPA Method 523

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_5)	neat	1 x 10 mg	PST-6940-10MG
cyanazine-d_5 (n-ethyl-d_5)	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 Mixtures

60 Analytes

- benzene
- bromobenzene
- bromochloromethane
- bromodichloromethane
- bromoform
- bromomethane
- n-butylbenzene
- sec-butylbenzene
- tert-butylbenzene
- carbon tetrachloride
- chlorobenzene
- chloroethane
- chloroform
- chloromethane
- 2-chlorotoluene
- 4-chlorotoluene
- dibromochloromethane
- 1,2-dibromo-3-chloropropane
- 1,2-dibromoethane
- dibromomethane
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- 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
- 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
- trichlorofluoromethane
- 1,2,3-trichloropropane
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- vinyl chloride
- o-xylene
- m-xylene
- p-xylene

@ 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 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 Internal & Surrogate Standard Mixture

3 Analytes

- 4-bromofluorobenzene
- 1,2-dichlorobenzene-d_4
- 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)

EPA METHOD 524.2 *(continued)*

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
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-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-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**

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**

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
bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
chloroethane
chloroform
chloromethane
dibromochloromethane
1,2-dibromo-3-chloropropane
1,2-dibromoethane
dibromomethane
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**

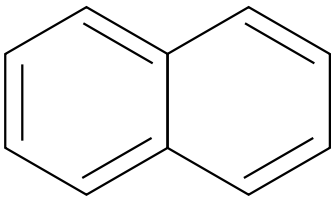
Aromatic Hydrocarbons Mixture

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**

EPA METHOD 524.2 *(continued)*

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
- 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
- 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-trichloropropane
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- o-xylene
- m-xylene
- p-xylene

@ 2000 µg/mL in methanol

DWM-596-1 **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**

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**

Find additional EPA Method 500 Series Standards online:

www.ultrasci.com/EPA500

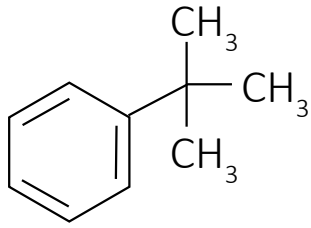
EPA METHOD 524.3, 524.4

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
benzene
bromobenzene
bromochloromethane
bromodichloromethane
bromoform
bromomethane
1,3-butadiene
carbon disulfide
carbon tetrachloride
1-chlorobutane
chlorobenzene
chlorodifluoromethane
chloroform
chloromethane
2-chlorotoluene
4-chlorotoluene
1,2-dibromoethane
1,2-dibromo-3-chloropropane
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
1,1-dichloropropene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
dibromochloromethane
dibromomethane
dichlorodifluoromethane
diethyl ether
diisopropyl ether
ethylbenzene
ethyl methacrylate
ethyl tert-butyl ether
hexachlorobutadiene
hexachloroethane
iodomethane
isopropylbenzene
4-isopropyltoluene
methyl acetate
methylene chloride
methyl tert-butyl ether
m-xylene
naphthalene
n-butylbenzene
n-propylbenzene
o-xylene
pentachloroethane
p-xylene
sec-butylbenzene
styrene
tert-amyl ethyl ether
tert-amyl methyl ether
tert-butanol
tert-butylbenzene
tetrachloroethene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
tetrahydrofuran
toluene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
trichloroethene
trichlorofluoromethane
1,2,3-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
vinyl chloride

@ 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
benzene
bromobenzene
bromochloromethane
bromodichloromethane
bromoform
carbon disulfide
carbon tetrachloride
chlorobenzene
1-chlorobutane
chloroform
2-chlorotoluene
4-chlorotoluene
1,2-dibromoethane
1,2-dibromo-3-chloropropane
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
1,1-dichloropropene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
dibromochloromethane
dibromomethane
diethyl ether
ethylbenzene
ethyl methacrylate
hexachlorobutadiene
hexachloroethane
iodomethane
isopropylbenzene
4-isopropyltoluene
methylene chloride
methyl tert-butyl ether
m-xylene
naphthalene
n-butylbenzene
n-propylbenzene
o-xylene
pentachloroethane
p-xylene
sec-butylbenzene
styrene
tert-butylbenzene
tetrachloroethene
1,1,1,2-tetrachloroethane
1,1,2,2-tetrachloroethane
tetrahydrofuran
toluene
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
1,1,1-trichloroethane
1,1,2-trichloroethane
1,2,3-trichloropropane
trichloroethene
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene

@ 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**

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
- 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
- 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
- trichloroethene
- 1,2,3-trichloropropane
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- o-xylene
- m-xylene
- p-xylene
- 2-nitropropane
- allyl chloride
- ethyl methacrylate
- hexachloroethane
- methyl methacrylate
- tetrahydrofuran
- acrylonitrile
- carbon disulfide
- trans-1,4-dichloro-2-butene
- iodomethane
- methacrylonitrile
- nitrobenzene
- pentachloroethane
- chloroacetonitrile
- 1-chlorobutane
- diethyl ether
- methyl tert-butyl ether
- propionitrile
- methyl acrylate
- 1,1,2-trichloroethane

@ 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**

EPA METHOD 524.3, 524.4 *(continued)*

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

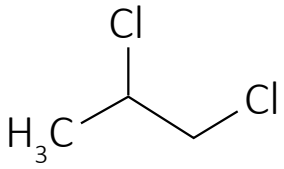
@ 200 µg/mL in methanol

DWM-705-1 **1 x 1 mL**

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).



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**

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**

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

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
chlorpyriphos
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**

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

- chlorpyriphos
- 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
- chlorpyriphos
- 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**

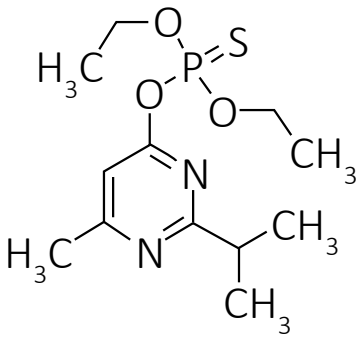
Calibration Mixture

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 isooctane/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
- chlorpyriphos
- fenamiphos
- malathion
- mirex
- nitrofen
- parathion (ethyl)
- terbufos
- sulfone
- thiazopyr thiobencarb
- vinclozolin

@ 500 µg/mL in methanol

PPM-524-1 **1 x 1 mL**

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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**

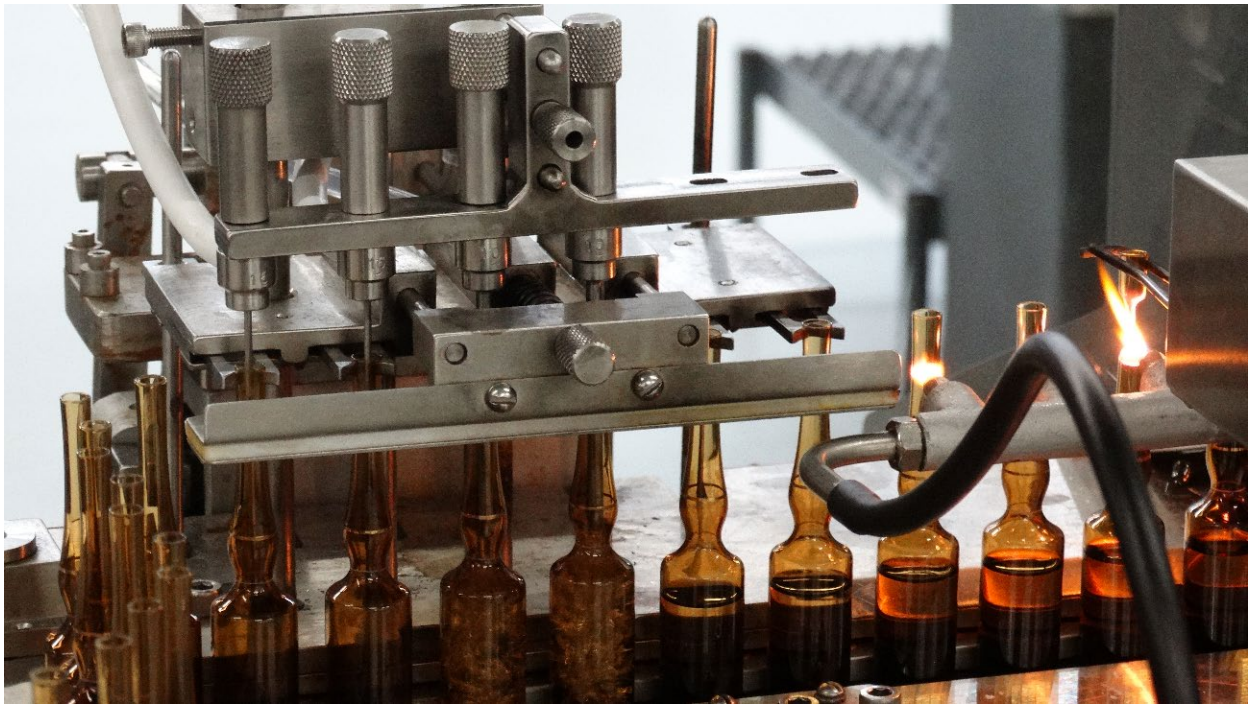
528 Method Internal Standard

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-d_5	IST-210-1
@ 2000 µg/mL in methylene chloride	
nitrobenzene-d_5	IST-210A-1

EPA METHOD 529 *(continued)*

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-methylcarbamoyloximes 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**

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**

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**

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**

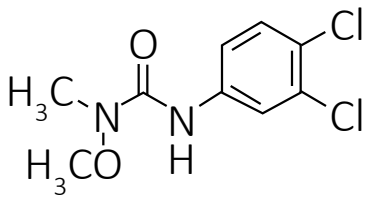
Phenylurea Pesticide Mix

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

6 Analytes

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**

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 ESA Solution

metolachlor ESA sodium salt

@ 100 µg/mL in methanol

PST-1531M100A01 1 x 1 mL

Metolachlor OA Solution

metolachlor OA

@ 100 µg/mL in methanol

PST-1532M100A01 1 x 1 mL

Acetochlor ESA Solution

acetochlor ESA sodium salt

@ 100 µg/mL in methanol

PST-1881M100A01 1 x 1 mL

Acetochlor OA Solution

acetochlor OA

@ 100 µg/mL in methanol

PST-1882M100A01 1 x 1 mL

Alachlor ESA Solution

alachlor ESA sodium salt

@ 100 µg/mL in methanol

PST-626M100A01 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_5)	neat	1 x 10 mg	PST-6915-10MG
cyanazine-d_5 (n-ethyl-d_5)	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 endothall. 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-PFPH

@ 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

16 Analytes

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

16 Analytes

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

16 Analytes

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

17 Analytes

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.

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**

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**

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**

EPA Method 551.1 *(continued)*

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**

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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
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

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**

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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**

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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-15N2	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

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 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 ± 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 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)

EPA Method 601

(continued)

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:

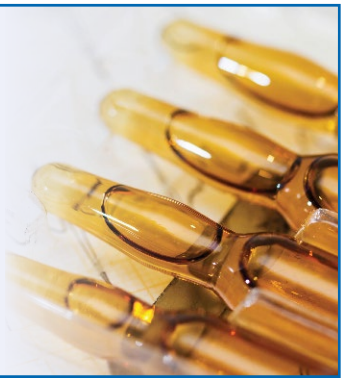
1 x 1 mL of each individual component @ 100 µg/mL in methanol:

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
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

@ 200 µg/mL in methanol

HCM-625-1 **1 x 1 mL**

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**

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**

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-d_5	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**

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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**

EPA METHOD 608, 608.1, 608.2 *(continued)*

Recommended Method 608 Chlordane, Toxaphene, and PCB Standards

All @ in	**1 x 1 mL Ampules**		
chlordane	*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**

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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**

EPA Method 610 *(continued)*

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-dichlorobenzenehexachlorocyclopentadiene
1,3-dichlorobenzene hexachloroethane
1,4-dichlorobenzene1,2,4-trichlorobenzene
hexachlorobenzene *

plus

Chlorinated Hydrocarbons Mixture (CHM-612-1)
(* methylene chloride solvent)

CHK-612 **Kit**

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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**

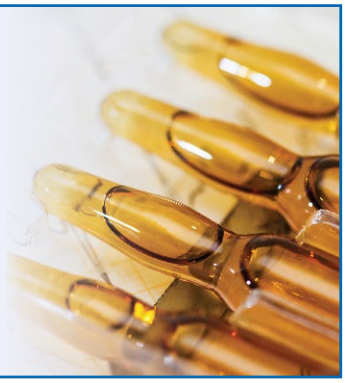
Chlorinated Herbicides Mixture

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**



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EPA Method 615

(continued)

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

Ordering Is Easy

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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
- chlorpyriphos
- 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

azinphos 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-dichloroethene
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**

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EPA Method 624 *(continued)*

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
- acetonitrile
- acrylonitrile
- benzene
- bromodichloromethane
- bromoform
- bromomethane
- carbon disulfide
- carbon tetrachloride
- chlorobenzene
- chloroethane
- chloroform
- chloromethane
- dibromochloromethane
- 1,2-dibromoethane
- dibromomethane
- 1,2-dibromo-3-chloropropane
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- dichlorodifluoromethane
- 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
- hexachlorobutadiene
- 2-hexanone
- MEK
- methylene chloride
- methyl tert-butyl ether (MTBE)
- MIBK
- naphthalene
- styrene
- 1,1,2,2-tetrachloroethane
- tetrachloroethylene
- toluene
- 1,2,4-trichlorobenzene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- trichloroethylene
- trichlorofluoromethane
- 1,2,3-trichloropropane
- vinyl chloride
- o-xylene
- m-xylene
- p-xylene

@ 2000 µg/mL in methanol

PMX-190-1 **1 x 1 mL**

VOC Mixture

52 Analytes

- acetone
- acetonitrile
- acrylonitrile
- benzene
- bromodichloromethane
- bromoform
- bromomethane
- carbon disulfide
- carbon tetrachloride
- chlorobenzene
- chloroethane
- chloroform
- chloromethane
- dibromomethane
- 1,2-dibromoethane
- dibromochloromethane
- 1,2-dibromo-3-chloropropane
- 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
- dichlorodifluoromethane
- 1,2-dichloropropane
- cis-1,3-dichloropropene
- trans-1,3-dichloropropene
- ethylbenzene
- hexachlorobutadiene
- 2-hexanone
- MEK
- methylene chloride
- methyl tert-butyl ether (MTBE)
- MIBK
- naphthalene
- styrene
- 1,1,1,2-tetrachloroethane
- 1,1,2,2-tetrachloroethane
- tetrachloroethylene
- toluene
- 1,2,4-trichlorobenzene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- trichloroethylene
- trichlorofluoromethane
- 1,2,3-trichloropropane
- vinyl chloride
- o-xylene
- m-xylene
- p-xylene

@ 200 µg/mL in methanol

PMX-200-1 **1 x 1 mL**

EPA Method 624 *(continued)*

Calibration Mixture

31 Analytes

- benzene
- bromodichloromethane
- bromoform
- carbon tetrachloride
- chlorobenzene
- chloroform
- dibromochloromethane
- 1,2-dibromoethane
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- 1,1-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
- tetrachloroethylene
- toluene
- methyl tert-butyl ether (MTBE)
- isopropyl ether
- naphthalene
- 1,1,2,2-tetrachloroethane
- trichloroethene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- o-xylene
- m-xylene
- p-xylene

@ 1000 µg/mL in methanol

PMX-205-1 **1 x 1 mL**

Calibration Mixture

29 Analytes

- bromodichloromethane
- bromoform
- chlorobenzene
- chloroform
- chloromethane
- dibromochloromethane
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- 1,1-dichloroethane
- 1,2-dichloroethane
- trans-1,2-dichloroethene
- 1,2-dichloropropane
- 1,2-dinitrobenzene
- 1,3-dinitrobenzene
- 1,4-dinitrobenzene
- ethylbenzene
- methylene chloride
- pentachlorobenzene
- tetrachloroethylene
- toluene
- 1,2,3,4-tetrachlorobenzene
- 1,1,2,2-tetrachloroethane
- 1,2,3-trichlorobenzene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- trichloroethene
- 1,1-dichloroethene
- vinyl chloride

@ 1000 µg/mL in methanol

PMX-210-1 **1 x 1 mL**

Calibration Mixture

32 Analytes

- acrylonitrile
- benzene
- bromodichloromethane
- bromoform
- bromomethane
- carbon tetrachloride
- chlorobenzene
- chloroethane
- 2-chloroethylvinyl ether
- 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
- tetrachloroethylene
- toluene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- trichloroethene
- trichlorofluoromethane
- vinyl chloride

@ 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**

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**

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
- 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

@ 200 µg/mL in methanol

PMX-250-1 **1 x 1 mL**

EPA Method 624 *(continued)*

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**

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
- acenaphthylene
- anthracene
- benz[a]anthracene
- benzo[b]fluoranthene
- benzo[k]fluoranthene
- benzo[ghi]perylene
- benzo[a]pyrene
- bis(2-chloroethyl) ether
- bis(2-chloroethoxy) methane
- bis(2-ethylhexyl) phthalate
- bis(2-chloroisopropyl) ether
- 4-bromophenyl phenyl ether
- butyl benzyl phthalate
- 2-chloronaphthalene
- 4-chlorophenyl phenyl ether
- chrysene
- dibenz[a,h]anthracene
- di-n-butyl phthalate
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- 3,3-dichlorobenzidine
- diethyl phthalate
- dimethyl phthalate
- 2,4-dinitrotoluene
- 2,6-dinitrotoluene
- di-n-octyl phthalate
- fluoranthene
- fluorene
- hexachlorobenzene
- hexachlorobutadiene
- hexachloroethane
- indeno[1,2,3-cd]pyrene
- isophorone
- naphthalene
- nitrobenzene
- N-nitrosodi-n-propylamine
- phenanthrene
- pyrene
- 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**

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

- nitrobenzene-d5
- 2-fluorobiphenyl
- p-terphenyl-d14

@ 1000 µg/mL in methylene chloride

ISM-280N-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**

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EPA METHOD 625 *(continued)*

