



Analisi di Pesticidi in Matrici Alimentari

Attraverso l'analisi multiresiduale è possibile effettuare uno screening di un numero elevato di pesticidi. Il metodo QuEChERS seguito dall'estrazione dispersiva in fase solida (d-SPE), è il riferimento ideale per l'analisi multiresiduale di pesticidi in un'ampia varietà di matrici alimentari, in quanto semplice e agevole perché permette una preparazione del campione rapida ed economica. I riferimenti principali sono i metodi UNI EN 15662:2018 e AOAC 2007.01. Ultra Scientific Italia ha preparato un **kit di miscele di pesticidi per GC-MS/MS ed LC-MS/MS che coprono più di 300 principi attivi.**

MIX Pesticidi GC/MS/MS

MIX 1 GC (21 componenti)

Analyte	CAS #
bromopropylate	18181-80-1
chlorfenson	80-33-1
alachlor	15972-60-8
benfluralin	1861-40-1
bromacil	314-40-9
acetochlor	34256-82-1
aclonifen	74070-46-5
bitertanol	55179-31-2
bupirimate	41483-43-6
benalaxyl	71626-11-4
chlorothalonil	1897-45-6
azinphos-ethyl	2642-71-9
azinphos-methyl	86-50-0
bromophos-ethyl	4824-78-6
chlorfenvinphos	470-90-6
chlorpyrifos-methyl	5598-13-0
chlorpyrifos	2921-88-2
aldrin	309-00-2
bifenthrin	82657-04-3
cyfluthrin	68359-37-5
buprofezin	69327-76-0

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 4 GC (22 componenti)

Analyte	CAS #
hexazinone	051235-04-2
fluzifop-p-butyl	079241-46-6
hexaconazole	079983-71-4
fenarimol	060168-88-9
fenbuconazole	114369-43-6
flusilazole	085509-19-9
furalaxyl	057646-30-7
fluquinconazole	136426-54-5
folpet	000133-07-3
fenitrothion	000122-14-5
fenthion	000055-38-9
formothion	002540-82-1
alpha-BHC	000319-84-6
delta-BHC	000319-86-8
beta-BHC	000319-85-7
heptachlor	000076-44-8
heptachlor epoxide - isomer A	028044-83-9
heptachlor epoxide - isomer B	001024-57-3
hexachlorobenzene	000118-74-1
fenpropathrin	039515-41-8
flucythrinate	070124-77-5
fipronil	120068-37-3

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 2 GC (15 componenti)

Analyte	CAS #
chlorfenapyr	122453-73-0
chloropropylate	005836-10-2
clomazone	081777-89-1
cyproconazole	094361-06-5
cyprodinil	121552-61-2
captan	000133-06-2
cadusafos	095465-99-9
carbofenothion	000786-19-6
dicrotophos	000141-66-2
dimethoate	000060-51-5
dieldrin	000060-57-1
2,4'-DDD	000053-19-0
4,4'-DDD	000072-54-8
cypermethrin	052315-07-8
deltamethrin	052918-63-5

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 6 GC (27 componenti)

Analyte	CAS #
pendimethalin	040487-42-1
profluralin	026399-36-0
propachlor	001918-16-7
propyzamide	023950-58-5
prometryn	007287-19-6
oxadiazon	019666-30-9
oxyfluorfen	042874-03-3
propanil	000709-98-8
penconazole	066246-88-8
propiconazole	060207-90-1
paclobutrazol	076738-62-0
pyrazophos	013457-18-6
pyrimethanil	053112-28-0
pyrifenox	088283-41-4
procymidone	032809-16-8
prochloraz	067747-09-5
phenthoate	002597-03-7
phosalone	002310-17-0
phosphamidon	013171-21-6
phosmet	000732-11-6
ethyl parathion	000056-38-2
methyl parathion	000298-00-0
pirimiphos-methyl	029232-93-7
pirimiphos-ethyl	023505-41-1
prothiophos	034643-46-4
permethrins (mixed isomers)	052645-53-1
pirimicarb	023103-98-2

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 3 GC (20 componenti)

Analyte	CAS #
dichlobenil	001194-65-6
diclofop methyl	051338-27-3
dimethenamid	087674-68-8
ethofumesate	026225-79-6
diclobutrazol	075736-33-3
dichloran	000099-30-9
etaconazole	060207-93-4
difenoconazole	119446-68-3
dialifos	010311-84-9
dichlofenthion	000097-17-6
disulfoton	000298-04-4
ethion	000563-12-2
ethopropfos	013194-48-4
etrimfos	038260-54-7
endosulfan I	000959-98-8
endosulfan II	033213-65-9
endosulfan sulfate	001031-07-8
endrin	000072-20-8
2,4'-DDE	003424-82-6
4,4'-DDE	000072-55-9

