

500 Series Methods - US EPA Safe Drinking Water Act (SDWA)

US EPA Method No. ....Compound Class	US EPA Method No. ....Compound Class
501.1, 501.2, 501.3 .....Trihalomethanes	527 .....Pesticides & Flame Retardants (GC/MS)
502.1, 502.2 .....Volatile Halogenated Organics	528 .....Phenols
504.1 .....Ethylene Dibromide/Dibromochloropropane	529 .....Nitroaromatics & Nitramines
505 .....Organohalide Pesticides & PCBs	531.1, 531.2 .....Carbamates
506 .....Phthalate & Adipate Esters	532 .....Phenylurea Pesticides
507 .....Nitrogen & Phosphorus Pesticides	535 .....Chloroacetanilide Herbicide Degradates
508, 508.1, 508A .....Chlorinated Pesticides	547 .....Glyphosate
515, 515.4 .....Chlorinated Acid Herbicides	549.2 .....Paraquat/Diquat
521 .....Nitrosamines	551.1 .....Chlorinated Pesticides & Herbicides
524.1, 524.2 .....Volatile Organics	552, 552.1, 552.2, 552.3 .....Haloacetic Acids and Dalapon
525, 525.1, 525.2 .....Semivolatile Organics	555 .....Chlorinated Acids
526 .....Semivolatile Organics	— .....Drinking Water Odor Standard

Method 501.1, 501.2, 501.3 (Trihalomethanes)

**501 Trihalomethane Mix** (4 components)

bromodichloromethane	chloroform
bromoform	dibromochloromethane
200µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30036 (ea.)	
2,000µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30211 (ea.)	

**Revised DW-VOC Kit (200µg/mL)**

Contains 1mL each of these mixtures.


30036: 501 Trihalomethane Mix	
30037: DW-VOC Mix #1	
30038: DW-VOC Mix #2	
30209: DW-VOC Mix #3	
cat. # 30210 (kit)	

**DW-VOC Mix #1** (8 components)

benzene	1,1-dichloroethene
carbon tetrachloride	1,1,1-trichloroethane
1,4-dichlorobenzene	trichloroethene
1,2-dichloroethane	vinyl chloride
200µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30037 (ea.)	
2,000µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30219 (ea.)	

**DW-VOC Kit #2 (2,000µg/mL)**

Contains 1mL each of these mixtures.

30211: 501 Trihalomethane Mix	
30219: DW-VOC Mix #1	
30220: DW-VOC Mix #2	
30235: DW-VOC Mix #3	
cat. # 30221 (kit)	

**DW-VOC Mix #2** (12 components)

chlorobenzene	styrene
1,2-dichlorobenzene	tetrachloroethene
cis-1,2-dichloroethene	toluene
trans-1,2-dichloroethene	m-xylene
1,2-dichloropropane	o-xylene
ethylbenzene	p-xylene
200µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30038 (ea.)	
2,000µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30220 (ea.)	

**DW-VOC Mix #3** (3 components)

methylene chloride	1,1,2-trichloroethane
1,2,4-trichlorobenzene	
200µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30209 (ea.)	
2,000µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30235 (ea.)	



# 500 Series Methods

## Method 502.1, 502.2 (Volatile Halogenated Organics)

### 502.2 Internal Standard #1

1-chloro-2-fluorobenzene  
2,000µg/mL in P&T methanol, 1mL/ampul  
cat. # 30040 (ea.)

### 502.2 Internal Standard Mix #2 (2 components)

2-bromo-1-chloropropane fluorobenzene  
2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30041 (ea.)

### 8021/502.2 Surrogate Mix #1 (3 components)

1-bromo-2-chloroethane fluorobenzene  
1-chloro-3-fluorobenzene  
2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30463 (ea.)

### 8021/502.2 Surrogate Mix #2 (4 components)

1-bromo-2-chloroethane 1-chloro-3-fluorobenzene  
4-bromochlorobenzene fluorobenzene  
2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30464 (ea.)

### Volatiles MegaMix® with Gases

(60 components)

benzene  
bromobenzene  
bromochloromethane  
bromodichloromethane  
bromoform  
bromomethane (methyl bromide)  
*n*-butylbenzene  
*sec*-butylbenzene  
*tert*-butylbenzene  
carbon tetrachloride  
chlorobenzene  
chloroethane (ethyl chloride)  
chloroform  
chloromethane (methyl chloride)  
2-chlorotoluene  
4-chlorotoluene  
dibromochloromethane  
1,2-dibromo-3-chloropropane (DBCP)  
1,2-dibromoethane (EDB)  
dibromomethane  
1,2-dichlorobenzene  
1,3-dichlorobenzene  
1,4-dichlorobenzene  
dichlorodifluoromethane (CFC-12)  
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  
hexachloro-1,3-butadiene  
(hexachlorobutadiene)

200µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30603 (ea.)



isopropylbenzene (cumene)  
4-isopropyltoluene (*p*-cymene)  
methylene chloride (dichloromethane)  
naphthalene  
*n*-propylbenzene  
styrene  
1,1,1,2-tetrachloroethane  
1,1,1,2,2-tetrachloroethane  
tetrachloroethene  
toluene  
1,2,3-trichlorobenzene  
1,2,4-trichlorobenzene  
1,1,1-trichloroethane  
1,1,2-trichloroethane  
trichloroethene  
trichlorofluoromethane (CFC-11)  
1,2,3-trichloropropane  
1,2,4-trimethylbenzene  
1,3,5-trimethylbenzene  
vinyl chloride  
*m*-xylene  
*o*-xylene  
*p*-xylene

### 502.2 MegaMix® (54 components)

Includes all target analytes except the six gases, which are available separately as 502.2 Calibration Mix #1.

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 (DBCP)  
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  
hexachloro-1,3-butadiene (hexachlorobutadiene)  
isopropylbenzene (cumene)  
4-isopropyltoluene (*p*-cymene)  
methylene chloride (dichloromethane)  
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  
*m*-xylene  
*o*-xylene  
*p*-xylene

200µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30432 (ea.)

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30431 (ea.)

### 502.2 Calibration Mix #1 (gases) (6 components)

bromomethane dichlorodifluoromethane (CFC-12)  
chloroethane trichlorofluoromethane (CFC-11)  
chloromethane vinyl chloride

200µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30439 (ea.)

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30042 (ea.)

### 502.2 Calibration Mix #2 (14 components)

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

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30043 (ea.)

### Antifoam Agent for Purge & Trap Samples

Foam generated as purge gas passes through a sample can enter the analytical trap, and possibly the GC column. Our silica-containing antifoam agent is effective over a wide pH range, and will not conflict with chromatography of target analytes.

Neat, 1mL/ampul

cat. # 31822 (ea.)

No data pack available.