Base/Neutrals Extractables Mixtures

44 Analytes

- acenaphthene
- acenaphthylene
- anthracene
- azobenzene
- benz[a]anthracene
- benzo[b]fluoranthene
- benzo[k]fluoranthene
- benzo[ghi]perylene
- benzo[a]pyrene
- bis(2-chloroethyl) ether
- bis(2-chloroethoxy) methane
- bis(2-ethylhexyl) phthalate
- bis(2-chloroisopropyl) ether
- 4-bromophenyl phenyl ether
- butyl benzyl phthalate
- 2-chloronaphthalene
- 4-chlorophenyl phenyl ether
- chrysene
- dibenz[a,h]anthracene
- di-n-butyl phthalate
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- diethyl phthalate
- dimethyl phthalate
- 2,4-dinitrotoluene
- 2,6-dinitrotoluene
- di-n-octyl phthalate
- fluoranthene
- fluorene
- hexachlorobenzene
- hexachlorobutadiene
- hexachlorocyclopentadiene
- hexachloroethane
- indeno[1,2,3-cd]pyrene
- isophorone
- naphthalene
- nitrobenzene
- N-nitrosodimethylamine
- N-nitrosodi-n-propylamine
- N-nitrosodiphenylamine
- phenanthrene
- pyrene
- 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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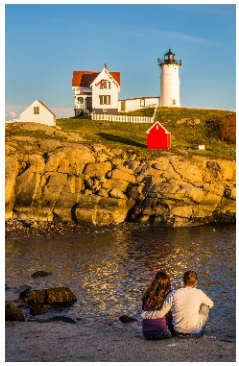

GC/MS Calibration and Tuning Standards EPA Method 625

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

In methylene chloride

GCM-130-1 **1 x 1 mL**

Base/Neutrals Test Mixture

2 Analytes

benzidine 500 µg/mL
decafluorotriphenylphosphine 250 µg/mL

in methylene chloride

GCM-151-1 **1 x 1 mL**

Base/Neutrals Test Mixture

2 Analytes

benzidine 50 µg/mL
decafluorotriphenylphosphine 25 µg/mL

in methylene chloride

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 ampules:

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

@ 2000 µg/mL in methylene chloride

GCS-110-1 **1 x 1 mL**

@ 500 µg/mL in methylene chloride

GCS-112-1 **1 x 1 mL**

@ 50 µg/mL in methylene chloride

GCS-113-1 **1 x 1 mL**

pentachlorophenol

@ 1000 µg/mL in methylene chloride

GCS-120-1 **1 x 1 mL**

@ 250 µg/mL in methylene chloride

GCS-122-1 **1 x 1 mL**

@ 25 µg/mL in methylene chloride

GCS-124-1 **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

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-methylphenol
chrysene
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
fluorene
hexachlorobenzene
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
- acenaphthylene
- anthracene
- azobenzene
- 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
- carbazole
- 4-chloro-3-methylphenol
- 2-chloronaphthalene
- 2-chlorophenol
- 4-chlorophenyl phenyl ether
- chrysene
- 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
- diethyl phthalate
- dimethyl phthalate
- di-n-butyl phthalate
- di-n-octyl phthalate
- fluoranthene
- fluorene
- hexachlorobenzene
- hexachlorobutadiene
- hexachlorocyclopentadiene
- hexachloroethane
- indeno[1,2,3-cd]pyrene
- isophorone
- 2-methyl-4,6-dinitrophenol
- naphthalene
- nitrobenzene
- 2-nitrophenol
- 4-nitrophenol
- N-nitrosodimethylamine
- N-nitrosodi-n-propylamine
- pentachlorophenol
- phenanthrene
- phenol
- pyrene
- 2,4,6-trichlorophenol
- 1,2,4-trichlorobenzene

@ 1000 µg/mL in methylene chloride/benzene (3:1)

SVM-170-1 **1 x 1 mL**

Base/Neutral Analytes & Benzidine Mixture

46 Analytes

- acenaphthene
- acenaphthylene
- anthracene
- azobenzene
- benz[a]anthracene
- benzidine
- benzo[a]pyrene
- benzo[b]fluoranthene
- benzo[ghi]perylene
- benzo[k]fluoranthene
- bis(2-chloroethyl) ether
- bis(2-chloroisopropyl) ether
- bis(2-chloroethoxy)methane
- bis(2-ethylhexyl) phthalate
- 4-bromophenyl phenyl ether
- butyl benzyl phthalate
- 2-chloronaphthalene
- 4-chlorophenyl phenyl ether
- chrysene
- dibenz[a,h]anthracene
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- 3,3-dichlorobenzidine
- diethyl phthalate
- dimethyl phthalate
- 2,4-dinitrotoluene
- 2,6-dinitrotoluene
- di-n-butyl phthalate
- di-n-octyl phthalate
- fluoranthene
- fluorene
- hexachlorobenzene
- hexachlorobutadiene
- hexachlorocyclopentadiene
- hexachloroethane
- indeno[1,2,3-cd]pyrene
- isophorone
- naphthalene
- nitrobenzene
- N-nitrosodimethylamine
- N-nitrosodiphenylamine
- N-nitrosodi-n-propylamine
- phenanthrene
- pyrene
- 1,2,4-trichlorobenzene

@ 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
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether
bis(2-ethylhexyl) phthalate
bis(2-chloroethoxy)methane
4-bromophenyl phenyl ether
butyl benzyl phthalate
carbazole
2-chloronaphthalene
4-chlorophenyl phenyl ether
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
di-n-butyl phthalate
di-n-octyl phthalate
diethyl phthalate
dimethyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
isophorone
nitrobenzene
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine
pyridine
1,2,4-trichlorobenzene

@ 2000 µg/mL in methylene chloride

US-440-1 **1 x 1 mL**

Method 625 Modification Mixture

17 Analytes

acetophenone
alpha-terpineol
aniline
benzoic acid
carbazole
p-cresol
o-cresol
2,3-dichloroaniline
n-decane
n-docosane
n-dodecane
n-eicosane
n-hexadecane
1-methylphenanthrene
n-octadecane
pyridine
n-tetradecane

@ 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
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**

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**

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-d_8	IST-201-1
nitrobenzene-d_5	IST-211-1
pentafluorophenol	IST-263-1
pyridine-d_5	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-d_5	IST-101-1
anthracene-d_{10}	IST-111-1
benz[a]anthracene-d_{12}	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-d_8	IST-202-1
nitrobenzene-d_5	IST-212-1
pentafluorophenol	IST-262-1
phenanthrene-d_{10}	IST-231-1
phenol-d_5	IST-272-1
@ 250 µg/mL in methylene chloride	
decafluorotriphenylphosphine (DFTPP)	IST-340-1
All @ 1000 µg/mL in methylene chloride	
aniline-d_5	IST-100-1
anthracene-d_{10}	IST-110-1
benz[a]anthracene-d_{12}	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-d_8	IST-200-1
nitrobenzene-d_5	IST-210-1
2,3,4,5,6-pentafluorobiphenyl	IST-220-1
phenanthrene-d_{10}	IST-230-1
2-fluorophenol	IST-250-1
pentafluorophenol	IST-260-1
phenol-d_5	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

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**

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**

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

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**

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

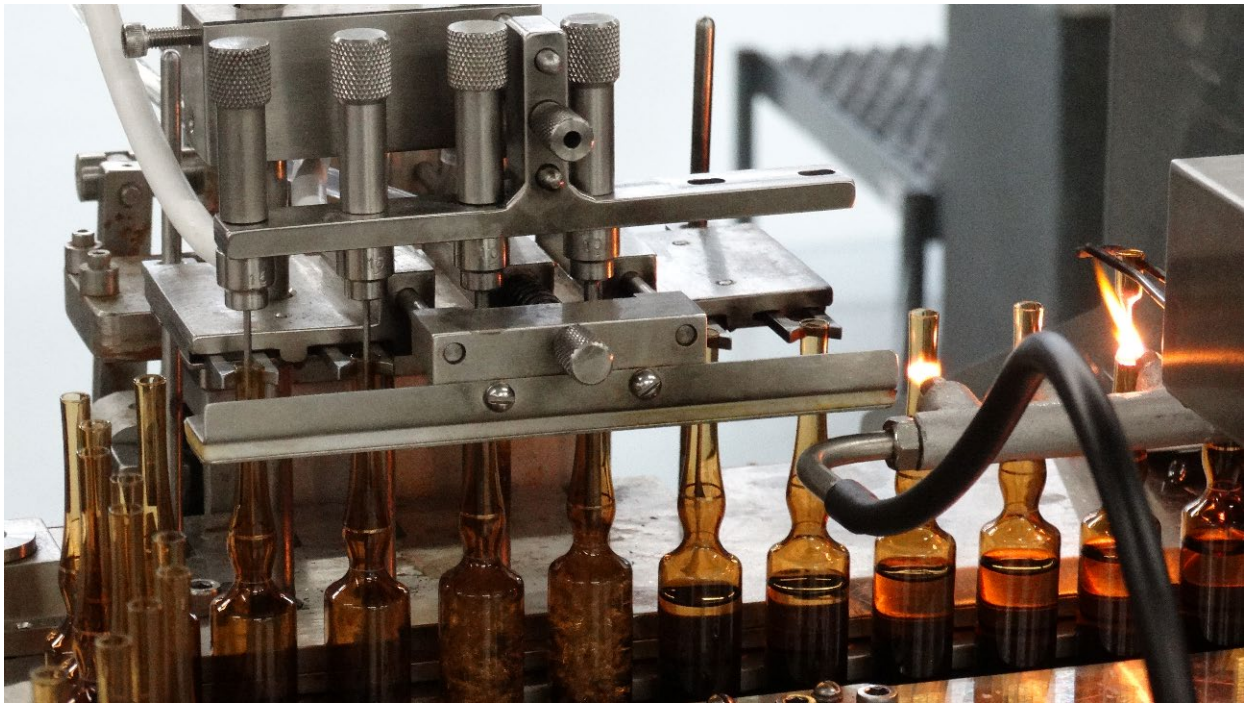
n-hexadecane
stearic acid

@ 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.



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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 ± 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 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**

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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

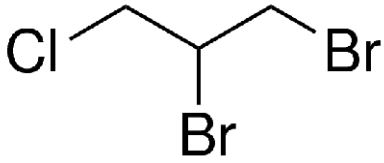
@ 200 µg/mL in methanol

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

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**

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**

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

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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
bromobenzene
bromochloromethane
bromodichloromethane
bromoform
bromomethane
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
chloromethane
2-chlorotoluene
4-chlorotoluene
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
1,2-dibromo-3-chloropropane
dibromochloromethane
dibromomethane
1,2-dibromoethane
dichlorodifluoromethane
ethylbenzene
hexachlorobutadiene
isopropylbenzene
4-isopropyltoluene
methylene chloride
n-butylbenzene
n-propylbenzene
naphthalene
o-xylene
m-xylene
p-xylene
sec-butylbenzene
styrene
tert-butylbenzene
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-trichloropropane
trichlorofluoromethane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
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 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)

EPA Method 8021B *(continued)*

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
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
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-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-xylene

@ 2000 µg/mL in methanol

DWM-596-1 **1 x 1 mL**

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
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-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-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 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

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 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

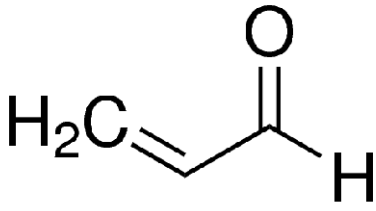
@ 1000 µg/mL in water

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



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

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.

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

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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EPA Method 8041A *(continued)*

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**

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

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 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**

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EPA METHOD 8080A *(continued)*

Recommended Method 8080A Chlordane, Toxaphene, and PCB Standards

All @ 100 µg/mL in hexane	**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

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

3 Analytes

2,4´-DDD
2,4´-DDE
2,4´-DDT

@ 250 µg/mL in isooctane

PPM-828-1 **1 x 1 mL**

Organochlorine Pesticides Mixture

6 Analytes

2,4´-DDD
2,4´-DDE
2,4´-DDT
4,4´-DDD
4,4´-DDE
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 isooctane

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

@ 5000 µg/mL in acetone

PPS-351-1 **1 x 1 mL**

- pentachloronitrobenzene

@ 5000 µg/mL in acetone

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

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 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**

Method 8081B Surrogate Standard

4-chloro-3-nitrobenzotrifluoride

@ 1000 µg/mL in acetone

PPS-360-1 **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

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 isooctane

RPCM-8082-1 **1 x 1 mL**

Recommended Method 8082A Calibration Stock Solution

2 Analytes

Aroclor 1016
Aroclor 1260

@ 1000 µg/mL in isooctane

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 isooctane	**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
benzotrichloride	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

- azinphos methyl
- bolstar
- chlorpyrifos
- coumaphos
- demeton (total)
- diazinon
- dichlorvos
- disulfoton
- ethoprop
- fensulfothion
- fenthion
- merphos
- methyl parathion
- mevinphos
- naled
- phorate
- ronnel
- stirofos
- tokuthion
- trichloronate

@ 200 µg/mL in hexane/acetone

SPM-824-1 **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

10 Analytes

- azinphos 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

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**

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**

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**

EPA METHOD 8150B, 8151A

CHLORINATED HERBICIDES

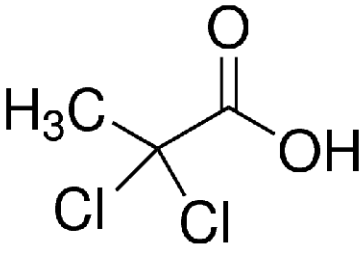
Methods 8150B and 8151 are used to measure chlorinated herbicides, using extraction followed by derivatization. Quantitation is carried out on GC/ECD.

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**

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
- 1,1,2,2-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 Compounds

Recommended 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 mL**

Non-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

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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
bromobenzene
bromochloromethane
bromodichloromethane
bromoform
bromomethane
n-butylbenzene
sec-butylbenzene
tert-butylbenzene
carbon tetrachloride
chlorobenzene
chloroethane
chloroform
chloromethane
2-chlorotoluene
4-chlorotoluene
dibromochloromethane
1,2-dibromo-3-chloropropane
1,2-dibromoethane
dibromomethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
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
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
trichlorofluoromethane
1,2,3-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
vinyl chloride
o-xylene
m-xylene
p-xylene

@ 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**

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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
- 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
- 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-trichloropropane
- 1,2,4-trimethylbenzene
- 1,3,5-trimethylbenzene
- o-xylene
- m-xylene
- p-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**

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**

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 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**

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EPA Method 8260B *(continued)*

Obsolete Standards for Method 8260

The mixtures on this page were designed for the original revision of EPA Method 8260, which has been superceded by Method 8260B.

Method 8260 VOC Mixtures (No Gases, No Bromochloromethane)

53 Analytes

benzene
bromobenzene
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
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-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
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**

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
acenaphthylene
anthracene
azobenzene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-ethylhexyl) phthalate
bis(2-chloroisopropyl) ether
4-bromophenyl phenyl ether
butylbenzyl phthalate
carbazole
4-chloroaniline
4-chloro-3-methylphenol
2-chloronaphthalene
2-chlorophenol
4-chlorophenyl phenyl ether
chrysene
dibenz[a,h]anthracene
dibenzofuran
di-n-butyl phthalate
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
2,4-dichlorophenol
diethyl phthalate
2,4-dimethylphenol
dimethyl phthalate
2,4-dinitrophenol
2,4-dinitrotoluene
2,6-dinitrotoluene
di-n-octyl phthalate
fluoranthene
fluorene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
indeno[1,2,3-cd]pyrene
isophorone
2-methyl-4,6-dinitrophenol
2-methylnaphthalene
2-methylphenol (o-cresol)
4-methylphenol (p-cresol)
naphthalene
2-nitroaniline
3-nitroaniline
4-nitroaniline
nitrobenzene
2-nitrophenol
4-nitrophenol
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
pentachlorophenol
phenanthrene
phenol
pyrene
1,2,4-trichlorobenzene
2,4,5-trichlorophenol
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

Online	Phone	Fax	Mail
www.ultrasci.com	800-338-1754	401-295-2330	ULTRA Scientific
ultra@ultrasci.com	Monday – Friday		250 Smith Street
	8:30 a.m. - 5:00 p.m. ET		No. Kingstown, RI 02852

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

@ 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

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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
- chlorobenzilate
- diallate
- isodrin
- kepone
- 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
- disulfoton
- famphur
- thionazin
- O,O,O-triethyl phosphorothioate
- methyl parathion
- parathion
- phorate
- sulfotepp

@ 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 #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 #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 #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 #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 #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**

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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 #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 #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 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 #11

3 Analytes

ethyl methanesulfonate
methyl methanesulfonate
1,3,5-trinitrobenzene

@ 2000 µg/mL in methylene chloride

SVM-131-1 **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**

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 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**

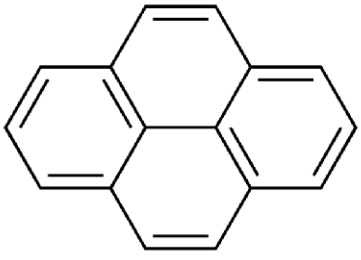
Internal Standard Mixture

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**

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 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**

ULTRASURE®

Ready-to-shoot surrogate standards with a color indicator for fast, easy visual indication of acid and base/neutral aqueous fraction.

Now, adjusting the pH for base/neutral or acid extractables just got a lot easier. ULTRA's new ULTRAsure® surrogate standards contain a special color change indicator that takes the guesswork out of the extraction process. Adding ULTRAsure® indicates immediately and unmistakably that you've added your surrogate, and whether you've adjusted the pH properly.