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 5 GC (22 componenti)

Analyte	CAS #
metolachlor	051218-45-2
nitrofen	001836-75-5
lenacil	002164-08-1
methoprotryne	000841-06-5
mefenpyr-diethyl	135590-91-9
metazachlor	067129-08-2
myclobutanil	088671-89-0
nuarimol	063284-71-9
mepanipyrim	110235-47-7
metalaxyl	057837-19-1
oxadixyl	077732-09-3
iprodone	036734-19-7
kresoxim-methyl	143390-89-0
iodofenphos	018181-70-9
isofenphos	025311-71-1
isofenphos-methyl	099675-03-3
malaoxon	001634-78-2
malathion	000121-75-5
mecarbam	002595-54-2
mevinphos	007786-34-7
monocrotophos	006923-22-4
methoxychlor	000072-43-5

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

ULTRA Scientific Italia

Tel 051-6425042 / Fax 051-6425043 - www.ultrasci.it / ultra@ultrasci.it

MIX Pesticidi GC/MS/MS

MIX 7 GC (24 componenti)

Analyte	CAS #
tebufenpyrad	119168-77-3
pyridaben	096489-71-3
trifluralin	001582-09-8
simazine	000122-34-9
simetryn	001014-70-6
terbumeton	033693-04-8
terbuthylazine	005915-41-3
terbutryn(e)	000886-50-0
quintozene	000082-68-8
tetraconazole	112281-77-3
triadimefon	043121-43-3
tebuconazole	107534-96-3
triadimenol	055219-65-3
vinclozolin	050471-44-8
quinoxiphen	124495-18-7
tecnazene	000117-18-0
pyridaphenthion	000119-12-0
propetamphos	031218-83-4
quinalphos	013593-03-8
sulprofos	035400-43-2
tebupirimphos	096182-53-5
thiometon	000640-15-3
trichloronate	000327-98-0
triazophos	024017-47-8

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 8 GC (24 componenti)

Analyte	CAS #
chlorobenzilate	000510-15-6
bifenox	042576-02-3
ethalfuralin	055283-68-6
propazine	000139-40-2
butachlor	023184-66-9
dinitramine	029091-05-2
benzoylprop ethyl	022212-55-1
etridiazole	002593-15-9
pencycuron	066063-05-6
triflumizole	099387-89-0
disulfoton sulfone	002497-06-5
disulfoton-sulfoxide	002497-07-6
ditalimfos	005131-24-8
edifenphos	017109-49-8
tetrachlorvinphos	000961-11-5
vamidotion	002275-23-2
2,4'-DDT	000789-02-6
4,4'-DDT	000050-29-3
telodrin	000297-78-9
allethrin	000584-79-2
fluvalinate	069409-94-5
tralomethrin	066841-25-6
alpha-chlordane	005103-71-9
gamma-chlordane	005103-74-2

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 9 GC (12 componenti)

Analyte	CAS #
dicofol	000115-32-2
fenson	000080-38-6
tetradifon	000116-29-0
desmetryne	001014-69-3
dimepiperate	061432-55-1
captafol	002425-06-1
dichlofluanid	001085-98-9
coumaphos	000056-72-4
dioxathion	000078-34-2
EPN	002104-64-5
gamma-BHC	000058-89-9
tefluthrin	079538-32-2

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL

MIX 10 GC (17 componenti)

Analyte	CAS #
4,4'-dichlorobenzophenone	000090-98-2
bromophos-methyl	002104-96-3
butralin	033629-47-9
chlorthal-dimethyl	001861-32-1
diniconazole	083657-24-3
dipropetryn	004147-51-7
heptenophos	023560-59-0
lambda-cyhalothrin	091465-08-6
lindane	000058-89-9
metribuzin	021087-64-9
napropamide	015299-99-7
pentachloroanisole	001825-21-4
piperonyl butoxide	000051-03-6
pyriproxyfen	095737-68-1
tetramethrin	007696-12-0
tolclofos-methyl	057018-04-9
trifloxystrobin	141517-21-7

@ 10 µg/ml
in acetone/etil acetato/cicloesano (50/25/25)
1 x 1 mL



AFFINISEP produce i **Qcleanup®**, i sali e i tubi dSPE per l'analisi dei fitofarmaci secondo il metodo QuEChERS nelle sue differenti formulazioni. Ecco un sintetico schema riepilogativo per le principali opzioni.