Method 502.1, 502.2 (Volatile Halogenated Organics),  
cont'd**502.2 Calibration Mix #3** (14 components)

bromochloromethane	1,2-dichloropropane
dibromochloromethane	1,1-dichloropropene
1,2-dibromo-3-chloropropane	1,1,1,2-tetrachloroethane
1,2-dibromoethane	1,1,2,2-tetrachloroethane
dibromomethane	tetrachloroethene
1,2-dichloroethane	1,1,2-trichloroethane
<i>cis</i> -1,2-dichloroethene	1,2,3-trichloropropane

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30044 (ea.)

**502.2 Calibration Mix #4** (9 components)

benzene	styrene
<i>tert</i> -butylbenzene	toluene
chlorobenzene	1,3,5-trimethylbenzene
isopropylbenzene	<i>m</i> -xylene
<i>n</i> -propylbenzene	

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30045 (ea.)

**502.2 Calibration Mix #5** (10 components)

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

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30046 (ea.)

**502.2 Calibration Mix #6** (7 components)

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

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30047 (ea.)

**502.2 VOA Calibration Kit #1 (2,000µg/mL)**

Contains 1mL each of these mixtures.

30042: 502.2 Calibration Mix #1  
30043: 502.2 Calibration Mix #2  
30044: 502.2 Calibration Mix #3  
30045: 502.2 Calibration Mix #4  
30046: 502.2 Calibration Mix #5  
30047: 502.2 Calibration Mix #6

cat. # 30444 (kit)

**502.2 VOA Calibration Kit #2 (2,000µg/mL)**

Contains 1mL each of these mixtures.

30042: 502.2 Calibration Mix #1  
30431: 502.2 MegaMix

cat. # 30445 (kit)

**502.2 VOA Calibration Kit #3 (200µg/mL)**

Contains 1mL each of these mixtures.

30439: 502.2 Calibration Mix #1  
30432: 502.2 MegaMix

cat. # 30446 (kit)

Method 504.1 (Ethylene Dibromide/  
Dibromochloropropane)**504.1 Calibration Mix** (3 components)

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

200µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30239 (ea.)

## Method 505 (Organohalide Pesticides &amp; PCBs)

**505 Organohalide Pesticide Mix** (16 components)

aldrin	heptachlor
alachlor	heptachlor epoxide (isomer B)
atrazine	hexachlorobenzene
γ-BHC (lindane)	hexachlorocyclopentadiene
α-chlordane	methoxychlor
γ-chlordane	<i>cis</i> -nonachlor
dieldrin	<i>trans</i> -nonachlor
endrin	simazine

200µg/mL each in methanol, 1mL/ampul  
cat. # 32024 (ea.)

**Toxaphene Solutions**

1,000µg/mL in hexane, 1mL/ampul	cat. # 32005 (ea.)
2,000µg/mL in methanol, 1mL/ampul	cat. # 32015 (ea.)
5,000µg/mL in isooctane, 1mL/ampul	cat. # 32071 (ea.)

## Method 506 (Phthalate &amp; Adipate Esters)

**506 Calibration Mix** (7 components)

benzyl butyl phthalate	di- <i>n</i> -octyl phthalate
bis(2-ethylhexyl)adipate	diethylphthalate
bis(2-ethylhexyl)phthalate	dimethylphthalate
di- <i>n</i> -butylphthalate	

1,000µg/mL in isooctane, 1mL/ampul  
cat. # 31845 (ea.)

**506 Laboratory Performance Check Mix** (7 components)

benzyl butyl phthalate	250µg/mL	di- <i>n</i> -octyl phthalate	650
bis(2-ethylhexyl)adipate	1,200	diethylphthalate	100
bis(2-ethylhexyl)phthalate	250	dimethylphthalate	100
di- <i>n</i> -butylphthalate	100		

In P&T methanol, 1mL/ampul  
cat. # 31844 (ea.)

**Documentation Search**Find what you need fast at  
[www.restek.com/documents](http://www.restek.com/documents)

- Material safety data sheets
- Certificates of analysis
- Datapacks (by catalog number and/or lot number)

# 500 Series Methods

## Method 507 (Nitrogen & Phosphorus Pesticides)

### Organonitrogen Pesticide Mix #1 (Rev), Method 525.2

(37 components)

alachlor	molinate
ametryn	napropamide (Devrinol)
atraton	norflurazon
atrazine	pebulate
bromacil	prometon
butachlor	prometryne
butylate	pronamide (propyzamide)
chlorpropham	propachlor
cyanazine (Bladex)	propazine
cycloate	simazine
diphenamid	simetryn
EPTC	tebuthiuron
etridiazole (Terrazole)	terbacil
fenarimol	terbutryn
fluridone (Sonar)	triadimefon
hexazinone (Velpar)	tricyclazole (Beam)
metolachlor	trifluralin
metribuzin	vernolate
MGK-264	

500µg/mL each in acetone, 1mL/ampul

cat. # 33012 (ea.)

### Organophosphorus Pesticide Mix #1 (Rev), Method 525.2

(7 components)

chlorpyrifos (Dursban)	methyl paraoxon (parathion methyl-O-analog)
dichlorvos (DDVP)	mevinphos (phosdrin)
disulfoton sulfone	stirofos (tetrachlorvinphos)
ethoprop (ethoprophos)	

500µg/mL each in acetone, 1mL/ampul

cat. # 33013 (ea.)

### Method 525.2 Nitrogen/Phosphorus Pesticide Mix #2

(6 components)

carboxin	fenamiphos
diazinon	merphos
disulfoton	terbufos

1,000µg/mL each in acetone, 1mL/ampul

cat. # 32423 (ea.)

## Method 508, 508.1, 508A (Chlorinated Pesticides)

### 508.1 Internal Standard

pentachloronitrobenzene

100µg/mL in ethyl acetate, 1mL/ampul

cat. # 32091 (ea.)

### 508.1 Surrogate

4,4'-dibromobiphenyl

500µg/mL in ethyl acetate, 1mL/ampul

cat. # 32092 (ea.)

### 508.1 GC Degradation Check Mix

4,4'-DDT endrin

100µg/mL each in ethyl acetate, 1mL/ampul

cat. # 32093 (ea.)

## Method 508, 508.1, 508A (Chlorinated Pesticides)

cont'd

### 508 Performance Check Mix (4 components)

δ-BHC	0.4µg/mL	chlorpyrifos	0.02
chlorothalonil	0.5	DCPA (Dacthal)	0.5

In methyl *tert*-butyl ether, 1mL/ampul

cat. # 32045 (ea.)

### 508.1 Calibration Mix #1 (17 components)

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

500µg/mL each in ethyl acetate, 1mL/ampul

cat. # 32094 (ea.)