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**

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	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**

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 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 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**

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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**

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-Volitiles 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**

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**

Additional Calibration Mixtures for EPA Method 8270D

Base/Neutral & Acid Calibration Mega Mixture

75 Analytes

acenaphthene
acenaphthylene
aniline
anthracene
azobenzene
benz[a]anthracene
benzo[a]pyrene
benzo[b]fluoranthene
bis(2-ethylhexyl) phthalate
benzo[ghi]perylene
benzo[k]fluoranthene
benzyl alcohol
4-bromophenyl phenyl ether
butyl benzyl phthalate
carbazole
4-chloroaniline
bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether
2-chloronaphthalene
2-chlorophenol
4-chlorophenyl phenyl ether
4-chloro-3-methylphenol
chrysene dibenzofuran
dibenz[a,h]anthracene
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
2,4-dichlorophenol
diethyl phthalate
dimethyl phthalate
2,4-dimethylphenol
1,2-dinitrobenzene
1,3-dinitrobenzene
1,4-dinitrobenzene
2,4-dinitrophenol
2,4-dinitrotoluene
2,6-dinitrotoluene
4,6-dinitro-2-methylphenol
diphenylamine
di-n-butyl phthalate
di-n-octyl phthalate
bis(2-ethylhexyl) adipate
fluoranthene
fluorene
hexachlorobenzene
hexachlorobutadiene
hexachloroethane
indeno[1,2,3-cd]pyrene
isophorone
1-methylnaphthalene
2-methylnaphthalene
2-methylphenol
3-methylphenol
4-methylphenol
naphthalene
2-nitroaniline
3-nitroaniline
4-nitroaniline
nitrobenzene
2-nitrophenol
4-nitrophenol
N-nitrosodimethylamine
N-nitrosodi-n-propylamine
pentachlorophenol
phenanthrene
phenol
pyrene
pyridine
2,3,4,6-tetrachlorophenol
2,3,5,6-tetrachlorophenol
1,2,4-trichlorobenzene
2,4,5-trichlorophenol
hexachlorocyclopentadiene
2,4,6-trichlorophenol

@ 1000 µg/mL in methylene chloride

US-201-1 **1 x 1 mL**

ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D *(continued)*

Base/Neutral & Acid Combination Calibration Mixture

49 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[a]pyrene
benzo[b]fluoranthene
benzo[ghi]perylene
benzo[k]fluoranthene
benzyl alcohol
bis(2-chloroethoxy) methane
bis(2-chloroethyl) ether
bis(2-chloroisopropyl) ether
bis(2-ethylhexyl) phthalate
4-bromophenyl phenyl ether
butyl benzyl phthalate
4-chloroaniline
2-chloronaphthalene
4-chlorophenyl phenyl ether
chrysene
dibenz[a,h]anthracene
dibenzofuran
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
diethyl phthalate
dimethyl phthalate
2,4-dinitrotoluene
2,6-dinitrotoluene
di-n-butyl phthalate
di-n-octyl phthalate
fluoranthene
fluorene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
indeno[1,2,3-cd]pyrene
isophorone
2-methylnaphthalene
2-nitroaniline
3-nitroaniline
4-nitroaniline
naphthalene
nitrobenzene
N-nitrosodiphenylamine
N-nitrosodi-n-propylamine
phenanthrene
pyrene
1,2,4-trichlorobenzene

@ 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**

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**

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**

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**

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**

Find additional EPA Method 8000 Series Standards online:

www.ultrasci.com/EPA8000

ADDITIONAL CALIBRATION MIXTURES FOR EPA METHOD 8270D *(continued)*

Semi-Volitiles 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

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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**

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02852

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**

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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

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

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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

isosafrole
phthalic anhydride
safrole

@ 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

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-Volitiles 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**

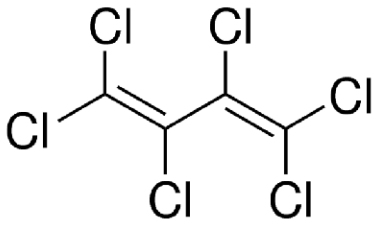
CLP Base/Neutrals Mixture #1

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-picolyl 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

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 quantitate the compunds 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
- 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

@ 500 µg/mL in acetonitrile/acetone/toluene (6:3:1)

PM-831-1 **1 x 1 mL**

[IX] Contains Appendix IX Compounds

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

@ 1000 µg/mL in methanol

IST-590-1 **1 x 1 mL**

1,2-dinitrobenzene

@ 1000 µg/mL in methanol

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:
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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

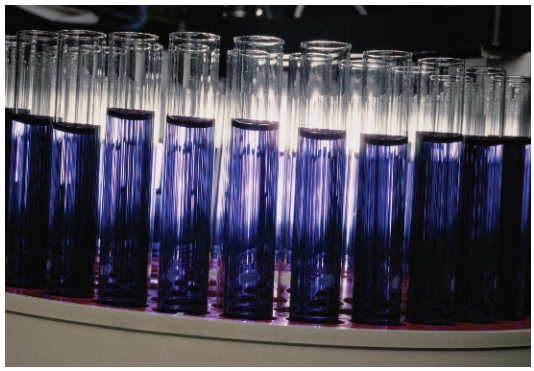
Component	%, v/v
n-hexadecane	37.5 %
isooctane	37.5 %
chlorobenzene	25.0 %

RGO-100-1 **1 x 1 mL**

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.

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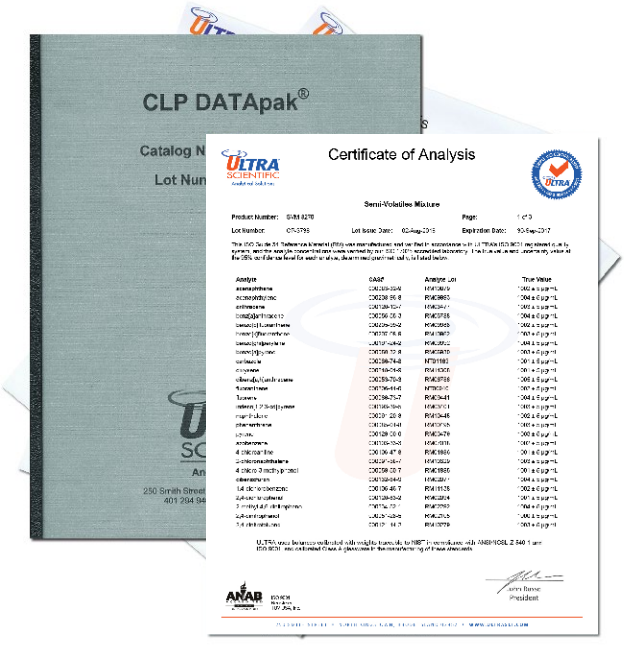

DATApaks® Include:

- ✔ Identity - GC/MS spectrum for each analyte.
- ✔ Purity - ULTRA determines purity for these compounds using GC LC, LC\MS 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
- benzene
- bromodichloromethane
- bromoform
- bromomethane
- 2-butanone *(MEK)*
- *tert*-butylmethyl ether
- carbon disulfide
- carbon tetrachloride
- chlorobenzene
- chloroethane
- chloroform
- chloromethane
- cyclohexane
- dibromochloromethane
- 1,2-dibromo-3-chloropropane
- 1,2-dibromoethane
- 1,2-dichlorobenzene
- 1,3-dichlorobenzene
- 1,4-dichlorobenzene
- dichlorodifluoromethane
- 1,1-dichloroethane
- 1,2-dichloroethane
- 1,1-dichloroethene
- *cis*-1,2-dichloroethene
- *trans*-1,2-dichloroethene
- 1,2-dichloropropane
- *trans*-1,3-dichloropropene
- *cis*-1,3-dichloropropene
- ethylbenzene
- 2-hexanone
- isopropylbenzene
- methyl acetate
- methylcyclohexane
- methylene chloride
- 4-methyl-2-pentanone
- styrene
- 1,1,2,2-tetrachloroethane
- tetrachloroethene
- toluene
- 1,2,4-trichlorobenzene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- trichloroethene
- trichlorofluoromethane
- 1,1,2-trichlorotrifluoroethane
- vinyl chloride
- *o*-xylene
- *m*-xylene
- *p*-xylene

@ 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-d_5
- 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-d_4
- toluene-d_8

@ 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**

DATApaks® are available for all CLP part products. Please refer to page 299.

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 1mL**

@ 1000 µg/mL in acetone
STS-113-1 **1 x 1mL**

@ 10000 µg/mL in acetone
STS-115-1 **1 x 1mL**

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_5
1,4-dichlorobenzene-d_4
1,4-difluorobenzene

@ 2000 µg/mL in methanol
ISM-760-1 1 x1 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

n-nonane
n-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
- benzene
- bromodichloromethane
- bromoform
- bromomethane
- 2-butanone *(MEK)*
- carbon disulfide
- carbon tetrachloride
- chlorobenzene
- chloroethane
- chloroform
- chloromethane
- dibromochloromethane
- 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
- 2-hexanone
- methylene chloride
- 4-methyl-2-pentanone
- styrene
- toluene
- 1,1,2,2-tetrachloroethane
- tetrachloroethene
- 1,1,1-trichloroethane
- 1,1,2-trichloroethane
- trichloroethene
- vinyl chloride
- *o*-xylene
- *m*-xylene
- *p*-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

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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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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**

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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-336X

Recommended 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 mL**

Recommended 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 mL**

Recommended 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 mL**

Recommended CLP Semi-Volatiles Internal Standard Mixtures

6 Analytes

- acenaphthene-d_{10}
- chrysene-d_{12}
- 1,4-dichlorobenzene-d_4
- naphthalene-d_8
- perylene-d_{12}
- phenanthrene-d_{10}

@ 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**

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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**

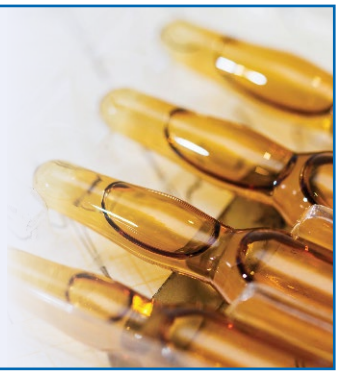
2,3,4,6-tetrachlorophenol

@ 1000 µg/mL in methylene chloride

EPA-1246-1 **1 x 1 mL**

Volume discounts for individual solutions

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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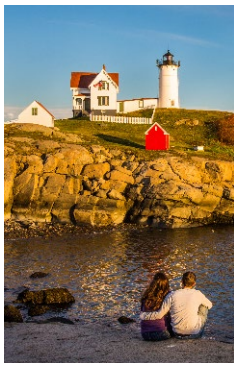

DATApaks® are available for all CLP part products. Please refer to page 299.

INTERNAL AND SURROGATE STANDARD SPIKING MIXTURES FOR CLP SEMI-VOLATILES

Recommended CLP Semi-Volatiles Internal Standard Mixtures

6 Analytes

- acenaphthene-d_{10}
- chrysene-d_{12}
- 1,4-dichlorobenzene-d_4
- naphthalene-d_8
- perylene-d_{12}
- phenanthrene-d_{10}

@ 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-d_4	1000 µg/mL
nitrobenzene-d_5	1000 µg/mL
2-fluorobiphenyl	1000 µg/mL
p-terphenyl-d_{14}	1000 µg/mL
2-chlorophenol-d_4	1500 µg/mL
2-fluorophenol	1500 µg/mL
phenol-d_5	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-d_4	5000 µg/mL
nitrobenzene-d_5	5000 µg/mL
2-fluorobiphenyl	5000 µg/mL
p-terphenyl-d_{14}	5000 µg/mL
2-chlorophenol-d_4	7500 µg/mL
2-fluorophenol	7500 µg/mL
phenol-d_5	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-d_4
- nitrobenzene-d_5
- 2-fluorobiphenyl
- *p*-terphenyl-d_{14}

@ 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-d_4
- 2-fluorophenol
- phenol-d_5
- 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
p-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-*n*-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
p-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**

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MATRIX SPIKING MIXTURES FOR CLP SEMI-VOLATILES

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**

@ 1000 µg/mL in methanol

CLP-303-1 **1 x 1 mL**

Acids Matrix Spiking Solution

5 Analytes

4-chloro-3-methylphenol
2-chlorophenol
4-nitrophenol
pentachlorophenol
phenol

@ 1000 µg/mL in methanol

CLP-402-1 **1 x 1 mL**

@ 1500 µg/mL in methanol

CLP-401-1 **1 x 1 mL**

@ 2000 µg/mL in methanol

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-*n*-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**

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**

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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

11 Analytes

α-BHC	5 µg/mL
γ-BHC *(lindane)*	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-*m*-xylene	5 µg/mL

in hexane

CLP-216-1 **1 x 1 mL**

Recommended CLP Pesticides Individual Standard Mixture B

13 Analytes

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-*m*-xylene	5 µg/mL

in hexane

CLP-226B-1 **1 x 1 mL**

Organochlorine Pesticides Mixture

20 Analytes

aldrin
α-BHC
β-BHC
δ-BHC
γ-BHC *(lindane)*
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-*m*-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-*m*-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**

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Pesticides Resolution Check Mixture

9 Analytes

γ-chlordane	10 µg/mL
4,4'-DDE	20 µg/mL
dieldrin	20 µg/mL
endosulfan I	10 µg/mL
endosulfan sulfate	20 µg/mL
endrin ketone	20 µg/mL
methoxychlor	100 µg/mL
decachlorobiphenyl	20 µg/mL
2,4,5,6-tetrachloro-*m*-xylene	20 µg/mL

in hexane

CLP-240-1 **1 x 1 mL**

Pesticides Performance Evaluation Mixture

8 Analytes

α-BHC	10 µg/mL
β-BHC	10 µg/mL
γ-BHC *(lindane)*	10 µg/mL
4,4'-DDT	100 µg/mL
endrin	50 µg/mL
methoxychlor	250 µg/mL
decachlorobiphenyl	20 µg/mL
2,4,5,6-tetrachloro-*m*-xylene	20 µg/mL

in hexane

CLP-250-1 **1 x 1 mL**

Pesticides Surrogate Standards

2,4,5,6-tetrachloro-*m*-xylene

@ 2000 µg/mL in acetone

IST-440-1 **1 x 1 mL**

---

decachlorobiphenyl

@ 1000 µg/mL in toluene

PPS-150-1 **1 x 1 mL**

@5000 µg/mL in MTBE

RPC-060B5000 **1 x 1 mL**

Pesticides Matrix Spiking Solution

6 Analytes

aldrin	50 µg/mL
γ-BHC *(lindane)*	50 µg/mL
dieldrin	100 µg/mL
4,4'-DDT	100 µg/mL
endrin	100 µg/mL
heptachlor	50 µg/mL

in methanol

CLP-206-1 **1 x 1 mL**

Pesticides Evaluation Standards Mixture

4 Analytes

aldrin	1 µg/mL
endrin	2 µg/mL
4,4'-DDT	2 µg/mL
dibutyl chlorendate	1 µg/mL

in isooctane

CLP-231-1 **1 x 1 mL**

Florisil Cartridge Check Solution

2,4,5-trichlorophenol

@ 100 µg/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 µg/mL in acetone

ISM-321X **1 x 100 mL**

Pesticides Matrix Spiking Solution

6 Analytes

γ-BHC *(lindane)*	0.5 µg/mL
4,4'-DDT	1 µg/mL
endrin	1 µg/mL
heptachlor	0.5 µg/mL
aldrin	0.5 µg/mL
dieldrin	1 µg/mL

in methanol

CLP-209X **1 x 25 mL**

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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 *(lindane)*	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-*m*-xylene	5 ng/mL

in hexane

CLP-216C-1 **1 x 1 mL**

QUICKshot™ CLP Pesticides Calibration Mix A – Mid Point

11 Analytes

α-BHC	20 ng/mL
γ-BHC *(lindane)*	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-*m*-xylene	20 ng/mL

in hexane

CLP-216D-1 **1 x 1 mL**

QUICKshot™ CLP Pesticides Calibration Mix A – High Point

11 Analytes

α-BHC	80 ng/mL
γ-BHC *(lindane)*	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-*m*-xylene	80 ng/mL

in hexane

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-*m*-xylene	5 ng/mL

in hexane

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-*m*-xylene	20 ng/mL

in hexane

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-*m*-xylene	80 ng/mL

in hexane

CLP-226E-1 **1 x 1 mL**

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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-*m*-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 *(lindane)*	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-*m*-xylene	20 ng/mL

in hexane

CLP-252-1 **1 x 1 mL**

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

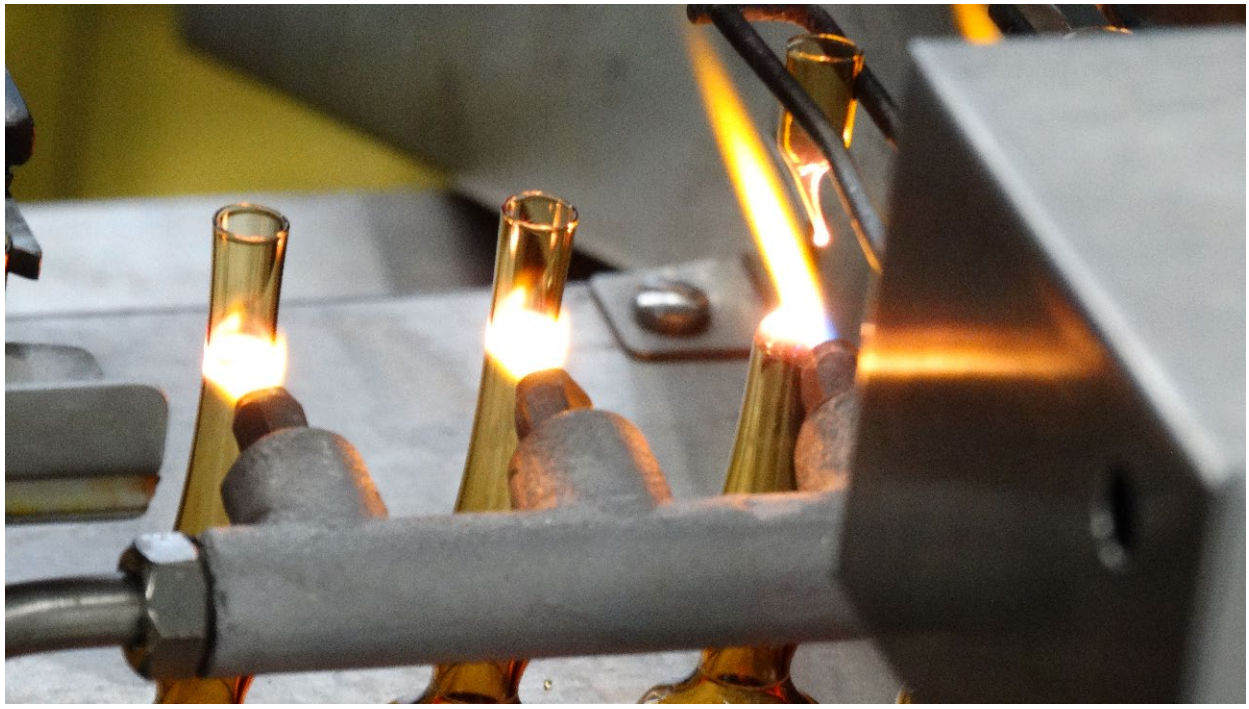
Kit - contains seven ampules:

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 ± 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.