Metodo	Descrizione	confezione	Codice
Per frutta e verdure in generale			
EN 15662	150mg MgSO ₄ + 25mg PSA	100 pz/2mL	dSPE.EN.GFV.100.2
	900mg MgSO ₄ + 150mg PSA	50 pz/15mL	dSPE.EN.GFV.50.15
AOAC 2007.01	150mg MgSO ₄ + 50mg PSA	100 pz/2mL	dSPE.AOAC.GFV.100.2
	1200mg MgSO ₄ + 400mg PSA	50 pz/15mL	dSPE.AOAC.GFV.50.15
Per frutta e verdure pigmentate			
EN 15662	150mg MgSO ₄ + 25mg PSA + 2.5mg CB	100 pz/2mL	dSPE.EN.PFV.100.2
	900mg MgSO ₄ + 150mg PSA + 15mg CB	50 pz/15mL	dSPE.EN.PFV.50.15
AOAC 2007.01	150mg MgSO ₄ + 50mg PSA + 50mg CB	100 pz/2mL	dSPE.AOAC.PFV.100.2
	1200mg MgSO ₄ + 400mg PSA + 400mg CB	50 pz/15mL	dSPE.AOAC.PFV.50.15
Per frutta e verdure pigmentate e grasse			
EN 15662	150mg MgSO ₄ + 25mg PSA + 7.5mg CB	100 pz/2mL	dSPE.EN.HPFV.100.2
	900mg MgSO ₄ + 150mg PSA + 45mg CB	50 pz/15mL	dSPE.EN.HPFV.50.15
AOAC 2007.01	150mg MgSO ₄ + 50mg PSA + 50mg CB + 50mg C18	100 pz/2mL	dSPE.AOAC.HPFV.100.2
	1200mg MgSO ₄ + 400mg PSA + 400mg CB + 400mg C18	50 pz/15mL	dSPE.AOAC.HPFV.50.15
Per frutta e verdure cerate e grasse			
EN 15662	150mg MgSO ₄ + 25mg PSA + 25mg C18	100 pz/2mL	dSPE.EN.FWFV.100.2
	900mg MgSO ₄ + 150mg PSA + 150mg C18	50 pz/15mL	dSPE.EN.FWFV.50.15
AOAC 2007.01	150mg MgSO ₄ + 50mg PSA + 50mg C18	100 pz/2mL	dSPE.AOAC.FWFV.100.2
	1200mg MgSO ₄ + 400mg PSA + 400mg C18	50 pz/15mL	dSPE.AOAC.FWFV.50.15

MIX Pesticidi LC/MS/MS

MIX 1 LC (41 componenti)

Analyte	CAS #
chinomethionate	002439-01-2
cymiazole	061676-87-7
abamectin	071751-41-2
ametryn	000834-12-8
atrazine	001912-24-9
benzoximate	029104-30-1
benzthiazuron	001929-88-0
chloridazon	001698-60-8
chloroxuron	001982-47-4
chlorotoluron	015545-48-9
acibenzolar-s-methyl	135158-54-2
coumatetralyl	005836-29-3
haloxyfop (free acid)	069806-34-4
haloxyfop-2-ethoxyethyl	087237-48-7
haloxyfop-methyl	069806-40-2
bentazon	025057-89-0
cycloxydim	101205-02-1
bromuconazole	116255-48-2
benomyl	017804-35-2
anilazine	000101-05-3
carboxin	005234-68-4
cymoxanil	057966-95-7
azoxystrobin	131860-33-8
boscalid	188425-85-6
aldicarb	000116-06-3
aldicarb sulfone	001646-88-4
aldicarb sulfoxide	001646-87-3
butoxycarboxim	034681-23-7
butocarboxim	034681-10-2
carbaryl	000063-25-2
carbofuran	001563-66-2
3-hydroxycarbofuran	016655-82-6
bendiocarb	022781-23-3
benfuracarb	082560-54-1
carbosulfan	055285-14-8
acephate	030560-19-1
acetamiprid	135410-20-7
clothianidin	210880-92-5
6-benzyladenine	001214-39-7
cyromazine	066215-27-8
chlorfluazuron	071422-67-8