### 508.1 Calibration Mix #2 (11 components)

chlorobenzilate	hexachlorobenzene
α-chlordane	<i>cis</i> -permethrin*
γ-chlordane	<i>trans</i> -permethrin*
chlorneb	propachlor
DCPA (Dacthal)	trifluralin
etridiazole	

500µg/mL each in ethyl acetate, 1mL/ampul

cat. # 32095 (ea.)

\*1,000µg/mL total permethrin. Exact content of each isomer listed on certificate of analysis.

### 508.1 Calibration Mix #3 (8 components)

alachlor	hexachlorocyclopentadiene
atrazine	metolachlor
chlorthalonil	metribuzin
cyanazine	simazine

500µg/mL each in ethyl acetate, 1mL/ampul

cat. # 32096 (ea.)

### Toxaphene Solutions

1,000µg/mL in hexane, 1mL/ampul

cat. # 32005 (ea.)

2,000µg/mL in methanol, 1mL/ampul

cat. # 32015 (ea.)

5,000µg/mL in isooctane, 1mL/ampul

cat. # 32071 (ea.)

### Organochlorine Pesticide System Evaluation Mix (2 components)

4,4'-DDT

200µg/mL

endrin

100µg/mL

In methyl *tert*-butyl ether, 1mL/ampul

cat. # 32417 (ea.)

### Decachlorobiphenyl, 508A

200µg/mL in acetone, 1mL/ampul

cat. # 32029 (ea.)

200µg/mL in acetone, 5mL/ampul

cat. # 32030 (ea.)

10µg/mL in isooctane, 1mL/ampul

cat. # 32289 (ea.)

**Custom Reference Standards Quotes**

Visit us at [www.restek.com/solutions](http://www.restek.com/solutions)



Method 508, 508.1, 508A (Chlorinated Pesticides)  
cont'd

**508.1 Pesticide Kit**

Contains 1mL each of these mixtures.

- 32045: 508 Performance Check Mix
- 32091: 508.1 Internal Standard Mix
- 32092: 508.1 Surrogate Mix
- 32093: 508.1 GC Degradation Check Mix
- 32094: 508.1 Calibration Mix #1
- 32095: 508.1 Calibration Mix #2
- 32096: 508.1 Calibration Mix #3



cat. # 32097 (kit)

Method 515, 515.4 (Chlorinated Acid Herbicides)

**Herbicide Internal Standard**

4,4'-dibromooctafluorobiphenyl

250µg/mL in hexane, 1mL/ampul

cat. # 32053 (ea.)

2,000µg/mL in methyl *tert*-butyl ether, 1mL/ampul

cat. # 31856 (ea.)

**Herbicide Surrogate**

**Free Acid Form**

2,4-dichlorophenylacetic acid (DCAA)

200µg/mL in methanol, 1mL/ampul

cat. # 32049 (ea.)

1,000µg/mL in acetone, 1mL/ampul

cat. # 32439 (ea.)

**Derivatized Form**

2,4-dichlorophenyl acetic acid methyl ester (DCAA methyl ester)

200µg/mL in hexane, 1mL/ampul

cat. # 32050 (ea.)

**Herbicide Lab Performance Check Mix** (5 components)

dinoseb methyl ether	4µg/mL
DCAA methyl ester	500
4,4'-dibromooctafluorobiphenyl	250
3,5-dichlorobenzoic acid methyl ester	600
4-nitroanisole	1,600

In methyl *tert*-butyl ether, 1mL/ampul

cat. # 32063 (ea.)

**Herbicide Mix #1** (7 components)

**Free Acid Form**

2,4-D	dicamba
2,4-DB	dichlorprop
2,4,5-T	dinoseb
2,4,5-TP	

200µg/mL each in methanol, 1mL/ampul

cat. # 32054 (ea.)

**Derivatized Form**

2,4-D methyl ester	dicamba methyl ester
2,4-DB methyl ester	dichlorprop methyl ester
2,4,5-T methyl ester	dinoseb methyl ester
2,4,5-TP methyl ester	

200µg/mL each in hexane, 1mL/ampul

cat. # 32055 (ea.)

Method 515, 515.4 (Chlorinated Acid Herbicides)  
cont'd

**Herbicide Mix #2**

**Free Acid Form**

dalapon

2,000µg/mL in methanol, 1mL/ampul

cat. # 32056 (ea.)

**Derivatized Form**

dalapon methyl ester

2,000µg/mL in hexane, 1mL/ampul

cat. # 32057 (ea.)

**Herbicide Mix #4** (8 components)

**Free Acid Form**

acifluorfen	3,5-dichlorobenzoic acid
bentazon	4-nitrophenol
chloramben	pentachlorophenol
DCPA diacid	picloram

200µg/mL each in methanol, 1mL/ampul

cat. # 32061 (ea.)

**Derivatized Form**

acifluorfen methyl ester	3,5-dichlorobenzoic acid methyl ester
bentazon methyl ester	4-nitroanisole
chloramben methyl ester	pentachloroanisole
DCPA (Dacthal)	picloram methyl ester

200µg/mL each in hexane, 1mL/ampul

cat. # 32062 (ea.)

**515.4 Calibration Mix** (16 components)

acifluorfen (Blazer)	50µg/mL	3,5-dichlorobenzoic acid	50
bentazon	100	dichlorprop	100
chloramben	50	dinoseb	100
2,4-D	100	pentachlorophenol	10
dalapon	100	picloram	50
2,4-DB	100	quinclorac	50
DCPA diacid (tetrachloro terephthalic acid)	50	2,4,5-T	25
dicamba	50	2,4,5-TP (Silvex)	25

In acetone, 1mL/ampul

cat. # 32443 (ea.)

**515.4 Methylated Chlorinated Acids Mix** (16 components)

acifluorfen methyl ester	50µg/mL	dichlorprop methyl ester	100
bentazon methyl ester	100	dinoseb methyl ester	100
chloramben methyl ester	50	pentachloroanisole	10
dalapon methyl ester	100	picloram methyl ester	50
2,4-D methyl ester	100	quinclorac methyl ester	50
2,4-DB methyl ester	100	2,4,5-T methyl ester	25
DCPA (Dacthal)	100	2,4,5-TP (Silvex) methyl ester	25
dicamba methyl ester	50		
3,5-dichlorobenzoic acid methyl ester	50		

In methyl *tert*-butyl ether, 1mL/ampul

cat. # 32444 (ea.)



also available

Additional chlorinated acid herbicides mixes:

see Method 555, page 463.  
and Method 8321, page 484.



## 500 Series Methods

### Method 521 (Nitrosamines)

#### Nitrosamine Calibration Mix, Method 521 (7 components)

N-nitrosodiethylamine  
N-nitrosodimethylamine  
N-nitrosodi-*n*-butylamine  
N-nitrosodi-*n*-propylamine  
1,000µg/mL each in methylene chloride, 1mL/ampul  
cat. # 31898 (ea.)