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**

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**

Fuel Oil Degradation Mixture

4 Analytes

n-heptadecane (C_{17})
n-octadecane (C_{18})
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**

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 (C_6)
n-decane (C_{10})
n-dodecane (C_{12})
n-tetracosane (C_{24})
n-octacosane (C_{28})
n-triacontane (C_{30})
n-tetracontane (C_{40})

@ 25 µg/mL in methylene chloride

UST-300-1 **1 x 1 mL**

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

Alaska – Methods AK 101, AK 102, and AK 103

GRO Aliphatic Calibration Mix (AK)

5 Analytes

n-hexane (C_6)
n-heptane (C_7)
n-octane (C_8)
n-nonane (C_9)
n-decane (C_{10})

@ 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 (C_{10})
n-undecane (C_{11})
n-dodecane (C_{12})
n-tridecane (C_{13})
n-tetradecane (C_{14})
n-pentadecane (C_{15})
n-hexadecane (C_{16})
n-heptadecane (C_{17})
n-octadecane (C_{18})
n-nonadecane (C_{19})
n-eicosane (C_{20})
n-heneicosane (C_{21})
n-docosane (C_{22})
n-tricosane (C_{23})
n-tetracosane (C_{24})
n-pentacosane (C_{25})

@ 1000 µg/mL in methylene chloride

UST-210-1 **1 x 1 mL**

Retention Time Marker Mix (AK)

3 Analytes

n-decane (C_{10})
n-pentacosane (C_{25})
n-hexatriacontane (C_{36})

@ 50 µg/mL in methylene chloride

SAK-200-1 **1 x 1 mL**

GRO Retention Time Marker Mix (AK)

2 Analytes

n-hexane (C_6)
n-decane (C_{10})

@ 1000 µg/mL in methylene chloride

SAK-201-1 **1 x 1 mL**

DRO Retention Time Marker Mix (AK)

2 Analytes

n-decane (C_{10})
n-pentacosane (C_{25})

@ 2000 µg/mL in methylene chloride

SAK-202-1 **1 x 1 mL**

RRO Aliphatic Calibration Mix (AK)

5 Analytes

n-hexacosane (C_{26})
n-octacosane (C_{28})
n-triacontane (C_{30})
n-dotriacontane (C_{32})
n-tetratriacontane (C_{34})

@ 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 (C_{25})
n-hexatriacontane (C_{36})

@ 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

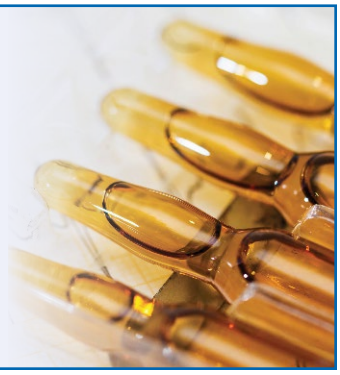
n-decane (C_{10})
n-docosane (C_{22})
n-dotriacontane (C_{32})

@ 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
***o*-terphenyl**	IST-480-1
***n*-triacontane-d_{62}**	IST-720-1

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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 (C_9)
n-decane (C_{10})
n-dodecane (C_{12})
n-tetradecane (C_{14})
n-hexadecane (C_{16})
n-octadecane (C_{18})
n-nonadecane (C_{19})
n-eicosane (C_{20})
n-docosane (C_{22})
n-tetracosane (C_{24})
n-hexacosane (C_{26})
n-octacosane (C_{28})
n-triacontane (C_{30})
n-hexatriacontane (C_{36})

@ 1000 µg/mL in hexane

SMA-310-1 **1 x 1 mL**

FLORIDA – METHOD FL-PRO

TRPH Standard (FL)

17 Analytes

n-octane (C_8)
n-decane (C_{10})
n-dodecane (C_{12})
n-tetradecane (C_{14})
n-hexadecane (C_{16})
n-octadecane (C_{18})
n-eicosane (C_{20})
n-docosane (C_{22})
n-tetracosane (C_{24})
n-hexacosane (C_{26})
n-octacosane (C_{28})
n-triacontane (C_{30})
n-dotriacontane (C_{32})
n-tetratriacontane (C_{34})
n-hexatriacontane (C_{36})
n-octatriacontane (C_{38})
n-tetracontane (C_{40})

@ 500 µg/mL in hexane

SFL-601-1 **1 x 1 mL**

TPRH Surrogate Standards (FL)

n-nonatriacontane (C_{39})

@ 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**

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 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 (C_{10})
- *n*-dodecane (C_{12})
- *n*-tetradecane (C_{14})
- *n*-hexadecane (C_{16})
- *n*-octadecane (C_{18})
- *n*-eicosane (C_{20})
- *n*-docosane (C_{22})
- *n*-tetracosane (C_{24})
- *n*-hexacosane (C_{26})
- *n*-octacosane (C_{28})

@ 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 x1 mL**

Gasoline Standard

unleaded gasoline

@ 5000 µg/mL in methanol

RGO-601-1 **1 x 1 mL**

Primary VPH Dilution Standard (MA)

14 Analytes

n-pentane	1000 µg/mL
2-methylpentane	1500 µg/mL
methyl *tert*-butyl ether	1500 µg/mL
2,2,4-trimethylpentane	1500 µg/mL
benzene	500 µg/mL
toluene	1500 µg/mL
n-nonane	1000 µg/mL
ethylbenzene	500 µg/mL
m-xylene	1000 µg/mL
p-xylene	1000 µg/mL
o-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

n-pentane	1000 µg/mL
2-methylpentane	1500 µg/mL
methyl *tert*-butyl ether	1500 µg/mL
2,2,4-trimethylpentane	1500 µg/mL
benzene	500 µg/mL
toluene	1500 µg/mL
n-nonane	1000 µg/mL
ethylbenzene	500 µg/mL
m-xylene	1000 µg/mL
p-xylene	1000 µg/mL
o-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

- *n*-pentane
- 2-methylpentane
- methyl *tert*-butyl ether *(MTBE)*
- 2,2,4-trimethylpentane (isooctane)
- benzene
- toluene
- *n*-nonane
- ethylbenzene
- *m*-xylene
- *p*-xylene
- *o*-xylene
- 1,2,4-trimethylbenzene
- naphthalene
- 2,5-dibromotoluene (surrogate)

@ 50 µg/mL in methanol

SMA-110-1 **1 x 1 mL**

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- ✔ EPA Methods
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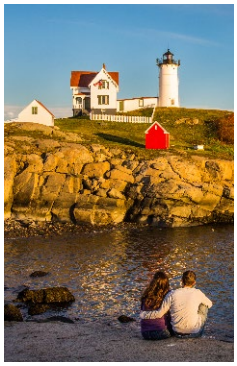

Volume discounts for individual solutions

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 (C_9)
n-decane (C_{10})
n-dodecane (C_{12})
n-tetradecane (C_{14})
n-hexadecane (C_{16})
n-octadecane (C_{18})
n-nonadecane (C_{19})
n-eicosane (C_{20})
n-docosane (C_{22})
n-tetracosane (C_{24})
n-hexacosane (C_{26})
n-octacosane (C_{28})
n-triacontane (C_{30})
n-hexatriacontane (C_{36})

@ 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 (C_{10})
dibenz[a,h]anthracene
n-docosane (C_{22})
n-dodecane (C_{12})
n-eicosane (C_{20})
fluoranthene
fluorene
n-hexacosane (C_{26})
n-hexadecane (C_{16})
n-hexatriacontane (C_{36})
indeno[1,2,3-cd]pyrene
2-methylnaphthalene
naphthalene
n-nonadecane (C_{19})
n-nonane (C_9)
n-octacosane (C_{28})
n-octadecane (C_{18})
phenanthrene
pyrene
n-tetracosane (C_{24})
n-tetradecane (C_{14})
n-triacontane (C_{30})

@ 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**

Ordering Is Easy

Online	Phone	Fax	Mail
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ultra@ultrasci.com	Monday – Friday		250 Smith Street
	8:30 a.m. - 5:00 p.m. ET		No. Kingstown, RI 02852

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.

EPH Matrix Spike Standard Shooter™ (MA)

10 Analytes

acenaphthene
anthracene
chrysene
naphthalene
pyrene
n-eicosane (C_{20})
n-nonadecane (C_{19})
n-nonane (C_9)
n-octacosane (C_{28})
n-tetradecane (C_{14})

@ 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
***o*-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**

Mississippi – GRO, DRO, and PAH

GRO Mixture (MS)

10 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
p-xylene	1000 µg/mL

in methanol

UST-111-1 **1 x 1 mL**

DRO Aliphatic Calibration Mix (MS)

16 Analytes

- *n*-decane (C_{10})
- *n*-undecane (C_{11})
- *n*-dodecane (C_{12})
- *n*-tridecane (C_{13})
- *n*-tetradecane (C_{14})
- *n*-pentadecane (C_{15})
- *n*-hexadecane (C_{16})
- *n*-heptadecane (C_{17})
- *n*-octadecane (C_{18})
- *n*-nonadecane (C_{19})
- *n*-eicosane (C_{20})
- *n*-heneicosane (C_{21})
- *n*-docosane (C_{22})
- *n*-tricosane (C_{23})
- *n*-tetracosane (C_{24})
- *n*-pentacosane (C_{25})

@ 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

n-octane (C_8)
n-nonane (C_9)
n-decane (C_{10})
n-undecane (C_{11})
n-dodecane (C_{12})
n-tridecane (C_{13})
n-tetradecane (C_{14})
n-pentadecane (C_{15})
n-hexadecane (C_{16})
n-heptadecane (C_{17})
n-octadecane (C_{18})
n-nonadecane (C_{19})
n-eicosane (C_{20})
n-heneicosane (C_{21})
n-docosane (C_{22})
n-tricosane (C_{23})
n-tetracosane (C_{24})
n-pentacosane (C_{25})
n-hexacosane (C_{26})
n-heptacosane (C_{27})
n-octacosane (C_{28})
n-nonacosane (C_{29})
n-triacontane (C_{30})
n-hentriacontane (C_{31})
n-dotriacontane (C_{32})
n-tritriacontane (C_{33})
n-tetratriacontane (C_{34})
n-pentatriacontane (C_{35})
n-hexatriacontane (C_{36})
n-heptatriacontane (C_{37})
n-octatriacontane (C_{38})
n-nonatriacontane (C_{39})
n-tetracontane (C_{40})
phytane
pristane

@ 500 µg/mL in methylene chloride

SNJ-200-1 **1 x 1 mL**

TRPH Column Resolution Standard (NJ)

4 Analytes

n-heptadecane (C_{17})
n-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-d_{50}	IST-730-1
All @ 2000 µg/mL in methylene chloride	
5-α-androstane	IST-500-1
1-chlorooctadecane	IST-470-1
***o*-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 *tert*-butyl ether	2000 µg/mL
naphthalene	1000 µg/mL
isopropylbenzene	1000 µg/mL
toluene	1000 µg/mL
o-xylene	1000 µg/mL
m-xylene	1000 µg/mL
p-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
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
p-xylene	1000 µg/mL

in methanol

UST-111-1 **1 x 1 mL**

DRO Aliphatic Calibration Mix (TN)

16 Analytes

n-decane (C_{10})
n-undecane (C_{11})
n-dodecane (C_{12})
n-tridecane (C_{13})
n-tetradecane (C_{14})
n-pentadecane (C_{15})
n-hexadecane (C_{16})
n-heptadecane (C_{17})
n-octadecane (C_{18})
n-nonadecane (C_{19})
n-eicosane (C_{20})
n-heneicosane (C_{21})
n-docosane (C_{22})
n-tricosane (C_{23})
n-tetracosane (C_{24})
n-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

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Mail
ULTRA 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 (C_6)
n-dodecane (C_{12})
n-octacosane (C_{28})
n-pentatriacontane (C_{35})

@ 200 µg/mL in pentane

STX-110-1 **1 x 1 mL**

TNRCC Method 1005 and 1006 Marker Standard (TX)

7 Analytes

n-hexane (C_6)
n-octane (C_8)
n-decane (C_{10})
n-dodecane (C_{12})
n-hexadecane (C_{16})
n-heneicosane (C_{21})
n-pentatriacontane (C_{35})

@ 200 µg/mL in pentane

STX-120-1 **1 x 1 mL**

TNRCC Method 1005 Window Defining Hydrocarbon Standard (TX)

3 Analytes

n-hexane (C_6)
n-decane (C_{10})
n-octacosane (C_{28})

@ 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
***o*-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**

WASHINGTON – VOLATILE PETROLEUM HYDROCARBONS (VPH) METHOD

Primary VPH Stock Standard (WA)

15 Analytes

n-pentane (C_5)
n-hexane (C_6)
methyl *tert*-butyl ether *(MTBE)*
benzene
toluene
n-octane (C_8)
ethylbenzene
o-xylene
m-xylene
p-xylene
1,2,3-trimethylbenzene
n-decane (C_{10})
naphthalene
n-dodecane (C_{12})
1-methylnaphthalene

@ 20,000 µg/mL in methanol

SWA-101-1 **1 x 1 mL**

Primary VPH Dilution Standard (WA)

15 Analytes

n-pentane (C_5)
n-hexane (C_6)
methyl *tert*-butyl ether *(MTBE)*
benzene
toluene
n-octane (C_8)
ethylbenzene
o-xylene
m-xylene
p-xylene
1,2,3-trimethylbenzene
n-decane (C_{10})
naphthalene
n-dodecane (C_{12})
1-methylnaphthalene

@ 1000 µg/mL in methanol

SWA-100-1 **1 x 1 mL**

VPH Matrix Spiking Solution (WA)

15 Analytes

n-pentane (C_5)
n-hexane (C_6)
methyl *tert*-butyl ether *(MTBE)*
benzene
toluene
n-octane (C_8)
ethylbenzene
o-xylene
m-xylene
p-xylene
1,2,3-trimethylbenzene
n-decane (C_{10})
naphthalene
n-dodecane (C_{12})
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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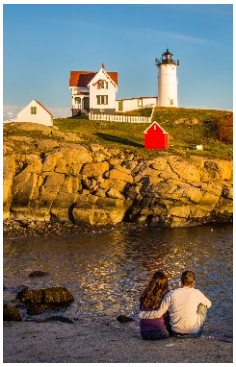


Washington – Extractable Petroleum Hydrocarbons (EPH) Method

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 (C_8)
n-decane (C_{10})
n-dodecane (C_{12})
n-hexadecane (C_{16})
n-heneicosane (C_{21})
n-tetratriacontane (C_{34})

@ 1000 µg/mL in hexane

SWA-310-1 **1 x 1 mL**

EPH Fractionation Check Solution (WA)

22 Analytes

n-octane (C_8)
n-decane (C_{10})
n-dodecane (C_{12})
n-hexadecane (C_{16})
n-heneicosane (C_{21})
n-tetratriacontane (C_{34})
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 (C_{10})
n-dodecane (C_{12})
n-hexadecane (C_{16})
n-heneicosane (C_{21})
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 (C_{12})
n-tetracosane (C_{24})

@ 2500 µg/mL in methylene chloride

SWA-500-1 **1 x 1 mL**

NWTPH-HCID Surrogate Standard

2 Analytes

4-bromofluorobenzene
n-pentacosane (C_{25})

@ 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 (C_{10})
n-dodecane (C_{12})
n-tetradecane (C_{14})
n-hexadecane (C_{16})
n-octadecane (C_{18})
n-eicosane (C_{20})
n-docosane (C_{22})
n-tetracosane (C_{24})
n-hexacosane (C_{26})
n-octacosane (C_{28})

@ 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-d_{50}	IST-730-1
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-d_{62}**	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
n-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 *(glycerine)*	5 µg/mL
monoolein	250 µg/mL
tricaprin	800 µg/mL
triolein	50 µg/mL

in pyridine

RGO-300-1 **1 x 1 mL**

EN 14105:2003 Standard #2

6 Analytes

1,2,4-butanetriol	80 µg/mL
diolein	200 µg/mL
glycerol *(glycerine)*	20 µg/mL
monoolein	600 µg/mL
tricaprin	800 µg/mL
triolein	150 µg/mL

in pyridine

RGO-301-1 **1 x 1 mL**

Monoglyceride Stock Solution

3 Analytes

monoolein
monopalmitin
monostearin

@ 10,000 µg/mL in pyridine

RGO-280-1 **1 x 1 mL**

EN 14105:2003 Standard #3

6 Analytes

1,2,4-butanetriol	80 µg/mL
diolein	350 µg/mL
glycerol *(glycerine)*	35 µg/mL
monoolein	950 µg/mL
tricaprin	800 µg/mL
triolein	300 µg/mL

in pyridine

RGO-302-1 **1 x 1 mL**

EN 14105:2003 Standard #4

6 Analytes

1,2,4-butanetriol	80 µg/mL
diolein	500 µg/mL
glycerol *(glycerine)*	50 µg/mL
monoolein	1250 µg/mL
tricaprin	800 µg/mL
triolein	400 µg/mL

in pyridine

RGO-303-1 **1 x 1 mL**

Individual Standards for Biodiesel Testing

	Concentration	Catalog #	Unit Size
in pyridine			
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 *(glycerine)*	5 µg/mL
monoolein	100 µg/mL
triolein	50 µg/mL

in pyridine

RGO-310-1 **1 x 1 mL**

ASTM D6584 Standard #2

4 Analytes

diolein	100 µg/mL
glycerol *(glycerine)*	15 µg/mL
monoolein	250 µg/mL
triolein	100 µg/mL

in pyridine

RGO-311-1 **1 x 1 mL**

ASTM D6584 Standard #3

4 Analytes

diolein	200 µg/mL
glycerol *(glycerine)*	25 µg/mL
monoolein	500 µg/mL
triolein	200 µg/mL

in pyridine

RGO-312-1 **1 x 1 mL**

ASTM D6584 Standard #4

4 Analytes

diolein	350 µg/mL
glycerol *(glycerine)*	35 µg/mL
monoolein	750 µg/mL
triolein	350 µg/mL

in pyridine

RGO-313-1 **1 x 1 mL**

ASTM D6584 Standard #5

4 Analytes

diolein	500 µg/mL
glycerol *(glycerine)*	50 µg/mL
monoolein	1000 µg/mL
triolein	500 µg/mL

in pyridine

RGO-314-1 **1 x 1 mL**

Internal Standards for Biodiesel Testing

	Concentration	Catalog #	Unit Size
in pyridine			
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 (C_6)
n-octane (C_8)
n-decane (C_{10})
n-dodecane (C_{12})
n-tetradecane (C_{14})
n-hexadecane (C_{16})
n-octadecane (C_{18})
n-eicosane (C_{20})
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 (C_{16})
n-octadecane (C_{18})