@ 10 µg/ml
in acetonitrile
1 x 1 mL

MIX 5 LC (14 componenti)

Analyte	CAS #
demeton-s-methyl	000919-86-8
dichlofluanid	001085-98-9
diphenylamine	000122-39-4
epoxiconazole	133855-98-8
fluaizifop	069335-91-7
fluaizifop-butyl	069806-50-4
fluaizifop-p-butyl	079241-46-6
isoxaben	082558-50-7
naptalam	000132-66-1
picoxystrobin	117428-22-5
piperonyl butoxide	000051-03-6
prothioconazol	178928-70-6
tolclofos-methyl	057018-04-9
trifloxystrobin	141517-21-7

@ 10 µg/ml
in acetonitrile
1 x 1 mL

MIX 2 LC (42 componenti)

Analyte	CAS #
etoxazol	153233-91-1
hexythiazox	078587-05-0
fenazaquin	120928-09-8
fenothiocarb	062850-32-2
fenpyroximate	11812-58-9
flucyclozuron	113036-88-7
flufenacet	142459-58-3
atrazine-desethyl	006190-65-4
diuron	000330-54-1
fenuron	000101-42-8
isoproturon	034123-59-6
linuron	000330-55-2
metobromuron	003060-89-7
metoxuron	019937-59-8
diphenamid	000957-51-7
diflufenican	083164-33-4
phenmedipham	013684-63-4
fluroxypyr	069377-81-7
imazamox	114311-32-9
dinoseb	000088-85-7
diethofencarb	087130-20-9
dimethomorph	110488-70-5
fenamidone	161326-34-7
fenpropidin	067306-00-7
iprovalicarb	140923-17-7
fenpropimorph	067564-91-4
dioxacarb	006988-21-2
ethiofencarb	029973-13-5
methiocarb	002032-65-7
methiocarb sulfone	002179-25-1
methiocarb sulfoxide	002635-10-1
methomyl	016752-77-5
fenoxycarb	072490-01-8
furathiocarb	065907-30-4
methamidophos	010265-92-6
demeton S-methyl sulfone	017040-19-6
indoxacarb	144171-61-9
forchlorfenuron	068157-60-8
imidacloprid	138261-41-3
methoxyfenozide	161050-58-4
hexaflumuron	086479-06-3
flufenoxuron	101463-69-8
lufenuron	103055-07-8

@ 10 µg/ml
in acetonitrile
1 x 1 mL

MIX 3 LC (33 componenti)

Analyte	CAS #
spirodiclofen	148477-71-8
rotenone	000083-79-4
quizalofop-ethyl	076578-14-8
monolinuron	001746-81-2
neburon	000555-37-3
tribenuron-methyl (technical)	101200-48-0
propaquizafop	111479-05-1
quinclorac	084087-01-4
quinmerac	090717-03-6
sethoxydim	074051-80-2
tralkoxydim	087820-88-0
penoxsulam	219714-96-2
pyridate	055512-33-9
prothioconazol	178928-70-6
thiabendazole	000148-79-8
thiophanate methyl	023564-05-8
spiroxamine	118134-30-8
pyraclostrobin	175013-18-0
pyracarbolid	024691-76-7
zoxamide	156052-68-5
oxamyl	023135-22-0
propoxur	000114-26-1
thiodicarb	059669-26-0
promecarb	002631-37-0
oxydemeton methyl	000301-12-2
pymetrozine	123312-89-0
spinosad	168316-95-8
tebufenozide	112410-23-8
thiamethoxam	153719-23-4
thiacloprid	111988-49-9
teflubenzuron	083121-18-0
triflumuron	064628-44-0
trinexapac-ethyl	095266-40-3

@ 10 µg/ml
in acetonitrile
1 x 1 mL

MIX 4 LC (19 componenti)

Analyte	CAS #
prometon	001610-18-0
cyanazine	021725-46-2
metamitron	041394-05-2
tricyclazole	041814-78-2
fluazinam	079622-59-6
tolyfluanid	000731-27-1
fenamiphos	022224-92-6
fonofos	000944-22-9
phorate	000298-02-2
fosthiazate	098886-44-3
methyl paraoxon	000950-35-6
isocarbofos	024353-61-5
paraoxon	000311-45-5
profenophos	041198-08-7
temephos	003383-96-8
terbufos	013071-79-9
thionazin	000297-97-2
trichlorfon	000052-68-6
piperonyl butoxide	000051-03-6

@ 10 µg/ml
in acetonitrile
1 x 1 mL