N-nitrosomethylethylamine  
N-nitrosopiperidine  
N-nitrosopyrrolidine

#### N-Nitrosodimethylamine-d6

N-nitrosodimethylamine-d6  
1,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 33910 (ea.)

#### N-Nitrosodi-*n*-propylamine-d14

N-nitrosodi-*n*-propylamine-d14  
1,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 33911 (ea.)

### Method 524.1, 524.2 (Volatile Organics)

#### 524 Internal Standard/Surrogate Mix (3 components)

4-bromofluorobenzene  
1,2-dichlorobenzene-d4  
2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30201 (ea.)

fluorobenzene

#### Surrogate Standard (2 components)

4-bromofluorobenzene  
2,500µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30484 (ea.)

α,α,α-trifluorotoluene

#### 524.2 Surrogate Standard (2 components)

1-bromo-4-fluorobenzene  
2,000µg/mL in P&T methanol, 1mL/ampul  
cat. # 30607 (ea.)

1,2-dichlorobenzene-d4

#### PFTBA (MS Tuning Compound)

perfluorotributylamine (PFTBA)  
Neat, 1mL/ampul  
cat. # 30482 (ea.)

Neat, 1g  
cat. # 33027 (ea.)

No data pack available.

#### Volatiles MegaMix® with Gases (60 components)

benzene	2,2-dichloropropane
bromobenzene	1,1-dichloropropene
bromochloromethane	<i>cis</i> -1,3-dichloropropene
bromodichloromethane	<i>trans</i> -1,3-dichloropropene
bromoform	ethylbenzene
bromomethane (methyl bromide)	hexachloro-1,3-butadiene (hexachlorobutadiene)
<i>n</i> -butylbenzene	isopropylbenzene (cumene)
<i>sec</i> -butylbenzene	4-isopropyltoluene ( <i>p</i> -cymene)
<i>tert</i> -butylbenzene	methylene chloride (dichloromethane)
carbon tetrachloride	naphthalene
chlorobenzene	<i>n</i> -propylbenzene
chloroethane (ethyl chloride)	styrene
chloroform	1,1,1,2-tetrachloroethane
chloromethane (methyl chloride)	1,1,2,2-tetrachloroethane
2-chlorotoluene	tetrachloroethene
4-chlorotoluene	toluene
dibromochloromethane	1,2,3-trichlorobenzene
1,2-dibromo-3-chloropropane (DBCP)	1,2,4-trichlorobenzene
1,2-dibromoethane (EDB)	1,1,1-trichloroethane
dibromomethane	1,1,2-trichloroethane
1,2-dichlorobenzene	trichloroethene
1,3-dichlorobenzene	trichlorofluoromethane (CFC-11)
1,4-dichlorobenzene	1,2,3-trichloropropane
dichlorodifluoromethane (CFC-12)	1,2,4-trimethylbenzene
1,1-dichloroethane	1,3,5-trimethylbenzene
1,2-dichloroethane	vinyl chloride
1,1-dichloroethene	<i>m</i> -xylene
<i>cis</i> -1,2-dichloroethene	<i>o</i> -xylene
<i>trans</i> -1,2-dichloroethene	<i>p</i> -xylene
1,2-dichloropropane	
1,3-dichloropropane	

200µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30603 (ea.)

#### Antifoam Agent for Purge & Trap Samples

Foam generated as purge gas passes through a sample can enter the analytical trap, and possibly the GC column. Our silica-containing antifoam agent is effective over a wide pH range, and will not conflict with chromatography of target analytes.

Neat, 1mL/ampul  
cat. # 31822 (ea.)

No data pack available.

## EPA 521 & 522 Cartridge



- Activated charcoal for extraction of nitrosamines and dioxane in drinking water.
- Batch tested to ensure low background and consistent recoveries.
- High quality polypropylene tubes and frits to minimize interference.
- Specially treated charcoal and frits to minimize fines that result in inconsistent recoveries.

See page 394.

Disks are also available on page 397.

Method 524.1, 524.2 (Volatile Organics) *cont'd*

**Drinking Water VOA MegaMix®**,  
**524.2 Rev. 4.1** (73 components)

acrylonitrile  
allyl chloride  
benzene  
bromobenzene  
bromochloromethane  
bromodichloromethane  
bromoform  
*n*-butylbenzene  
*sec*-butylbenzene  
*tert*-butylbenzene  
carbon disulfide  
carbon tetrachloride  
chloroacetonitrile  
chlorobenzene  
1-chlorobutane  
chlorodibromomethane  
(dibromochloromethane)  
chloroform  
2-chlorotoluene  
4-chlorotoluene  
1,2-dibromo-3-chloropropane (DBCP)  
1,2-dibromoethane (ethylene  
dibromide)  
dibromomethane  
1,2-dichlorobenzene  
1,3-dichlorobenzene  
1,4-dichlorobenzene  
*trans*-1,4-dichloro-2-butene  
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  
diethyl ether (ethyl ether)  
ethylbenzene  
ethyl methacrylate  
hexachloro-1,3-butadiene  
hexachloroethane  
iodomethane (methyl iodide)



isopropylbenzene (cumene)  
4-isopropyltoluene (*p*-cymene)  
methacrylonitrile  
methyl acrylate  
methyl *tert*-butyl ether (MTBE)  
methylene chloride (dichloromethane)  
methyl methacrylate  
naphthalene  
nitrobenzene  
2-nitropropane  
pentachloroethane  
propionitrile (ethylcyanide)  
*n*-propylbenzene  
styrene  
1,1,1,2-tetrachloroethane  
1,1,2,2-tetrachloroethane  
tetrachloroethene  
tetrahydrofuran  
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  
*m*-xylene  
*o*-xylene  
*p*-xylene

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30601 (ea.)

**502.2 Calibration Mix #1 (gases)** (6 components)

bromomethane  
chloroethane  
chloromethane  
dichlorodifluoromethane (CFC-12)  
trichlorofluoromethane (CFC-11)  
vinyl chloride

200µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30439 (ea.)

2,000µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30042 (ea.)

**Ketones Mix, 524.2 Rev. 4.1** (5 components)

acetone  
2-butanone (MEK)  
1,1-dichloro-2-propanone  
5,000µg/mL each in 90% P&T methanol:10% water, 1mL/ampul  
2-hexanone  
4-methyl-2-pentanone (MIBK)  
cat. # 30602 (ea.)

**Oxygenates Standard** (5 components)

diisopropyl ether (DIPE) 2,000µg/mL  
ethyl-*tert*-butyl ether (ETBE) 2,000  
*tert*-amyl ethyl ether (TAEE) 2,000  
*tert*-amyl methyl ether (TAME) 2,000  
*tert*-butyl alcohol (TBA) 10,000

In P&T methanol, 1mL/ampul

cat. # 30619 (ea.)