@ 1 % (w/v) in n-octane

ASTM-120-1 **1 x 1 mL**

ASTM Method D2887 Column Test Mixture

17 Components

Component	***%, w/w***
n-hexane (C_6)	6 %
n-heptane (C_7)	6 %
n-octane (C_8)	8 %
n-nonane (C_9)	8 %
n-decane (C_{10})	12 %
n-undecane (C_{11})	12 %
n-dodecane (C_{12})	12 %
n-tetradecane (C_{14})	12 %
n-hexadecane (C_{16})	10 %
n-octadecane (C_{18})	5 %
n-eicosane (C_{20})	2 %
n-tetracosane (C_{24})	2 %
n-octacosane (C_{28})	1 %
n-dotriacontane (C_{32})	1 %
n-hexatriacontane (C_{36})	1 %
n-tetracontane (C_{40})	1 %
n-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 %	*p*-xylene	14 %
n-pentane (C_5)	8 %	*n*-propylbenzene	5 %
2-methylpentane	6 %	*n*-decane (C_{10})	4 %
n-hexane (C_8)	6 %	*n*-butylbenzene	4 %
2,4-dimethylpentane	6 %	*n*-dodecane (C_{12})	4 %
n-heptane (C_7)	10 %	*n*-tridecane (C_{13})	2 %
toluene	12 %	*n*-tetradecane (C_{14})	2 %
n-octane (C_8)	5 %	*n*-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 %
n-propanol	7.3 %
methyl *tert*-butyl ether *(MTBE)*	4.0 %
sec-butanol	7.3 %
diisopropyl ether *(DIPE)*	4.0 %
isobutanol	7.3 %
ethyl *tert*-butyl ether *(ETBE)*	4.0 %
tert-pentanol	7.3 %
1,2-dimethoxyethane *(DME)*	6.0 %
n-butanol	7.3 %
benzene	5.0 %
tert-amyl methyl ether	7.3 %

RGO-422-1 **1 x 1 mL**

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 *(weight)*	5 %
toluene	9 %
1,2,4-trimethylbenzene	5 %
o-xylene	5 %
m-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)	*in toluene*	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)	*in isooctane*	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)	*in toluene*	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)	*in isooctane*	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)	*in toluene*	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
ASTM D5453 Standards Kit (High)	*in isooctane*	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	*in isooctane*	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)	*in isooctane*	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)	*in isooctane*	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)	*in isooctane*	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

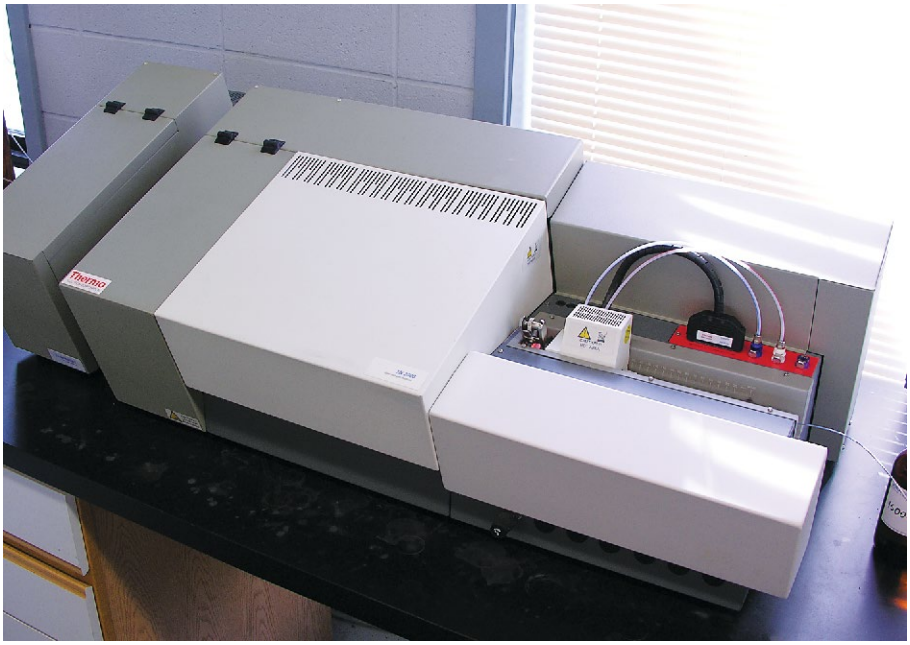
ASTM Method D5762

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	*in toluene*	1 each of ampules 1-6		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	*in isooctane*	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	*in methanol*	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

Elemental Combustion Analyzer Standards

Total Chlorine

See also ASTM D4929 and D5808 (opposite).

NaCl Standard

sodium chloride

@ 2 mmol/L in Water

PANAL0101 **1 x 100 mL**

Chlorine Combustion Analyzer Standards

	Concentration	Catalog #	Unit Size
in Toluene			
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
in hexane			
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	*in hexane*	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	*in hexane*	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
in Toluene			
benzonitrile (as N)	1 mg/L	PANAL0175	5 x 2 mL
benzonitrile (as N)	10 mg/L	PANAL0169	5 x 2 mL
benzonitrile (as N)	50 mg/L	PANAL0170	5 x 2 mL
benzonitrile (as N)	100 mg/L	PANAL0180	5 x 2 mL
benzonitrile (as N)	200 mg/L	PANAL0183	5 x 2 mL
benzonitrile (as N)	500 mg/L	PANAL0181	5 x 2 mL
benzonitrile (as N)	1000 mg/L	PANAL0179	5 x 2 mL
benzonitrile (as N)	2000 mg/L	PANAL0186	5 x 2 mL
benzonitrile (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) *in toluene*	1 each of ampules 1-4		PANAL0237	kit
Ampule 1	toluene	solvent blank	–	1 x 2 mL
Ampule 2	benzonitrile (as N)	1 mg/L	–	1 x 2 mL
Ampule 3	benzonitrile (as N)	5 mg/L	–	1 x 2 mL
Ampule 4	benzonitrile (as N)	10 mg/L	–	1 x 2 mL
Benzonitrile (as N) Standards Kit (High) *in toluene*	1 each of ampules 1-4		PANAL0238	kit
Ampule 1	benzonitrile (as N)	100 mg/L	–	1 x 2 mL
Ampule 2	benzonitrile (as N)	200 mg/L	–	1 x 2 mL
Ampule 3	benzonitrile (as N)	500 mg/L	–	1 x 2 mL
Ampule 4	benzonitrile (as N)	1000 mg/L	–	1 x 2 mL

Ultra Low Nitrogen Standards Kit

	Analyte	Concentration	Catalog #	Unit Size
Ultra Low Nitrogen Standards Kit *in toluene*	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)	*in water*	1 each of ampules 1-6		PANAL0225	kit
Ampule 1		water	solvent blank	–	1 x 2 mL
Ampule 2		NH_4SO_4 (as N) + $NaNO_3$ (as N)	0.5 mg/L each	–	1 x 2 mL
Ampule 3		NH_4SO_4 (as N) + $NaNO_3$ (as N)	1.0 mg/L each	–	1 x 2 mL
Ampule 4		NH_4SO_4 (as N) + $NaNO_3$ (as N)	2.5 mg/L each	–	1 x 2 mL
Ampule 5		NH_4SO_4 (as N) + $NaNO_3$ (as N)	5.0 mg/L each	–	1 x 2 mL
Ampule 6		NH_4SO_4 (as N) + $NaNO_3$ (as N)	12.5 mg/L each	–	1 x 2 mL
TN Water Standards Kit (Medium)	*in water*	1 each of ampules 1-6		PANAL0226	kit
Ampule 1		water	solvent blank	–	1 x 2 mL
Ampule 2		NH_4SO_4 (as N) + $NaNO_3$ (as N)	5.0 mg/L each	–	1 x 2 mL
Ampule 3		NH_4SO_4 (as N) + $NaNO_3$ (as N)	12.5 mg/L each	–	1 x 2 mL
Ampule 4		NH_4SO_4 (as N) + $NaNO_3$ (as N)	25.0 mg/L each	–	1 x 2 mL
Ampule 5		NH_4SO_4 (as N) + $NaNO_3$ (as N)	37.5 mg/L each	–	1 x 2 mL
Ampule 6		NH_4SO_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

in Xylene	Concentration	Catalog #	Unit Size
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	*in toluene*	1 each of ampules 1-6		PANAL0227	kit
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	*in isooctane*	1 each of ampules 1-6		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+%)		sodium carbonate (99.9+%)		sodium hydrogen carbonate (99.9+%)	
Neat Standard		*Neat Standard*		*Neat Standard*	
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 CI	75% (v/v)	PANAL0153	250 mL
electrolyte CI	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 ± 0.5%. A certificate showing the actual weight of each analyte is supplied with each standard.

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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
ethylbenzene
styrene
toluene
o-xylene
m-xylene
p-xylene

@ 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**

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.

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**

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
o-cresol
m-cresol
p-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-d_8
- chrysene-d_{12}
- indeno[1,2,3-cd]pyrene-d_{12}

@ 200 µg/mL in toluene

ISM-740A-1 **1 x 1 mL**

Deuterated PAH Mixture

7 Analytes

- acenaphthene-d_{10}
- benz[a]anthracene-d_{12}
- benzo[a]pyrene-d_{12}
- dibenz[a,h]anthracene-d_{14}
- dibenzo[a,i]pyrene-d_{14}
- fluoranthene-d_{10}
- phenanthrene-d_{10}

@ 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	chrysene	3.5 µg/mL
acenaphthylene	15.0 µg/mL	dibenz[a,h]anthracene	3.5 µg/mL
anthracene	0.8 µg/mL	fluoranthene	8.0 µg/mL
benz[a]anthracene	4.0 µg/mL	fluorene	5.0 µg/mL
benzo[b]fluoranthene	4.0 µg/mL	indeno[1,2,3-cd]pyrene	4.5 µg/mL
benzo[k]fluoranthene	4.5 µg/mL	naphthalene	20.0 µg/mL
benzo[ghi]perylene	3.5 µg/mL	phenanthrene	3.5 µg/mL
benzo[a]pyrene	5.0 µg/mL	pyrene	8.5 µg/mL

in acetonitrile

JTB-0005 **1 x 1 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 isooctane

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 isooctane

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 isooctane

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 isooctane

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
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

@ 10 µg/mL in isooctane

RPCM-240-1 **1 x 1 mL**

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 (C_5)
n-hexane (C_6)
n-heptane (C_7)
n-octane (C_8)
n-nonane (C_9)
n-decane (C_{10})
n-undecane (C_{11})
n-dodecane (C_{12})

@ 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:

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

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**

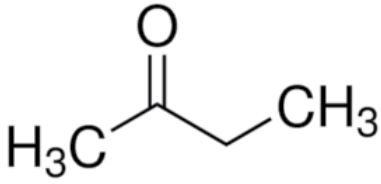
Alcohols Mixture

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
cis-1,2-dichloroethene	4.70 mg/mL
trans-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
o-xylene	0.98 mg/mL
m-xylene	6.51 mg/mL
p-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
n-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
n-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

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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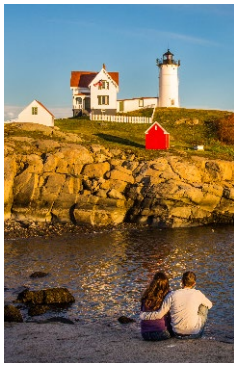

FLUOROCARBON REFRIGERANTS – FREONS

Fluorocarbon Refrigerants

	Freon #	1 x 1 mL Ampules
All @ 100 µg/mL in methanol		
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
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
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-trichloropropane
1,2,4-trimethylbenzene
1,3,5-trimethylbenzene
o-xylene
m-xylene
p-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
n-undecane	0.287 µg/µL
n-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

n-tetradecane (C_{14})	0.033 %
n-pentadecane (C_{15})	0.033 %
n-hexadecane (C_{16})	0.033 %

in hexane

FIDM **3 x 1 mL**

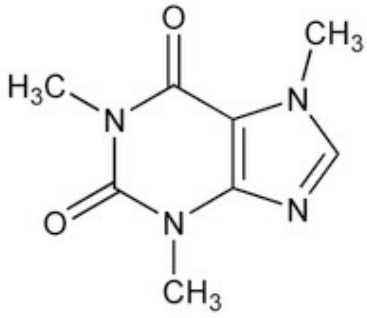
Electron Capture Detector Test Mixture

2 Analytes

aldrin	33 pg/µL
lindane	33 pg/µL

in isooctane

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 ± 2.0%. A certificate showing the actual weight of each analyte is supplied with each mixture.

PCBs and Related Standards

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 Ballschmiter 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

			Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
BZ #	Compound	CAS #	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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			Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
BZ #	Compound	CAS #	Catalog #	Unit Size	in hexane	in isooctane
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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			Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
BZ #	Compound	CAS #	Catalog #	Unit Size	in hexane	in isooctane
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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			Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
BZ #	Compound	CAS #	Catalog #	Unit Size	in hexane	in isooctane
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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			Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
BZ #	Compound	CAS #	Catalog #	Unit Size	in hexane	in isooctane
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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			Neat PCB Congeners		PCB Solutions @ 100 µg/mL	
BZ #	Compound	CAS #	Catalog #	Unit Size	in hexane	in isooctane
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 Ballschmiter 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',4,5',6,6'-octachlorobiphenyl	30
2,2',3,4',5,6,6'-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 isooctane

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',5,5,6,6'-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-d_{12}

@ 2000 µg/mL in methylene chloride

ATS-120-1 **1 x 1 mL**

@ 250µg/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-d_{12} 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-d_{12}	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 isooctane

RPCM-8082-1 **1 x 1 mL**

Recommended Method 8082 Calibration Stock Solution

2 Analytes

Aroclor 1016
Aroclor 1260

@ 1000 µg/mL in isooctane

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**

ORDERING IS EASY

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ultra@ultrasci.com	Monday – Friday		250 Smith Street
	8:30 a.m. - 5:00 p.m. ET		No. Kingstown, RI 02852

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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 isooctane

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 isooctane

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 isooctane

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',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 isooctane

RPCM-230-1 **1 x 1 mL**

WHO/ISS PCB Calibration Mixture

32 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
3,3',4,4'-tetrachlorobiphenyl	77
3,4,4',5-tetrachlorobiphenyl	81
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	114
2,3',4,4',5-pentachlorobiphenyl	118
2',3,4,4',5-pentachlorobiphenyl	123
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',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
2,3,3',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
2,2',3,3',4,4',5-heptachlorobiphenyl	170
2,2',3,3',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
2,3,3',4,4',5,5'-heptachlorobiphenyl	189

@ 10 µg/mL in isooctane

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**

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
Aroclor 1262
Aroclor 1268

@ 100 µg/mL in hexane:

RPCK-1A **Kit**

@ 100 µg/mL in Methanol:

RPCK-3A **Kit**

@ 100 µg/mL in isooctane:

RPCK-4A **Kit**

High Concentration Aroclor Solutions

	Neat Material		@ 1000 µg/mL in Isooctane	
Compound	**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**

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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-*o*-terphenyl	RTP-019	10 mg
4-chloro-*p*-terphenyl	RTP-002	20 mg
2,4-dichloro-*p*-terphenyl	RTP-014	20 mg
2,5-dichloro-*o*-terphenyl	RTP-005	10 mg
2,5-dichloro-*m*-terphenyl	RTP-004	10 mg
2,5-dichloro-*p*-terphenyl	RTP-003	20 mg
2,4,6-trichloro-*p*-terphenyl	RTP-008	20 mg
2,3,5,6-tetrachloro-*p*-terphenyl	RTP-015	10 mg
2,4,4″,6-tetrachloro-*p*-terphenyl	RTP-010	10 mg
2,3,4,5,6-pentachloro-*p*-terphenyl	RTP-016	10 mg
tetradecachloro-*m*-terphenyl	RTP-011	25 mg
2,2‴,5,5‴-tetrachloro-*p,p*-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 Catalog #	Neat Material Unit Size	Solution @ 100 µg/mL in Hexane Catalog #	Solution @ 100 µg/mL in Hexane 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	–	

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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*-DIOXINS