**524 Calibration Mix #7A** (5 components)

acetone 4-methyl-2-pentanone (MIBK)  
2-butanone (MEK) tetrahydrofuran  
2-hexanone

2,000µg/mL each in P&T methanol, 1mL/ampul

cat. # 30300 (ea.)

**524 Calibration Mix #7B** (7 components)

acrylonitrile methyl methacrylate  
allyl chloride (3-chloropropene) nitrobenzene  
ethyl methacrylate pentachloroethane  
methyl acrylate

2,000µg/mL each in P&T methanol, 1mL/ampul

cat. # 30304 (ea.)

**524 Calibration Mix #7 Kit**

Contains 1mL each of these mixtures.

30300: 524 Calibration Mix #7A

30304: 524 Calibration Mix #7B

cat. # 30202 (kit)



**524 Calibration Mix #8** (12 components)

carbon disulfide hexachloroethane  
chloroacetonitrile iodomethane (methyl iodide)  
1-chlorobutane methacrylonitrile  
*trans*-1,4-dichloro-2-butene methyl *tert*-butyl ether  
1,1-dichloro-2-propanone 2-nitropropane  
diethyl ether propionitrile

2,000µg/mL each in P&T methanol, 1mL/ampul

cat. # 30203 (ea.)

**524 Rev. 4.0 Volatile Organics Kit (2,000µg/mL)**

Contains 1mL each of these mixtures.

30201: 524 Internal Standard/Surrogate Mix

30042: 502.2 Calibration Mix #1

30043: 502.2 Calibration Mix #2

30044: 502.2 Calibration Mix #3

30045: 502.2 Calibration Mix #4

30046: 502.2 Calibration Mix #5

30047: 502.2 Calibration Mix #6

30300: 524 Calibration Mix #7A

30304: 524 Calibration Mix #7B

30203: 524 Calibration Mix #8

cat. # 30204 (kit)



**524 Rev. 4.0 VOA Kit #2 (2,000µg/mL)**

Contains 1mL each of these mixtures.

30042: 502.2 Calibration Mix #1

30431: 502.2 MegaMix

30300: 524 Calibration Mix #7A

30304: 524 Calibration Mix #7B

30203: 524 Calibration Mix #8

30201: 524 Surrogate/Internal Standard Mix

cat. # 30447 (kit)



Note: For a listing of additional individual VOA surrogate and internal standards, see page 467.

# 500 Series Methods

## Method 525, 525.1, 525.2 (Semivolatile Organics)

### Method 525.2 Internal Standard Mix (3 components)

acenaphthene-d10 phenanthrene-d10  
 chrysene-d12  
 1,000µg/mL each in acetone, 1mL/ampul  
 cat. # 31825 (ea.)

### Method 525.2 Surrogate Standard Mix (4 components)

2-nitro-*m*-xylene pyrene-d10  
 perylene-d12 triphenylphosphate  
 1,000µg/mL each in acetone, 1mL/ampul  
 cat. # 31826 (ea.)

### Method 525.2 Herbicide Analytes

Volume is 1mL/ampul. Concentration is µg/mL.

Compound	Solvent	Conc.	cat.# (ea.)
acetochlor	M	100	33208
alachlor	M	100	33207
metolachlor	M	100	33209

M = methanol

### Method 525.2 Herbicide Mix (3 components)

acetochlor metolachlor  
 alachlor  
 100µg/mL in methanol, 1mL/ampul  
 cat. # 33211 (ea.)

### Method 525.2 Semivolatile Mix (revised) (28 components)

acenaphthylene	di- <i>n</i> -butylphthalate
anthracene	2,4-dinitrotoluene
benzo(a)anthracene	2,6-dinitrotoluene
benzo(a)pyrene	di- <i>n</i> -octylphthalate
benzo(b)fluoranthene	fluoranthene
benzo(ghi)perylene	fluorene
benzo(k)fluoranthene	hexachlorobenzene
benzylbutylphthalate	hexachlorocyclopentadiene
bis(2-ethylhexyl)adipate	indeno(1,2,3- <i>cd</i> )pyrene
bis(2-ethylhexyl)phthalate	isophorone
chrysene	naphthalene
dibenzo(a,h)anthracene	pentachlorophenol*
diethylphthalate	phenanthrene
dimethylphthalate	pyrene

1,000µg/mL each in acetone, 1mL/ampul\*  
 cat. # 31899 (ea.)

\*pentachlorophenol at 4,000µg/mL.

### Method 525.2 PCB Congener Mix (8 components)

2-chlorobiphenyl (BZ#1)  
 2,3-dichlorobiphenyl (BZ#5)  
 2,4,5-trichlorobiphenyl (BZ#29)  
 2,2',4,4'-tetrachlorobiphenyl (BZ#47)  
 2,2',3',4,6-pentachlorobiphenyl (BZ#98)  
 2,2',4,4',5,6'-hexachlorobiphenyl (BZ#154)  
 2,2',3,3',4,4',6-heptachlorobiphenyl (BZ#171)  
 2,2',3,3',4,5',6,6'-octachlorobiphenyl (BZ#200)  
 200µg/mL each in acetone, 1mL/ampul  
 cat. # 32420 (ea.)

### Organochlorine Pesticide Mix AB # 3 (20 components)

aldrin	dieldrin
α-BHC	endosulfan I
β-BHC	endosulfan II
δ-BHC	endosulfan sulfate
γ-BHC (lindane)	endrin
α-chlordane	endrin aldehyde
γ-chlordane	endrin ketone
4,4'-DDD	heptachlor
4,4'-DDE	heptachlor epoxide (isomer B)
4,4'-DDT	methoxychlor

2,000µg/mL each in hexane:toluene (1:1), 1mL/ampul  
 cat. # 32415 (ea.)

### Organonitrogen Pesticide Mix #1 (Rev), Method 525.2

(37 components)

alachlor	molinate
ametryn	napropamide (Devrinol)
atraton	norflurazon
atrazine	pebulate
bromacil	prometon
butachlor	prometryne
butylate	pronamide (propyzamide)
chlorpropham	propachlor
cyanazine (Bladex)	propazine
cycloate	simazine
diphenamid	simetryn
EPTC	tebuthiuron
etridiazole (Terrazole)	terbacil
fenarimol	terbutryn
fluridone (Sonar)	triadimefon
hexazinone (Velpar)	tricyclazole (Beam)
metolachlor	trifluralin
metribuzin	vernolate
MGK-264	

500µg/mL each in acetone, 1mL/ampul  
 cat. # 33012 (ea.)

### Organophosphorus Pesticide Mix #1 (Rev), Method 525.2

(7 components)

chlorpyrifos (Dursban)	methyl paraoxon (parathion methyl-O-analog)
dichlorvos (DDVP)	mevinphos (phosdrin)
disulfoton sulfone	stirofos (tetrachlorvinphos)
ethoprop (ethoprophos)	

500µg/mL each in acetone, 1mL/ampul  
 cat. # 33013 (ea.)

### Method 525.2 Nitrogen/Phosphorus Pesticide Mix #2

(6 components)

carboxin	fenamiphos
diazinon	merphos
disulfoton	terbufos

1,000µg/mL each in acetone, 1mL/ampul  
 cat. # 32423 (ea.)

### also available

Try our CLPesticides columns for these applications.

See pages 88-90 for details.



### also available

See pages 452-453 for 502.2 MegaMix® and 502.2 calibration mixes.



Method 525, 525.1, 525.2 (Semivolatile Organics)  
*cont'd*

**Organochlorine Pesticide Mix #2 (Rev), Method 525.2**

(8 components)  
chlorobenzilate  
chloroneb  
chlorothalonil  
DCPA (Dacthal)  
500µg/mL each in acetone, 1mL/ampul  
cat. # 33011 (ea.)

heptachlor epoxide (isomer A)  
*trans*-nonachlor  
*cis*-permethrin  
*trans*-permethrin

**Method 525.2 Fortification Recovery Standard**

*p*-terphenyl-d14  
1,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 31828 (ea.)

**Method 525.2 GC/MS Performance Check Mix (3 components)**

4,4'-DDT  
DFTPP (decafluorotriphenylphosphine)  
endrin  
1,000µg/mL each in acetone, 1mL/ampul  
cat. # 31827 (ea.)

Method 526 (Semivolatile Organics)

**Internal Standard Mix, EPA 526 (3 components)**

acenaphthene-d10  
chrysene-d12  
500µg/mL each in acetone, 1mL/ampul  
cat. # 31692 (ea.)

phenanthrene-d10

**Surrogate Standard Mix, EPA 526 (2 components)**

2-nitro-*m*-xylene  
500µg/mL each in acetone, 1mL/ampul  
cat. # 31693 (ea.)

triphenylphosphate

**Semivolatile Calibration Mix, EPA 526 (11 components)**

acetochlor  
cyanazine  
diazinon  
2,4-dichlorophenol  
1,2-diphenylhydrazine  
disulfoton  
200µg/mL each in ethyl acetate, 1mL/ampul  
cat. # 31691 (ea.)

fonofos  
nitrobenzene  
prometon  
terbufos  
2,4,6-trichlorophenol

Method 527 (Pesticides & Flame Retardants-GC/MS)

**Internal Standard, Method 527 (3 components)**

acenaphthene-d10  
chrysene-d12  
500µg/mL each in acetone, 1mL/ampul  
cat. # 33010 (ea.)

phenanthrene-d10

**Method 525.2 Internal Standard Mix (3 components)**

acenaphthene-d10  
chrysene-d12  
1,000µg/mL each in acetone, 1mL/ampul  
cat. # 31825 (ea.)

phenanthrene-d10

**Surrogate Standard, Method 527 (3 components)**

1,3-dimethyl-2-nitrobenzene  
perylene-d12  
500µg/mL each in acetone, 1mL/ampul  
cat. # 33009 (ea.)

triphenylphosphate

**Method 525.2 Surrogate Standard Mix (4 components)**

2-nitro-*m*-xylene  
perylene-d12  
1,000µg/mL each in acetone, 1mL/ampul  
cat. # 31826 (ea.)

pyrene-d10  
triphenylphosphate

**PBDE Mix (5 components)**

2,2',4,4',5-pentabromodiphenyl ether (BDE-99)  
2,2',4,4',5,5'-hexabromobiphenyl  
2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153)  
2,2',4,4',6-pentabromodiphenyl ether (BDE-100)  
2,2',4,4'-tetrabromodiphenyl ether (BDE-47)  
50µg/mL each in isooctane:ethyl acetate (4:1), 1mL/ampul  
cat. # 33098 (ea.)

**Pesticides Mix #1, Method 527 (16 components)**

atrazine  
bifenthrin  
esbiol (Bioallethrin, S-cyclopentyl isomer)  
bromacil  
esfenvalarate  
fenvalarate  
hexazinone  
kepone  
500µg/mL each in ethyl acetate, 1mL/ampul  
cat. # 33007 (ea.)

mirex  
nitrofen  
norflurazon  
oxychlorodane  
prometryne  
propazine  
thiobencarb  
vinclozolin

**Pesticides Mix #2, Method 527 (5 components)**

chlorpyrifos (Dursban)  
dimethoate  
malathion  
500µg/mL each in ethyl acetate, 1mL/ampul  
cat. # 33008 (ea.)

parathion  
terbufos sulfone

quantity

Reference Standards Search

Search by compound name, synonym, or CAS #.

Visit us at [www.restek.com/reference](http://www.restek.com/reference)



## 500 Series Methods

### Method 528 (Phenols)

#### Internal Standard Mix, EPA 528 (2 components)

3-nitro-*o*-xylene 1,000 µg/mL  
2,3,4,5-tetrachlorophenol 2,000

In methylene chloride, 1mL/ampul  
cat. # 31696 (ea.)

#### Surrogate Standard Mix, EPA 528 (3 components)

2-chlorophenol-d4 1,000 µg/mL  
2,4-dimethylphenol-3,5,6-d3 1,000  
2,4,6-tribromophenol 2,000

In methanol, 1mL/ampul  
cat. # 31697 (ea.)

#### Phenol Calibration Mix, EPA 528 (12 components)

4-chloro-3-methylphenol	2-methyl-4,6-dinitrophenol
2-chlorophenol	2-nitrophenol
<i>o</i> -cresol	4-nitrophenol
2,4-dichlorophenol	pentachlorophenol
2,4-dimethylphenol	phenol
2,4-dinitrophenol	2,4,6-trichlorophenol

2,000 µg/mL each in methylene chloride, 1mL/ampul  
cat. # 31694 (ea.)

#### Phenols Fortification Mix, EPA 528 (12 components)

4-chloro-3-methylphenol	100 µg/mL	2-methyl-4,6-dinitrophenol	500
2-chlorophenol	100	2-nitrophenol	100
<i>o</i> -cresol	100	4-nitrophenol	500
2,4-dichlorophenol	100	pentachlorophenol	500
2,4-dimethylphenol	100	phenol	100
2,4-dinitrophenol	500	2,4,6-trichlorophenol	100

In methanol, 1mL/ampul  
cat. # 31695 (ea.)

### Method 529 (Nitroaromatics & Nitramines)

#### 529 Internal Standard Mix

3,4-dinitrotoluene  
2,000 µg/mL in ethyl acetate, 1mL/ampul  
cat. # 33901 (ea.)