Chlorinated Dibenzo-*p*-dioxins 97 - 99% Pure

	Neat Material		Solutions @ 50 µg/mL in Toluene	
Compound	**Catalog #**	**Unit Size**	**Catalog #**	**Unit Size**
dibenzo-*p*-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-*p*-dioxin	RPE-016	25 mg	RPE-016S-1	1 x 1 mL
2,3-dichlorodibenzo-*p*-dioxin	RPE-051	5 mg	RPE-051S-1	1 x 1 mL
2,7-dichlorodibenzo-*p*-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-*p*-dioxin	RPE-059	5 mg	RPE-059S-1	1 x 1 mL
1,2,4-trichlorodibenzo-*p*-dioxin	RPE-026	5 mg	RPE-026S-1	1 x 1 mL
2,3,7-trichlorodibenzo-*p*-dioxin	RPE-053A	5 mg	RPE-053S-1	1 x 1 mL
1,2,3,4-tetrachlorodibenzo-*p*-dioxin	RPE-027	25 mg	RPE-027S-1	1 x 1 mL
1,3,6,8-tetrachlorodibenzo-*p*-dioxin	RPE-054A	5 mg	RPE-054S-1	1 x 1 mL
1,3,7,8-tetrachlorodibenzo-*p*-dioxin	RPE-060A	5 mg	RPE-060S-1	1 x 1 mL
2,3,7,8-tetrachlorodibenzo-*p*-dioxin *	-		RPE-029S-1 *	1 x 1 mL
1,2,3,4,7-pentachlorodibenzo-*p*-dioxin	RPE-055A	5 mg	RPE-055S-1	1 x 1 mL
1,2,3,7,8-pentachlorodibenzo-*p*-dioxin	RPE-056A	5 mg	RPE-056S-1	1 x 1 mL
1,2,4,7,8-pentachlorodibenzo-*p*-dioxin	RPE-057A	5 mg	RPE-057S-1	1 x 1 mL
1,2,3,4,7,8-hexachlorodibenzo-*p*-dioxin	RPE-058A	5 mg	RPE-058S-1	1 x 1 mL
1,2,3,4,6,7,8-heptachlorodibenzo-*p*-dioxin	-	-	RPE-063S-1	1 x 1 mL
octachlorodibenzo-*p*-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

	Neat Material		Solutions @ 50 µg/mL in Toluene	
Compound	**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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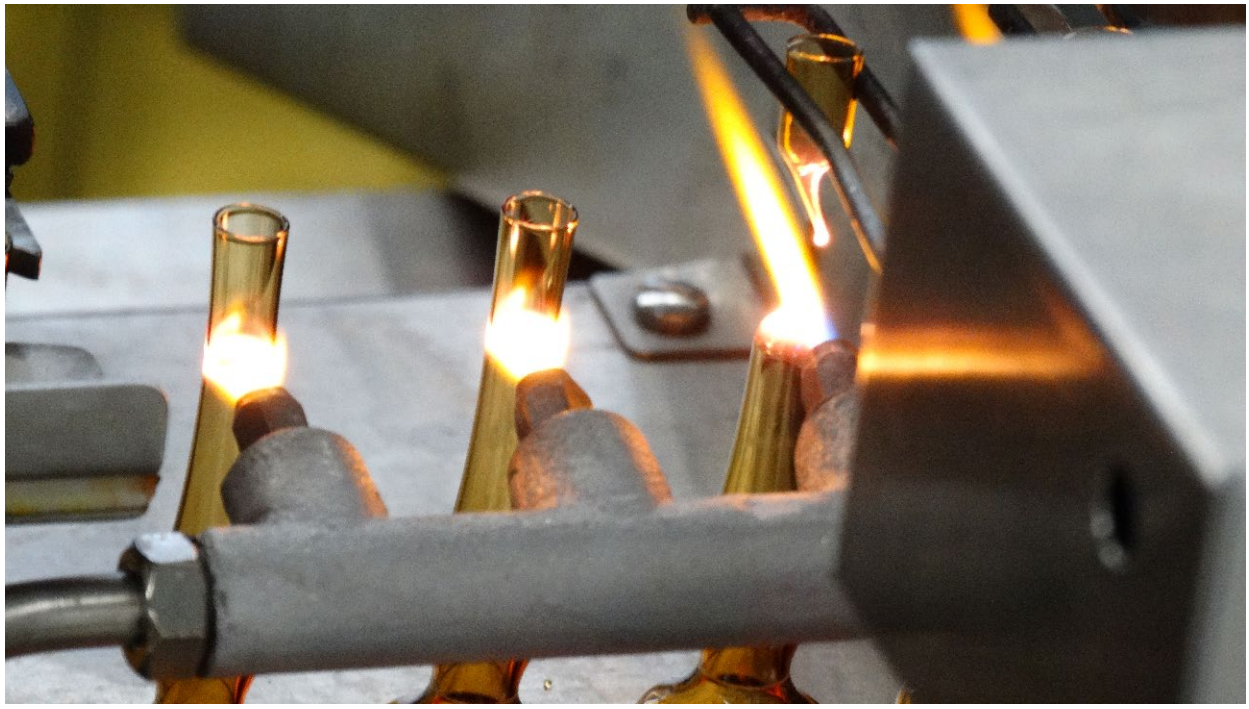


NEAT ORGANIC REFERENCE MATERIALS

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 **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 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.

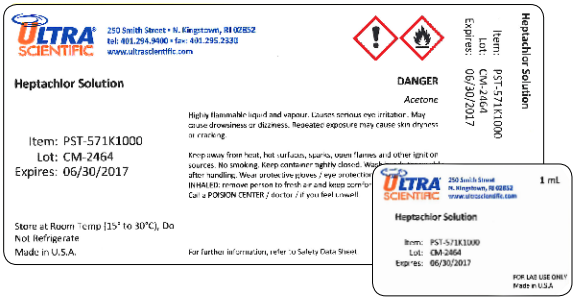
Catalog Neat RM are offered in standard packaging sizes of 10mg, 25mg, 50mg and 100mg. The analytical weight is reported directly on the product label and the purity is listed on the Certificate of Analysis. Custom fill amounts and bulk requests are always available.

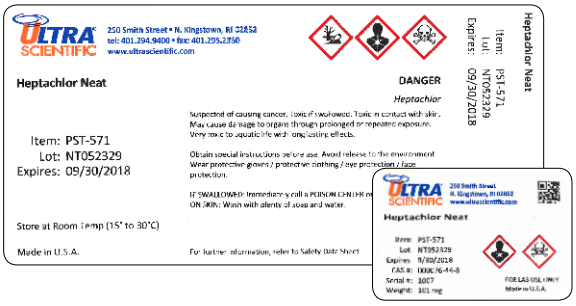
Single Analyte Solutions are typically formulated at either 100 µg/mL or 1000 µg/mL concentrations in suitable organic solvents, chosen with regard to solubility and stability. Our Part Number Convention key is helpful to identify solvents and concentrations across our product line. If our offering does 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





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: PST-010K500
Lot Number: CM-2063
Lot Issue Date: 4/28/2015
Expiration Date: 5/31/2017

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 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:

ISO 9001 Registered Quality System – TÜV USA Page 1 of 2

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ULTRA SCIENTIFIC Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: PST-010K500
Lot Number: CM-2063

Intended Use:
This RM is intended 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 true value to be valid within the stated uncertainties. Each unit contains slightly more than the stated label volume to facilitate transfer of the material for 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 cooled 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 void 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 certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

William J. Lowry
Vice President QA/RA

ANAB ACCREDITED ANAB ACCREDITED

ISO 9001 Registered Quality System – TÜV USA Page 2 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 ± 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 #
AAtrex	*see Atrazine*	
Abamectin	71751-41-2	PST-1870
Abate *(Temephos)*	3383-96-8	PST-1875
AC 26691	*see Cythioate*	
Acarben	*see Chlorobenzilate*	
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
Alkron	*see Parathion*	
Allethrin *(Allyl cinerin)* (tech)	584-79-2	PST-020
Allidochlor *(Randox)*	93-71-0	PST-867
Alloxydim-sodium	66003-55-2	PST-6585
Allyl cinerin	*see Allethrin*	
Ametryn *(EVIK)*	834-12-8	PST-024
Amiben	*see Chloramben*	
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
Amizol	*see Amitrole*	
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 #
Aprocarb	*see Propoxur*	
Arathane	*see Dinocap*	
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
Avadex	*see Diallate*	
Avolin	*see Dimethyl phthalate*	
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
Azodrin	*see Monocrotophos*	
Azolamide *(Isocarbamid)*	30979-48-7	PST-2765
Azoxystrobin	131860-33-8	PST-1905
Banvel D	*see Dicamba*	
Barban	101-27-9	PST-1230
Basudin	*see Diazinon*	
Baycor *(Bitertanol)*	55179-31-2	PST-2070
Baygon	*see Propoxur*	
Baytex	*see Fenthion*	
Baythroid *(Cyfluthrin)*	68359-37-5	PST-1910
BDMC	672-99-1	PST-4015
Beam	*see Tricyclazole*	
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
Benfluralin	*see Benefin*	
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
g-BHC	*see Lindane*	
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
Bitertanol	*see Baycor*	
Boscalid	188425-85-6	PST-3365
Botran	*see Dichloran*	
Brodifacoum	056073-10-0	PST-5525
Bromacil	314-40-9	PST-1265
Bromadiolone	28772-56-7	PST-1270
Brominil	*see Bromoxynil*	
Bromofume	*see EDB*	
Bromophos-ethyl	4824-78-6	PST-2085
Bromophos-methyl	2104-96-3	PST-2815
Bromopropylate	18181-80-1	PST-2090
Bromoxynil *(Brominil)*	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
Butacide	*see Piperonyl butoxide*	
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
Caparol	*see Prometryn*	
Captafol *(Difolatan)*	2425-06-1	PST-410
Captan *(Orthocide 406)*	133-06-2	PST-090
Carbaryl *(Sevin)*	63-25-2	PST-100
Carbendazim	10605-21-7	PST-1285
Carbofuran *(Furadan)*	1563-66-2	PST-1295
Carbofuran phenol	1563-38-8	PST-6710
Carbophenothion *(Trithion)*	786-19-6	PST-990
Carbophos	*see Malathion*	
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 *(Quinomethionate)*	2439-01-2	PST-2845
Chloramben *(Amiben)*	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 *(Octachlor)* (tech)	57-74-9	PST-110
α-Chlordane *(cis-Chlordane)*	5103-71-9	PST-111
γ-Chlordane *(trans-Chlordane)*	5103-74-2	PST-112
Chlordecone	*see Kepone*	
Chlordene	3734-48-3	PST-1310
Chlorfenapyr	122453-73-0	PST-2120
Chlorfenson	*see Ovex*	
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 *(Acarben)*	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 Trichlorfon*	
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
Chlorpyriphos	2921-88-2	PST-480
Chlorsulfuron	64902-72-3	PST-2875
Chlorthiamid	1918-13-4	PST-2880
Chlorthion	500-28-7	PST-2885
Chlorpyrifos *(Dursban)*	2921-88-2	PST-480
Chlorpyrifos methyl	5598-13-0	PST-1350
Chlozolinate	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 *(Command)*	81777-89-1	PST-2900
Cloprop	101-10-0	PST-4475
Clopyralid	*see Lontrel*	
Cloransulam-methyl	147150-35-4	PST-6175
Clothianidin	210880-92-5	PST-3395
Co-Ral	*see Coumaphos*	
Coumaphene	*see Warfarin*	
Coumatetralyl	5836-29-3	PST-5035
Coumaphos *(Co-Ral)*	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
Cygon	*see Dimethoate*	
Cyhalofop-butyl	122008-85-9	PST-3410
***lambda*-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
Cythion	*see Malathion*	
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
Dacthal	*see DCPA*	
Dalf	*see Methyl parathion*	
Dalapon *(Dowpon)*	75-99-0	PST-170
Dalapon Methyl Ester	17640-02-7	PST-171
Daminozide	1596-84-5	PST-4045
DATC	*see Diallate*	
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
DCNA	*see Dichloran*	
DCPA *(Dacthal)*	1861-32-1	PST-160
DDA	83-05-6	PST-200
2,4'-DDD *(o,p'-DDD)*	53-19-0	PST-210
4,4'-DDD *(p,p'-DDD)*	72-54-8	PST-220
2,4'-DDE *(o,p'-DDE)*	3424-82-6	PST-241
4,4'-DDE *(p,p'-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 *(o,p'-DDT)*	789-02-6	PST-271
4,4'-DDT *(p,p'-DDT)*	50-29-3	PST-280
DDVP	*see Dichlorvos*	

Pesticide Standards – Neat and in Solution

Pesticides **95 - 99% Pure**

Pesticide	CAS #	Catalog #
Decamethrin	*see Deltamethrin*	
Deet	134-62-3	PST-298
DEF (94+%)	78-48-8	PST-300
Delnav	*see Dioxathion*	
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
Demeton S-Methyl	*see Metasystox I*	
Demeton S-Methyl Sulfone	17040-19-6	PST-2665
Desmedipham	13684-56-5	PST-5105
Desmetryne	1014-69-3	PST-2160
Devrinol	*see Napropamide*	
Dexon	*see Fenaminosulf*	
Diafenthiuron	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
Dibrom	*see Naled*	
Dibutyl chlorendate	1770-80-5	PST-1160
Dicamba *(Banvel D)*	1918-00-9	PST-050
Dicamba Methyl Ester	6597-78-0	PST-051
Dicapthon *(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
Diethatyl-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
Difenoxuron	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
Diflufenican	83164-33-4	PST-2200
Diflufenzopyr	109293-97-2	PST-5935
Difolatan	*see Captafol*	
Dimecron	*see Phosphamidon*	
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-*p*-nitrophenylphosphate	950-35-6	PST-1945
Di-n-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
Dipterex	*see Trichlorfon*	
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
Di-Syston	*see Disulfoton*	
Ditalimfos	5131-24-8	PST-2990
Dithane M-22	*see Maneb*	
Dithianon	3347-22-6	PST-3680
Dithiopyr	97886-45-8	PST-3425
Diuron	330-54-1	PST-1415
DMDT	*see Methoxychlor*	
DMP	*see Dimethyl phthalate*	
DMSA	4710-17-2	PST-6440
DMST	66840-71-9	PST-2225
DNBP	*see Dinoseb*	
Dodemorph	1593-77-7	PST-2230
Dodine	2439-10-3	PST-1095
Dowco-132	*see Crufomate*	
Dowco-139	*see Mexacarbate*	
Dowco-179	*see Chlorpyriphos*	

Pesticide Standards – Neat and in Solution

Pesticides **95 - 99% Pure**

Pesticide	CAS #	Catalog #
Dowpon	*see Dalapon*	
2,4-DP	*see Dichlorprop*	
Duphar	*see Tetradifon*	
Dursban	*see Chlorpyrifos*	
Dyfonate	*see Fonofos*	
Dylox	*see Trichlorfon*	
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
Entex	*see Fenthion*	
EPN	2104-64-5	PST-520
Epoxiconazole	133855-98-8	PST-2235
EPTC	759-94-4	PST-1420
Estonmite	*see Ovex*	
Etaconazole	60207-93-4	PST-3010
Ethalfluralin	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
Ethylene dibromide	*see EDB*	
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
EVIK	*see Ametryn*	
Famophos	*see Famphur*	
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
Fenaminosulf *(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
Fenchlorphos	*see Ronnel*	
Fenchlorphos-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 *(Baytex)*	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 *(Sanmarton)*	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
Flucarbazone-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

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Pesticides **95 - 99% Pure**

Pesticide	CAS #	Catalog #
Fluoroglycofen-ethyl	77501-90-7	PST-2350
Fluquinconazole	136426-54-5	PST-2355
Fluridone *(Sonar)*	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
tau*-Fluvalinate *(Mavrik)	102851-06-9	PST-2580
Folex	*see Merphos*	
Folicur *(Tebuconazole)*	107534-96-3	PST-1955
Folidol	*see Parathion*	
Folpet *(Phaltan)*	133-07-3	PST-550
Fomesafen	72178-02-0	PST-3085
Fonofos *(Dyfonate)*	944-22-9	PST-1090
Foramsulfuron	173159-57-4	PST-6220
Forchlorfenuron *(CPPU)*	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
Fumazone	*see DBCP*	
Furadan	*see Carbofuran*	
Furalaxyl	57646-30-7	PST-2375
Furathiocarb	65907-30-4	PST-3095
Furilazole	141980-03-2	PST-3100
Garrathion	*see Carbophenothion*	
Gesagard	*see Prometryn*	
Gesamil	*see Propazine*	
Gesapram	*see Prometon*	
Gesaprim	*see Atrazine*	
Gesatop	*see Simazine*	
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
Guthion	*see Azinphos-methyl*	
Guthion Ethyl	*see Azinphosethyl*	
HCB	*see Hexachlorobenzene*	
HCH	*see BHC*	
α-HCH	*see α-BHC*	
β-HCH	*see β-BHC*	
δ-HCH	*see δ-BHC*	
γ-HCH	*see Lindane*	
HEOD	*see Dieldrin*	
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
Hexachlorocyclohexane	*see BHC-mix*	
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
Imidan	*see Phosmet*	
Indoxacarb	173584-44-6	PST-2685
Iodofenphos *(Jodfenphos)*	18181-70-9	PST-3130
Ioxynil	1689-83-4	PST-3135
Ioxynil-octanoate	3861-47-0	PST-4990
Ioxynil 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
Isoprocarb	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
Karathane	*see Dinocap*	
Kelthane	*see Dicofol*	
Kepone *(Chlordecone)*	143-50-0	PST-620
Kinetin	525-79-1	PST-4675
Kinoprene	42588-37-4	PST-5440
Korlan	*see Ronnel*	
Kresoxim-methyl	143390-89-0	PST-2405
Lactofen	77501-63-4	PST-5725
***lambda*-Cyhalothrin**	91465-08-6	PST-1990
Lannate	*see Methomyl*	
Lasso	*see Alachlor*	
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

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Pesticide Standards – Neat and in Solution

Pesticides **95 - 99% Pure**

Pesticide	CAS #	Catalog #
Lufenuron	103055-07-8	PST-3515
Malathion *(Carbophos)*	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 *(Dithane M-22)*	12427-38-2	PST-650
Manzate	*see Maneb*	
Marlate	*see Methoxychlor*	
Matacil	*see Aminocarb*	
Mavrik	*see tau-Fluvalinate*	
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 *(Mecoprop)*	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
Mediben	*see Dicamba*	
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 *(Folex)*	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
Meta-Delphene	*see Deet*	
Metalaxyl	57837-19-1	PST-2000
Metamitron	41394-05-2	PST-2430
Metasystox I *(Demeton-S-methyl)*	919-86-8	PST-2005
Metasystox R	*see Oxydemeton-methyl*	
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 *(Monitor)*	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 *(Lannate)*	16752-77-5	PST-680
Methoprene	40596-69-8	PST-3160
Methoprotryne	841-06-5	PST-4755
Methoxychlor *(DMDT)*	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 #
Methyl Dursban	*see Cypermethrin*	
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
Mildex	*see Dinocap*	
Milogard	*see Propazine*	
Mintacol	*see Paraoxon*	
Mirex	2385-85-5	PST-720
Mitotane	*see 2,4'-DDD*	
Molinate	2212-67-1	PST-1540
Monitor	*see Methamidophos*	
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
Nankor	*see Ronnel*	
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
Nemafume, Nemagone	*see DBCP*	
Nialate	*see Ethion*	
Niclosamide	50-65-7	PST-4215
Nicosulfuron	111991-09-4	PST-3180
Nicotine	54-11-5	PST-4230
Niran	*see Parathion*	
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
Nitrox 80	*see Methyl parathion*	
***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
Nuvacron	*see Monocrotophos*	
Octachlor	*see Chlordane*	

Pesticide Standards – Neat and in Solution

Pesticides **95 - 99% Pure**

Pesticide	CAS #	Catalog #
Octalene	*see Aldrin*	
Octachlorostyrene	29082-74-4	PST-3185
Omethoate	1113-02-6	PST-2015
Orbencarb	34622-58-7	PST-3190
Orthocide 406	*see Captan*	
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
Palatinol M	*see Dimethyl phthalate*	
Paraoxon *(Mintacol)*	311-45-5	PST-1110
Paraquat dichloride	1910-42-5	PST-740
Parathion *(Alkron)*	56-38-2	PST-761
PCNB	*see Quintozene*	
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
Pentachlorophenol	*see PCP*	
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
Phaltan	*see Folpet*	
Phenacide	*see Toxaphene*	
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
Phosdrin	*see Mevinphos*	
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
Phosvel	*see Leptophos*	
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 *(Butacide)*	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
Pramitol	*see Prometon*	
Pretilachlor	51218-49-6	PST-5455
Primatol	*see Simazine*	
Primatol A	*see Atrazine*	
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
Prolate	*see Phosmet*	
Promecarb	2631-37-0	PST-1645
Prometon *(Gesapram)*	1610-18-0	PST-830
Prometryn *(Caparol)*	7287-19-6	PST-840
Pronamide	23950-58-5	PST-1650
Propachlor *(Ramrod)*	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 *(Gesamil)*	139-40-2	PST-850
Propetamphos	31218-83-4	PST-3225
Propham	122-42-9	PST-1665
Prophos	*see Ethoprop*	
Propiconazole	*see Tilt*	
Propineb	12071-83-9	PST-3950
Propoxur *(Baygon)*	114-26-1	PST-060
Prosulfocarb	52888-80-9	PST-2525
Prosulfuron	94125-34-5	PST-5845
Prowl	*see Pendimethalin*	
Pymetrozine	123312-89-0	PST-3725
Pyraclofos	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
Pyresyn	*see Allethrin*	
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*	
Quinoxyphen	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 *(Fenchlorphos)*	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
Stirofos	*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 #
Systox	*see Demeton*	
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
TCNB	*see Tecnazene*	
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
Tedion	*see Tetradifon*	
Teflubenzuron	83121-18-0	PST-3260
Tefluthrin	79538-32-2	PST-2590
Telodrin	297-78-9	PST-3265
Temephos	*see Abate*	
Temik	*see Aldicarb*	
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
Terbuthylazine	5915-41-3	PST-1705
Terraclor	*see Quintozene*	
Terrazole	*see Etridiazole*	
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
Tetramethylthiuram Disulfide	*see Thiram*	
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
Thimet	*see Phorate*	
Thiobencarb	28249-77-6	PST-1725
Thiodan	*see Endosulfan*	
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
Tolylfluanid	731-27-1	PST-2610

** available in solution only*

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Pesticide Standards – Neat and in Solution

Pesticides **95 - 99% Pure**

Pesticide	CAS #	Catalog #
Topramezone	210631-68-8	PST-6250
Toxaphene *(Phenacide)* (tech)	8001-35-2	PST-970
2,4,5-TP	*see Silvex*	
Tralkoxydim	87820-88-0	PST-5815
Tralomethrin	66841-25-6	PST-3320
Transfluthrine	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 *(tech)*	101200-48-0	PST-5890
Tribromoacetic acid	75-96-7	PST-3325
Trichlorfon *(Dylox)*	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 *(Beam)*	41814-78-2	PST-1840
Trietazine	1912-26-1	PST-3335
0,0,0-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	*see Carbophenothion*	
Unden	*see Propoxur*	
Uniconazole-P	83657-17-4	PST-5775
Vamidothion	2275-23-2	PST-2645
Vapona	*see Dichlorvos*	
Velpar	*see Hexazinone*	
Vegadex	95-06-7	PST-3345
Vernolate	1929-77-7	PST-1745
Vinclozolin	50471-44-8	PST-2050
Warfarin *(Coumaphene)* (tech)	81-81-2	PST-1000
Weedazol	*see Amitrole*	
Zectran	*see Mexacarbate*	
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)*
o,p'-DDD	malathion
p,p'-DDD	methoxychlor
o,p'-DDE	mirex
p,p'-DDE	parathion
o,p'-DDT	carbaryl *(sevin)*
p,p'-DDT	toxaphene

FRSP-180 **Kit**

Pesticide Standards Kit

Kit - contains fifteen vials:

1 x 10 mg of each compound listed below

aldrin	*o,p'*-DDT
α-BHC	*p,p'*-DDT
β-BHC	heptachlor
dieldrin	heptachlor epoxide
o,p'-DDD	lindane *(γ-BHC)*
p,p'-DDD	malathion
o,p'-DDE	parathion
p,p'-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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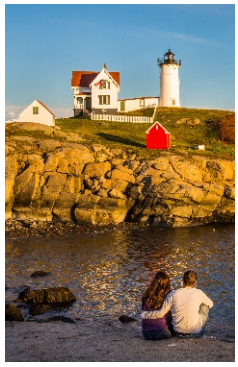


Part Number Convention

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 µg/mL
100A01 = 100 µg/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 *(dibenzo[def,mno]chrysene)*	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 *(tetraphene)*	56-55-3	RAH-004	20 mg
benzo[b]fluoranthene *(benz[e]acephenanthrylene)*	205-99-2	RAH-072	10 mg
benzo[k]fluoranthene	207-08-9	RAH-073	10 mg
benzo[a]fluorene *(1,2-benzofluorene)*	30777-18-5	RAH-005	10 mg
benzo[b]fluorene *(2,3-benzofluorene)*	243-17-4	RAH-006	10 mg
benzo[ghi]perylene *(1,12-benzoperylene)*	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 *(benzo[a]phenanthrene)*	218-01-9	RAH-007	100 mg
coronene	191-07-1	RAH-015	10 mg
4H-cyclopenta[def]phenanthrene *(4,5-methylenephenanthrene)*	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
***trans*-decahydronaphthalene**	493-02-7	RAH-075	100 mg
***cis*-decahydronaphthalene**	493-01-6	RAH-074	100 mg
dibenz[a,c]anthracene *(1,2:3,4-dibenzanthracene)*	215-58-7	RAH-018	10 mg
dibenz[a,h]anthracene *(1,2:5,6-dibenzanthracene)*	53-70-3	RAH-019	10 mg
dibenzo[a,l]pentacene *(1,2:8,9-dibenzopentacene)*	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 *(periflanthene)*	188-94-3	RAH-084	5 mg
9,10-dimethylanthracene	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-diphenylanthracene	1499-10-1	RAH-086	100 mg
1,2-diphenylethane *(bibenzyl)*	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 *(o-phenylenepyrene)*	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 *(2-phenyltoluene)*	643-58-3	RAH-038	100 mg
3-methylbiphenyl *(3-phenyltoluene)*	643-93-6	RAH-039	100 mg
4-methylbiphenyl *(4-phenyltoluene)*	644-08-6	RAH-040	100 mg
3-methylcholanthrene *(20-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 *(benz[b]anthracene,tetracene)*	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 *(benzo[def]phenanthrene)*	129-00-0	RAH-008	100 mg
***p*-quaterphenyl**	135-70-6	RAH-054	100 mg
***m*-quinquephenyl**	16716-13-5	RAH-063	10 mg
***p*-quinquephenyl**	3073-05-0	RAH-100	10 mg
rubrene	517-51-1	RAH-055	10 mg
***o*-terphenyl**	84-15-1	RAH-056	100 mg
***m*-terphenyl**	92-06-8	RAH-057	100 mg
***p*-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 *(tetralin)*	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 *(9,10-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	*see 3-bromopropene*		
allyl chloride	*see 3-chloropropene*		
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	*see α-naphthylamine*		
2-aminonaphthalene	*see β-naphthylamine*		
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
benzo[c]quinoline	*see phenanthridine*		
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
benzyl chloride	*see α-chlorotoluene*		
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 *(vinyl bromide)*	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 *(allyl bromide)*	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 *(MEK)*	78-93-3	RCC-205	1 gm
***n*-butylbenzene**	104-51-8	RAB-016	100 mg
***sec*-butylbenzene**	135-98-8	RAB-017	100 mg
***tert*-butylbenzene**	98-06-6	RAB-018	100 mg
butyl benzyl phthalate	85-68-7	DMP-037	100 mg
tert*-butyl methyl ether *(MTBE)	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-m-cresol	*see 4-chloro-3-methylphenol*		
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 *(allyl chloride)*	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 *(benzyl chloride)*	100-44-7	RCB-004	100 mg
6-chrysenamine	*see 6-aminochrysene*		
chrysene	218-01-9	RAH-007	100 mg
coronene	191-07-1	RAH-015	10 mg
o*-cresol *(2-methylphenol)	95-48-7	RCC-155	100 mg
m*-cresol *(3-methylphenol)	108-39-4	RCC-156	100 mg
p*-cresol *(4-methylphenol)	106-44-5	RCC-157	100 mg
cumene	*see isopropylbenzene*		
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
***cis*-decahydronaphthalene**	493-01-6	RAH-074	100 mg
***trans*-decahydronaphthalene**	493-02-7	RAH-075	100 mg
***n*-decane**	124-18-5	RNA-001	1 gm
n*-decylbenzene *(phenyldecane)	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
***cis*-1,4-dichloro-2-butene**	1476-11-5	RHH-064	100 mg
***trans*-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
***cis*-1,2-dichloroethene**	156-59-2	RHH-057	100 mg
***trans*-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	*see dioctyl adipate*		
diethylhexyl maleate	*see dioctyl maleate*		
diethylhexyl phthalate	*see bis(2-ethylhexyl) phthalate*		
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
diisoctyl 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	*see o-xylene*		
1,3-dimethylbenzene	*see m-xylene*		
1,4-dimethylbenzene	*see p-xylene*		
3,3'-dimethylbenzidine	*see o-tolidine*		
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
***m*-dinitrobenzene**	99-65-0	RNH-001	100 mg
2,2'-dinitrobiphenyl	2436-96-6	RNH-135	100 mg
4,6-dinitro-o-cresol	*see 2-methyl-4,6-dinitrophenol*		
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 *(diethylhexyl adipate)*	103-23-1	DMP-028	100 mg
dioctyl maleate *(diethylhexyl maleate)*	142-16-5	DMP-036	100 mg
dioctyl phthalate	*see bis(2-ethylhexyl) phthalate*		
di-*n*-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-*n*-propyl phthalate	131-16-8	DMP-013	100 mg
***n*-docosane**	629-97-0	RNA-012	1 gm
dodecahydrotriphenylene	1610-39-5	RAH-087	100 mg
***n*-dodecane**	112-40-3	RNA-003	1 gm
***n*-dotriacontane**	544-85-4	RNA-015	1 gm
durene	*see 1,2,4,5-tetramethylbenzene*		
***n*-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
ethylene dibromide	*see 1,2-dibromoethane*		
ethylene dichloride	*see 1,2-dichloroethane*		
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% Cl)	58718-66-4	HPCK-2F ‡	1 x 2 mL
Halowax 1001 (50% Cl)	58718-67-5	HPCK-2G ‡	1 x 2 mL
Halowax 1013 (56% Cl)	12616-35-2	HPCK-2E ‡	1 x 2 mL
Halowax 1051 (70% Cl)	2234-13-1	HPCK-2C ‡	1 x 2 mL
Halowax 1099 (52% Cl)	37450-05-0	HPCK-2D ‡	1 x 2 mL
hemimellitene	*see 1,2,3-trimethylbenzene*		
***n*-heneicosane**	629-94-7	RNA-024	1 gm
***n*-hentriacontane**	630-04-6	RNA-031	10 mg
***n*-heptacosane**	593-49-7	RNA-028	10 mg
***n*-heptadecane**	629-78-7	RNA-008	1 gm
2,2,4,4,6,8,8-heptamethylnonane	4390-04-9	RNA-023	1 gm
***n*-heptane**	142-82-5	RNA-019	1 gm
n*-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
***n*-hexacosane**	630-01-3	RNA-027	1 gm
n*-hexadecane *(n-cetane)	544-76-3	RNA-007	1 gm
hexamethylbenzene	87-85-4	RAB-012	100 mg
***n*-hexane**	110-54-3	RNA-018	1 gm
2-hexanone	591-78-6	RCC-207	100 mg
***n*-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
n*-hexylbenzene *(phenylhexane)	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	*see ethylenethiourea*		
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	*see methyl iodide*		
isobutyl alcohol	78-83-1	RCC-183	1 gm
isobutylbenzene	538-93-2	RAB-019	100 mg
isodurene	*see 1,2,3,5-tetramethylbenzene*		
isophorone	78-59-1	RCC-209	100 mg
isopropylbenzene *(cumene)*	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	*see 4-methylquinoline*		
malononitrile	109-77-3	RCC-210	100 mg
mesitylene	*see 1,3,5-trimethylbenzene*		
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	*see dichloromethane*		
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 *(iodomethane)*	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 *(MIBK)*	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 *(quinaldine)*	91-63-4	HAH-012	100 mg
3-methylquinoline	612-58-8	HAH-013	100 mg
4-methylquinoline *(lepidine)*	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 benzo[f]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-*p*-phenylenediamine	5307-14-2	RNH-099	100 mg
3-nitro-*o*-phenylenediamine	3694-52-8	RNH-166	100 mg
4-nitro-*o*-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 µg/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-*n*-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-*p*-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-*o*-toluidine	99-55-8	RCC-192	100 mg
***n*-nonacosane**	630-03-5	RNA-029	10 mg
***n*-nonadecane**	629-92-5	RNA-010	1 gm
***n*-nonane**	111-84-2	RNA-021	1 gm
n*-nonylbenzene *(phenylnonane)	1081-77-2	RAB-026	100 mg
norphytane	*see 2,6,10,14-tetramethylpentadecane*		
octachloronaphthalene	2234-13-1	RCN-012	20 mg
octachlorostyrene	29082-74-4	RCB-045	10 mg
***n*-octacosane**	630-02-4	RNA-014	1 gm
***n*-octadecane**	593-45-3	RNA-009	1 gm
***n*-octane**	111-65-9	RNA-020	1 gm
***n*-octatriacontane**	7194-85-6	RNA-033	100 mg
n*-octylbenzene *(phenyloctane)	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
***n*-pentacosane**	629-99-2	RNA-026	100 mg
***n*-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
***n*-pentatriacontane**	630-07-9	RNA-032	100 mg
n*-pentylbenzene *(n-amylbenzene)	538-68-1	RAB-020	100 mg
sec*-pentylbenzene *(sec-amylbenzene)	2719-52-0	RAB-021	100 mg
tert*-pentylbenzene *(tert-amylbenzene)	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 *(benzo[c]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
***n*-phenylcarbazole**	1150-62-5	RCC-126	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
***p*-phenylenediamine**	106-50-3	RCC-194	100 mg
1-phenylnaphthalene	605-02-7	RAH-099	100 mg
N-phenyl-β-naphthylamine	135-88-6	RCC-040	100 mg
phytane	*see 2,6,10,14-tetramethylhexadecane*		
2-picoline	109-06-8	RCC-195	100 mg
prehnitene	*see 1,2,3,4-tetramethylbenzene*		
pristane	*see 2,6,10,14-tetramethylpentadecane*		
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
***n*-propylamine**	107-10-8	RCC-197	100 mg
***n*-propylbenzene**	103-65-1	RAB-014	100 mg
propylene oxide	75-56-9	RCC-092	100 mg
pseudocumene	*see 1,2,4-trimethylbenzene*		
pyrene	129-00-0	RAH-008	100 mg
pyridine	110-86-1	RCC-198	1 gm
***p*-quaterphenyl**	135-70-6	RAH-054	100 mg
quinaldine	*see 2-methylquinoline*		
quinoline	91-22-5	HAH-001	100 mg
***m*-quinquephenyl**	16716-13-5	RAH-063	10 mg
***p*-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
***o*-terphenyl**	84-15-1	RAH-056	100 mg
***m*-terphenyl**	92-06-8	RAH-057	100 mg
***p*-terphenyl**	92-94-4	RAH-058	100 mg
1,2,4,5-tetrabromobenzene	636-28-2	RBF-004	100 mg
1,1,2,2-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
1,1,2,2-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
α,α,2,6-tetrachlorotoluene	81-19-6	RCB-019	100 mg
α,α,α,4-tetrachlorotoluene	5216-25-1	RCB-018	100 mg
2,4,5,6-tetrachloro-*m*-xylene	877-09-8	RCB-031	100 mg
***n*-tetracontane**	4181-95-7	RNA-034	100 mg