#### 529 Surrogate Standard #1

2-nitromesitylene  
2,000 µg/mL in methanol, 1mL/ampul  
cat. # 33902 (ea.)

#### 529 Surrogate Standard #2

1,2,4-trimethyl-5-nitrobenzene  
2,000 µg/mL in methanol, 1mL/ampul  
cat. # 33903 (ea.)

#### 529 Surrogate Standard #3

nitrobenzene-d5  
2,000 µg/mL in methylene chloride, 1mL/ampul  
cat. # 33904 (ea.)

#### Nitroaromatics and Nitramine Explosives in Drinking Water

(14 components)

3,5-dinitroaniline	2-nitrotoluene
1,3-dinitrobenzene	3-nitrotoluene
2-amino-4,6-dinitrotoluene	4-nitrotoluene
4-amino-2,6-dinitrotoluene	RDX
2,4-dinitrotoluene	tetryl
2,6-dinitrotoluene	1,3,5-trinitrobenzene
nitrobenzene	2,4,6-trinitrotoluene

1,000 µg/mL each in acetonitrile, 1mL/ampul  
cat. # 33900 (ea.)

Meets all DOT requirements. Available only to customers or distributors inside the 48 contiguous United States; item may not be resold for export.



# Rxi-5Si1 MS

## Exceptionally Inert Columns for GC/MS and Trace Level Analyses

- **Low bleed** for lower detection limits of late eluting PAHs.
- **Excellent resolution** of benzo(b)fluoranthene and benzo(k)fluoranthene
- Engineered to assure **column-to-column reproducibility**.



Find Out More about Rxi® 3-in-1  
Technology at [www.restek.com/rxi](http://www.restek.com/rxi)

## Method 531.1, 531.2 (Carbamates)

### Internal Standard

4-bromo-3,5-dimethylphenyl-N-methylcarbamate (BDMC)  
100 µg/mL in methanol, 1 mL/ampul  
cat. # 32274 (ea.)

### 531.1 Performance Check Mix (4 components)

aldicarb sulfoxide	100 µg/mL	3-hydroxycarbofuran	2
BDMC	10	methiocarb	20

In methanol, 1 mL/ampul  
cat. # 32275 (ea.)

### 531.1 Carbamate Pesticide Calibration Mixture (10 components)

aldicarb	3-hydroxycarbofuran
aldicarb sulfone	methiocarb
aldicarb sulfoxide	methomyl
carbaryl (Sevin)	oxamyl
carbofuran	propoxur (Baygon)

100 µg/mL each in methanol, 1 mL/ampul  
cat. # 32273 (ea.)

### 531.2 Carbamate Pesticide Calibration Mixture (11 components)

aldicarb	methiocarb
aldicarb sulfone	methomyl
aldicarb sulfoxide	1-naphthol
carbaryl (Sevin)	oxamyl
carbofuran	propoxur (Baygon)
3-hydroxycarbofuran	

100 µg/mL in acetonitrile, 1 mL/ampul  
cat. # 32435 (ea.)

## Method 532 (Phenylurea Pesticides)

### Phenylurea Surrogate Mixture (2 components)

carbazole	monuron
-----------	---------

500 µg/mL each in methanol:acetonitrile (50:50), 1 mL/ampul  
cat. # 32433 (ea.)

### Phenylurea Pesticide Mixture (8 components)

diflufenzuron	propanil
diuron	siduron
fluometuron	tebuthiuron
linuron	thidiazuron

200 µg/mL each in acetonitrile:acetone (90:10), 1 mL/ampul  
cat. # 32434 (ea.)

## Method 535 (Chloroacetanilide Herbicide Degradates)

### Method 535 Internal Standard

butachlor ESA sodium salt  
100 µg/mL in methanol, 1 mL/ampul  
cat. # 33202 (ea.)

### Method 535 Surrogate Standard

dimethachlor ESA sodium salt  
100 µg/mL in methanol, 1 mL/ampul  
cat. # 33203 (ea.)

### Method 535 Individual Compounds

Volume is 1 mL/ampul. Concentration is µg/mL.

Compound	Solvent	Conc.	cat.# (ea.)
acetochlor ESA sodium salt	M	100	33092
acetochlor OA	M	100	33094
alachlor ESA sodium salt	M	100	33096
alachlor OA	M	100	33099
metolachlor ESA sodium salt	M	100	33200
metolachlor OA	M	100	33201

M = methanol

## Method 547 (Glyphosate)

### Glyphosate Standard

glyphosate  
1,000 µg/mL in DI water, 1 mL/ampul  
cat. # 32426 (ea.)  
1,000 µg/mL in DI water, 5 mL/ampul  
cat. # 32427 (ea.)

### AMPA (glyphosate metabolite)

aminomethyl phosphonic acid (AMPA)  
100 µg/mL in DI water, 1 mL/ampul  
cat. # 32428 (ea.)

## Method 549.2 (Paraquat/Diquat)

### Paraquat & Diquat Calibration Mix (2 components)

diquat dibromide	paraquat dichloride
------------------	---------------------

1,000 µg/mL each in water, 1 mL/ampul  
cat. # 32437 (ea.)

### Ultra Quat Reagent Solution

Use with Ultra Quat HPLC column. Dilute to 1 liter, per instructions.  
In water, 20 mL/bottle  
cat. # 32441 (ea.)

## Chromatogram Search Tool

Search by compound name, synonym,  
CAS # or keyword

[www.restek.com/chromatograms](http://www.restek.com/chromatograms)



# 500 Series Methods

## Method 551.1 (Chlorinated Pesticides & Herbicides)

### 551.1 Internal Standard

1-bromo-4-fluorobenzene  
1,000µg/mL in acetone, 1mL/ampul  
cat. # 31854 (ea.)

### 551.1 Surrogate Standard

decafluorobiphenyl  
1,000µg/mL in acetone, 1mL/ampul  
cat. # 31855 (ea.)

### Method 551.1 Pesticide/Herbicide Mix (16 components)

alachlor	heptachlor
atrazine	heptachlor epoxide (isomer B)
bromacil	hexachlorobenzene
cyanazine (Bladex)	hexachlorocyclopentadiene
endrin	methoxychlor
endrin aldehyde	metolachlor
endrin ketone	simazine
γ-BHC (lindane)	trifluralin

1,000µg/mL each in acetone, 1mL/ampul  
cat. # 32438 (ea.)

### Disinfection By-Product and Chlorinated Solvents Mix (19 components)

bromochloroacetonitrile	dichloroacetonitrile
bromodichloromethane	1,1-dichloro-2-propanone
bromoform	tetrachloroethylene
carbon tetrachloride	trichloroacetonitrile
chloroform	1,1,1-trichloroethane
chloropicrin	1,1,2-trichloroethane
dibromoacetonitrile	trichloroethylene
dibromochloromethane	1,2,3-trichloropropane
1,2-dibromo-3-chloropropane (DBCP)	1,1,1-trichloro-2-propanone
1,2-dibromoethane (EDB)	

2,000µg/mL each in acetone, 1mL/ampul  
cat. # 30615 (ea.)