NEAT COMPOUNDS OF ENVIRONMENTAL INTEREST

Neat Standards 95 - 99% Pure

Compound	CAS #	Catalog #	Unit Size
***n*-tetracosane**	646-31-1	RNA-013	1 gm
***n*-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 *(durene)*	95-93-2	RAB-010	100 mg
2,6,10,14-tetramethylhexadecane *(phytane)*	638-36-8	FLHC-017	100 mg
2,6,10,14-tetramethylpentadecane	1921-70-6	FLHC-016	100 mg
1,2,3,4-tetraphenylnaphthalene	751-38-2	RAH-092	10 mg
***n*-tetratetracontane**	7098-22-8	RNA-035	100 mg
***n*-tetratriacontane**	14167-59-0	RNA-016	100 mg
thiophene	110-02-1	RCC-121	1 gm
o*-tolidine *(3,3'-dimethylbenzidine)	119-93-7	RCC-041	100 mg
toluene *(methylbenzene)*	108-88-3	RAB-001	100 mg
***o*-toluidine**	95-53-4	RCC-193	100 mg
***n*-triacontane**	638-68-6	RNA-030	100 mg
triallyl 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
***n*-tricosane**	638-67-5	RNA-025	1 gm
***n*-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 *(mesitylene)*	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
triptycene	477-75-8	RAH-060	10 mg
truxene	548-35-6	RAH-061	100 mg
***n*-undecane**	1120-21-4	RNA-002	1 gm
vinyl acetate	108-05-4	RCC-218	100 mg
vinyl bromide	*see bromoethene*		
4-vinylcyclohexene dioxide	4223-10-3	RCC-094	1 gm
vinylidene chloride	*see 1,1-dichloroethene*		
o*-xylene *(1,2-dimethylbenzene)	95-47-6	RAB-002	100 mg
m*-xylene *(1,3-dimethylbenzene)	108-38-3	RAB-003	100 mg
p*-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
- bromodichloromethane
- bromoethane
- bromoform
- bromotrichloromethane
- carbon tetrachloride
- chloroform
- 1,2-dibromoethane
- 1,2-dibromoethene
- dibromomethane
- 1,2-dichloroethane
- 1,1-dichloroethene
- *trans*-1,2-dichloroethene
- dichloromethane
- 1,1,1-trichloroethane
- trichloroethene
- 1,1,2,2-tetrabromoethane
- 1,1,1,2-tetrachloroethane
- 1,1,2,2-tetrachloroethane
- 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**

TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

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**

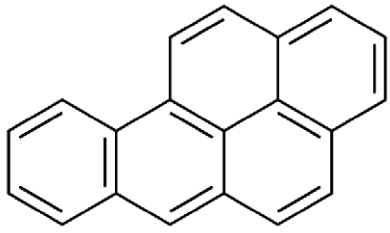
Chlorobenzenes Kit

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 isooctyl 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-triiethylquinoline)
- 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**

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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

VISA MasterCard DISCOVER NETWORK AMERICAN EXPRESS

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
adipic acid	*see hexanedioic acid*		
arachidic acid	*see eicosanoic acid*		
arachidonic acid	506-32-1	FLSA-098	100 mg
arachidonic acid methyl ester	2566-89-4	FLSA-107	100 mg
azelaic acid	*see nonanedioic acid*		
behenic acid	*see docosanoic acid*		
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
capric acid	*see decanoic acid*		
caproic acid	*see hexanoic acid*		
caprylic acid	*see octanoic acid*		
cerotic acid	*see hexacosanoic acid*		
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
ethanoic acid (acetic acid)	*see acetic acid*		
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

LIPIDS

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 *(pimelic acid)*	111-16-0	FLSA-118	1 gm
heptanedioic acid dimethyl ester	1732-08-7	FLSA-135	1 gm
heptanoic acid *(heptylic acid)*	111-14-8	FLSA-034	100 mg
heptanoic acid methyl ester	106-73-0	FLSA-049	100 mg
heptylic acid	*see heptanoic acid*		
hexacosanoic acid *(cerotic acid)*	506-46-7	FLSA-013	100 mg
hexacosanoic acid methyl ester	5802-82-4	FLSA-028	100 mg
1-hexacosanol *(cerotyl alcohol)*	506-52-5	FLMS-022	50 mg
hexadecanoic acid *(palmitic acid)*	57-10-3	FLSA-008	1 gm
hexadecanoic acid methyl ester	112-39-0	FLSA-023	1 gm
1-hexadecanol *(cetyl alcohol)*	36653-82-4	FLMS-012	1 gm
hexanedioic acid *(adipic acid)*	124-04-9	FLSA-117	1 gm
hexanedioic acid dimethyl ester	627-93-0	FLSA-134	1 gm
hexanoic acid *(caproic acid)*	142-62-1	FLSA-003	1 gm
hexanoic acid methyl ester	106-70-7	FLSA-018	1 gm
isoarachidic acid	*see 18-methylnonadecanoic acid*		
isocapric acid	*see 8-methylnonanoic acid*		
isocaproic acid	*see 4-methylpentanoic acid*		
isocaprylic acid	*see 6-methylheptanoic acid*		
isolauric acid	*see 10-methylhendecanoic acid*		
isopalmitic acid	*see 14-methylpentadecanoic acid*		
isostearic acid	*see 16-methylheptadecanoic acid*		
lauric acid	*see dodecanoic acid*		
lignoceric acid	*see tetracosanoic acid*		
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
malonic acid	*see propanedioic acid*		
margaric acid	*see heptadecanoic acid*		
mellisic acid	*see triacontanoic acid*		
methanoic acid	*see formic acid*		
methyl acetate	*see acetic acid methyl ester*		
2-methylbutanoic acid *(anteisovaleric acid)*	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 *(isolauric acid)*	2724-56-3	FLBA-004	50 mg
10-methylhendecanoic acid methyl ester	-	FLBA-014	50 mg
16-methylheptadecanoic acid *(isostearic acid)*	2724-58-5	FLBA-007	10 mg
16-methylheptadecanoic acid methyl ester	5129-61-3	FLBA-017	10 mg
6-methylheptanoic acid (isocaprylic acid)	929-10-2	FLBA-002	50 mg
6-methylheptanoic acid methyl ester	-	FLBA-012	50 mg
14-methylhexadecanoic acid *(anteisomargaric acid)*	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 *(anteisoheptylic acid)*	-	FLBA-022	50 mg
4-methylhexanoic acid methyl ester	-	FLBA-031	50 mg
18-methylnonadecanoic acid *(isoarachidic acid)*	6250-72-2	FLBA-008	25 mg
18-methylnonadecanoic acid methyl ester	65301-91-9	FLBA-018	25 mg
8-methylnonanoic acid *(isocapric acid)*	5963-14-4	FLBA-003	50 mg
8-methylnonanoic acid methyl ester	-	FLBA-013	50 mg
16-methyloctadecanoic acid *(anteisononadecylic acid)*	-	FLBA-028	25 mg
14-methylpentadecanoic acid *(isopalmitic acid)*	4669-02-7	FLBA-006	10 mg
14-methylpentadecanoic acid methyl ester	5129-60-2	FLBA-016	10 mg
4-methylpentanoic acid *(isocaproic acid)*	646-07-1	FLBA-001	50 mg
4-methylpentanoic acid methyl ester	2412-80-8	FLBA-011	50 mg
methyl phytanate	*see phytanic acid methyl ester*		
12-methyltetradecanoic acid *(anteisopentadecylic acid)*	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
montanic acid	*see octacosanoic acid*		
myristic acid	*see tetradecanoic acid*		
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 *(nonadecylic acid)*	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
nonadecylic acid	*see nonadecanoic acid*		
nonanedioic acid *(azelaic acid)*	123-99-9	FLSA-120	500 mg
nonanedioic acid dimethyl ester	1732-10-1	FLSA-137	500 mg
nonanoic acid *(pelargonic acid)*	112-05-0	FLSA-035	100 mg
nonanoic acid methyl ester	1731-84-6	FLSA-050	100 mg
octacosanoic acid *(montanic acid)*	506-48-9	FLSA-014	100 mg
octacosanoic acid methyl ester	55682-92-3	FLSA-029	100 mg
1-octacosanol *(montanyl alcohol)*	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 *(stearic acid)*	57-11-4	FLSA-009	1 gm
octadecanoic acid methyl ester	112-61-8	FLSA-024	1 gm
1-octadecanol *(stearyl alcohol)*	112-92-5	FLMS-014	1 gm
***cis*-11-octadecenoic acid**	506-17-2	FLSA-067	100 mg
***cis*-11-octadecenoic acid methyl ester**	1937-63-9	FLSA-081	100 mg
***trans*-11-octadecenoic acid (vaccenic acid)**	693-72-1	FLSA-068	100 mg
***trans*-11-octadecenoic acid methyl ester**	6198-58-9	FLSA-082	100 mg
octanedioic acid *(suberic acid)*	505-48-6	FLSA-119	500 mg
octanedioic acid dimethyl ester	1732-09-8	FLSA-136	500 mg
octanoic acid *(caprylic acid)*	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
oxalic acid	*see ethanedioic acid*		
palmitelaidic acid	10030-73-6	FLSA-064	100 mg
palmitelaidic acid methyl ester	10030-74-7	FLSA-078	100 mg
palmitic acid	*see hexadecanoic acid*		
palmitoleic acid	373-49-9	FLSA-063	100 mg

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LIPIDS

Lipid Standards 99% Pure

Compound	CAS #	Catalog #	Unit Size
palmitoleic acid methyl ester	1120-25-8	FLSA-077	100 mg
pelargonic acid	*see nonanoic acid*		
pentacosanoic acid methyl ester	55373-89-2	FLSA-058	50 mg
1-pentacosanol	26040-98-2	FLMS-021	50 mg
pentadecanoic acid *(pentadecylic acid)*	1002-84-2	FLSA-038	100 mg
pentadecanoic acid methyl ester	7132-64-1	FLSA-053	100 mg
pentadecylic acid	*see pentadecanoic acid*		
pentanoic acid *(valeric acid)*	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 *(3,7,11,15-tetramethylhexadecanoic acid)*	14721-66-5	FLBA-042	25 mg
phytanic acid methyl ester *(methyl phytanate)*	1118-77-0	FLBA-043	25 mg
phytol *(3,7,11,15-tetramethyl-2-hexadecen-1-ol)* (tech)	7541-49-3	FLMS-035	1 gm
pimelic acid	*see heptanedioic acid*		
propanedioic acid *(malonic acid)*	141-82-2	FLSA-114	1 gm
propanedioic acid dimethyl ester	108-59-8	FLSA-131	1 gm
propanoic acid *(propionic acid)*	79-09-4	FLSA-032	1 gm
propanoic acid methyl ester	554-12-1	FLSA-047	1 gm
ricinelaidic 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
sebacic acid	*see decanedioic acid*		
stearic acid	*see octadecanoic acid*		
suberic acid	*see octanedioic acid*		
succinic acid	*see butanedioic acid*		
tetracosanoic acid *(lignoceric acid)*	557-59-5	FLSA-012	100 mg
tetracosanoic acid methyl ester	2442-49-1	FLSA-027	100 mg
1-tetracosanol *(lignoceryl alcohol)*	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 *(myristic acid)*	544-63-8	FLSA-007	1 gm
tetradecanoic acid methyl ester	124-10-7	FLSA-022	1 gm
1-tetradecanol *(myristyl alcohol)*	112-72-1	FLMS-010	1 gm
3,7,11,15-tetramethylhexadecanoic acid	*see phytanic acid*		
3,7,11,15-tetramethyl-2-hexadecen-1-ol	*see phytol*		
triacontanoic acid *(mellisic acid)*	506-50-3	FLSA-015	100 mg
triacontanoic acid methyl ester	629-83-4	FLSA-030	100 mg
1-triacontanol *(melissyl alcohol)*	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 *(tridecylic acid)*	638-53-9	FLSA-037	100 mg
tridecanoic acid methyl ester	1731-88-0	FLSA-052	100 mg
tridecylic acid	*see tridecanoic acid*		
undecylic acid	*see hendecanoic acid*		
vaccenic acid	*see trans-11-octadecenoic acid*		
valeric acid	*see pentanoic acid*		

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**

Volatile Fatty Acids Kit

Kit - contains eleven vials:

1 x 1 gm of each compound listed below

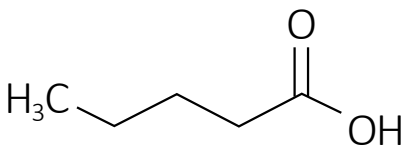
C_1	formic acid	*(methanoic acid)*
C_2	acetic acid	*(ethanoic acid)*
C_3	propionic acid	*(propanoic acid)*
C_4	butyric acid	*(butanoic acid)*
C_4	isobutyric acid	
C_5	valeric acid	*(pentanoic acid)*
C_5	isovaleric acid	
C_6	caproic acid	*(hexanoic acid)*
C_7	heptylic acid	*(heptanoic acid)*
C_8	caprylic acid	*(octanoic acid)*

plus

1 x 5 mL ampule of

0.1% C1 -C5 Acids Test Solution in H_2O

FLPK-005 **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**

Unsaturated Fatty Acids and Methyl Esters Kit

Kit - contains twenty vials:

1 x 25 mg of each compound listed below

Fatty Acids

$C_{14}^{1=}$ *cis*-9-tetradecenoic acid *(myristoleic acid)*
$C_{16}^{1=}$ *cis*-9-hexadecenoic acid *(palmitoleic acid)*
$C_{16}^{1=}$ *trans*-9-hexadecenoic acid *(palmitelaidic acid)*
$C_{18}^{1=}$ *cis*-9-octadecenoic acid *(oleic acid)*
$C_{18}^{1=}$ *trans*-9-octadecenoic acid *(elaidic acid)*
$C_{18}^{2=}$ *cis*-9-*cis*-12-octadecadienoic acid *(linoleic acid)*
$C_{18}^{2=}$ *trans*-9-*trans*-12-octadecadienoic acid *(linolelaidic acid)*
$C_{18}^{3=}$ *cis*-9-*cis*-12-*cis*-15-octadecatrienoic acid *(linolenic acid)*
$C_{20}^{1=}$ *cis*-11-eicosenoic acid *(gondonic acid)*
$C_{22}^{1=}$ *cis*-13-docosenoic acid *(erucic acid)*

Methyl Esters

$C_{14}^{1=}$ methyl *cis*-9-tetradecenoate *(methyl myristoleate)*
$C_{16}^{1=}$ methyl *cis*-9-hexadecenoate *(methyl palmitoleate)*
$C_{16}^{1=}$ methyl *trans*-9-hexadecenoate *(methyl palmitelaidate)*
$C_{18}^{1=}$ methyl *cis*-9-octadecenoate *(methyl oleate)*
$C_{18}^{1=}$ methyl *trans*-9-octadecenoate *(methyl elaidate)*
$C_{18}^{2=}$ methyl *cis*-9-*cis*-12-octadecadienoate *(methyl linoleate)*
$C_{18}^{2=}$ methyl *trans*-9-*cis*-12-octadecadienoate *(methyl linolelaidate)*
$C_{18}^{3=}$ methyl *cis*-9-*cis*-12-*cis*-15-octadecatrienoate *(methyl linolenate)*
$C_{20}^{1=}$ methyl *cis*-11-eicosenoate *(methyl gondonate)*
$C_{22}^{1=}$ methyl *cis*-13-docosenoate *(methyl erucate)*

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)

- Thexadecane
- 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-dimethylanthracene †
1,2-dimethylnaphthalene †
fluoranthene †
fluorene †
2-methylanthracene †
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

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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®

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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-xylenol
- 2,4-xylenol
- 2,5-xylenol
- 2,6-xylenol
- 3,4-xylenol
- 3,5-xylenol
- 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
Certan	LGC	Shooters®	ULTRA Scientific	ULTRAkit®	ULTRA Scientific
Cracker	Dyna-Med	ULTRA-BOND®	ULTRA Scientific	ULTRApak®	ULTRA Scientific
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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% confidencve 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.

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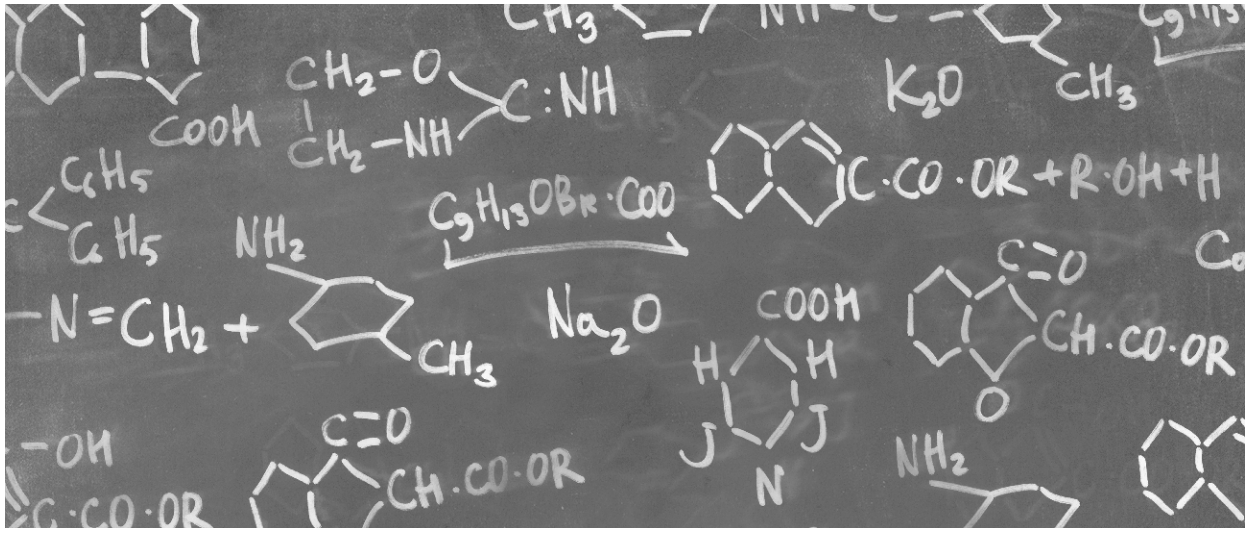
- ✓ Order ships same or next day

ULTRA® EXPRESS
EXPEDITED TURN-AROUND

Review Full Details on Page 2



TOLL FREE 800.338.1754 ▪ MAIN 401.294.9400 ▪ FAX 401.295.2330

Symbols

A

B

C

D

E

F

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	Analyte	Concentration		Analyte	Concentration
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2.			11.		
3.			12.		
4.			13.		
5.			14.		
6.			15.		
7.			16.		
8.			17.		
9.			18.		

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_____ x _____ L

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