### Chloral Hydrate

chloral hydrate  
1,000µg/mL in acetonitrile, 1mL/ampul  
cat. # 30609 (ea.)

### Disinfection By-Product Mix (7 components)

bromochloroacetonitrile	1,1-dichloro-2-propanone
chloropicrin	trichloroacetonitrile
dibromoacetonitrile	1,1,1-trichloro-2-propanone
dichloroacetonitrile	

2,000µg/mL each in acetone, 1mL/ampul  
cat. # 30616 (ea.)

## Methods 552, 552.1, 552.2, 552.3 (Haloacetic Acids and Dalapon)

### Haloacetic Acid Mix (9 components)

bromochloroacetic acid	monobromoacetic acid
bromodichloroacetic acid	monochloroacetic acid
chlorodibromoacetic acid	tribromoacetic acid
dibromoacetic acid	trichloroacetic acid
dichloroacetic acid	

1,000µg/mL each in methyl *tert*-butyl ether, 1mL/ampul  
cat. # 31896 (ea.)

### Haloacetic Acid Methyl Ester Mix (9 components)

methyl bromochloroacetate	methyl monobromoacetate
methyl bromodichloroacetate	methyl monochloroacetate
methyl chlorodibromoacetate	methyl tribromoacetate
methyl dibromoacetate	methyl trichloroacetate
methyl dichloroacetate	

1,000µg/mL each in methyl *tert*-butyl ether, 1mL/ampul  
cat. # 31897 (ea.)

### Haloacetic Acid Mix #1 (6 components)

bromochloroacetic acid	monobromoacetic acid
dibromoacetic acid	monochloroacetic acid
dichloroacetic acid	trichloroacetic acid

2,000µg/mL each in methyl *tert*-butyl ether, 1mL/ampul  
cat. # 31644 (ea.)

### Haloacetic Acid Methyl Ester Mix #1 (6 components)

methyl bromochloroacetate	methyl monobromoacetate
methyl dibromoacetate	methyl monochloroacetate
methyl dichloroacetate	methyl trichloroacetate

1,000µg/mL each in methyl *tert*-butyl ether, 1mL/ampul  
cat. # 31645 (ea.)



## Documentation Search

Find what you need fast at [www.restek.com/documents](http://www.restek.com/documents)

- Material safety data sheets
- Certificates of analysis
- Datapacks (by catalog number and/or lot number)

Methods 552, 552.1, 552.2, 552.3 (Haloacetic Acids and Dalapon) *cont'd*

**Haloacetic Acid Mix #2** (9 components)

bromochloroacetic acid	400µg/mL	monobromoacetic acid	400
bromodichloroacetic acid	400	monochloroacetic acid	600
chlorodibromoacetic acid	1,000	tribromoacetic acid	2,000
dibromoacetic acid	200	trichloroacetic acid	200
dichloroacetic acid	600		

In methyl *tert*-butyl ether, 1mL/ampul  
cat. # 31646 (ea.)

**Haloacetic Acid Methyl Ester Mix #2** (9 components)

methyl bromochloroacetate	400µg/mL	methyl monobromoacetate	400
methyl bromodichloroacetate	400	methyl monochloroacetate	600
methyl chlorodibromoacetate	1,000	methyl tribromoacetate	2,000
methyl dibromoacetate	200	methyl trichloroacetate	200
methyl dichloroacetate	600		

In methyl *tert*-butyl ether, 1mL/ampul  
cat. # 31647 (ea.)

**Dalapon (2,2-dichloropropionic acid)**

dalapon  
1,000µg/mL in acetonitrile, 1mL/ampul  
cat. # 32432 (ea.)

1,000µg/mL in methanol, 1mL/ampul  
cat. # 32253 (ea.)

2,000µg/mL in methanol, 1mL/ampul  
cat. # 32056 (ea.)

**Dalapon Methyl Ester**

dalapon methyl ester  
1,000µg/mL in methanol, 1mL/ampul  
cat. # 32254 (ea.)

2,000µg/mL in hexane, 1mL/ampul  
cat. # 32057 (ea.)

**Internal Standards and Surrogates**

Volume is 1mL/ampul. Concentration is µg/mL.

Compound	Solvent	Conc.	cat.# (ea.)
<b>Internal Standard:</b>			
1,2,3-trichloropropane	MTBE	1,000	31648
<b>Surrogates for Method 552, 552.1:</b>			
2,3-dichloropropionic acid	MTBE	1,000	31650
3,5-dichlorobenzoic acid	MTBE	1,000	31652
3,5-dichlorobenzoic acid methyl ester	MTBE	1,000	31649
2,3-dichloropropionic acid methyl ester	MTBE	1,000	31651
<b>Surrogates for Method 552.2:</b>			
2-bromopropionic acid	MTBE	1,000	31653
2,3-dibromopropionic acid	MTBE	1,000	31655
methyl-2,3-dibromopropionate	MTBE	1,000	31656
<b>Surrogates for Method 552.3:</b>			
2-bromobutanoic acid	MTBE	2,000	31881
2-bromobutyrate	MTBE	2,000	31882

MTBE = methyl *tert*-butyl ether

Method 555 (Chlorinated Acids)

**Chlorinated Acids by HPLC, Mix A** (8 components)

acifluorfen (Blazer)	dicamba
bentazon	dichlorprop
chloramben	picloram
2,4-D	2,4,5-TP (Silvex)
1,000µg/mL each in acetonitrile, 1mL/ampul	
cat. # 32431 (ea.)	

**Chlorinated Acids by HPLC, Mix B** (8 components)

2,4-DB	MCPD (mecoprop)
3,5-dichlorobenzoic acid	4-nitrophenol
dinoseb	pentachlorophenol
MCPA	2,4,5-T
1,000µg/mL each in acetonitrile, 1mL/ampul	
cat. # 32430 (ea.)	

**Chlorinated Acid Herbicide Mix** (2 components)

2,4-dichlorophenoxyacetic acid (2,4-D)	
2,4,5-TP (Silvex)	
1,000µg/mL each in acetonitrile, 1mL/ampul	
cat. # 32429 (ea.)	

**Drinking Water Odor Standard**

Unpleasant odor in drinking water is associated with the growth and decay of microorganisms. The threshold value for these compounds is low (10 ppt) and purge and trap analyses usually are used to quantify them.

(+/-)-geosmin	2-methylisoborneol
100µg/mL in P&T methanol, 1mL/ampul	
cat. # 30608 (ea.)	

Get More!

Environmental Solutions Online

[www.restek.com/enviro](http://www.restek.com/enviro)

