

# SOM01.1

## Analytical Reference Materials

### Volatiles

#### Calibration Mixes

##### OLC 03.2 VOA MegaMix® (42 components)

benzene	<i>trans</i> -1,3-dichloropropene
bromochloromethane	ethylbenzene
bromodichloromethane	isopropylbenzene (cumene)
bromoform	methyl acetate
carbon disulfide	methylcyclohexane
carbon tetrachloride	methyl <i>tert</i> -butyl ether (MTBE)
chlorobenzene	methylene chloride
chloroform	(dichloromethane)
cyclohexane	styrene
dibromochloromethane	1,1,2,2-tetrachloroethane
(chlorodibromomethane)	tetrachloroethylene
1,2-dibromo-3-chloropropane	toluene
1,2-dibromoethane (EDB)	1,2,3-trichlorobenzene
1,2-dichlorobenzene	1,2,4-trichlorobenzene
1,3-dichlorobenzene	1,1,1-trichloroethane
1,4-dichlorobenzene	1,1,2-trichloroethane
1,1-dichloroethane	trichloroethylene
1,2-dichloroethane	1,1,2-trichlorotrifluoroethane
1,1-dichloroethylene	(Freon® 113)
<i>cis</i> -1,2-dichloroethylene	<i>m</i> -xylene*
<i>trans</i> -1,2-dichloroethylene	<i>o</i> -xylene
1,2-dichloropropane	<i>p</i> -xylene*
<i>cis</i> -1,3-dichloropropene	

2,000 µg/mL each (\**m*- & *p*-xylene at 1,000 µg/mL) in P&T methanol, 1mL/ampul

cat. # 30492 (ea.)

##### 1,4-Dioxane

1,4-dioxane  
2,000 µg/mL in P&T methanol, 1mL/ampul

cat. # 30287 (ea.)

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

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

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

cat. # 30439 (ea.)

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

cat. # 30042 (ea.)

##### VOA Calibration Mix #1 (ketones)

acetone	2-hexanone
2-butanone	4-methyl-2-pentanone

5,000 µg/mL each in P&T methanol:water (90:10), 1mL/ampul

cat. # 30006 (ea.)



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## Volatiles (cont'd)

### QA Mixes: IS

#### L/C VOA Internal Standard Mix

chlorobenzene-d5  
1,4-dichlorobenzene-d4  
2,500µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30091 (ea.)

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### QA Mixes: Matrix Spike

#### VOA Matrix Spike Mix

benzene  
chlorobenzene  
1,1-dichloroethene  
2,500µg/mL each in P&T methanol, 1mL/ampul  
cat. # 30005 (ea.)

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### DMC

#### SOM01.1 VOA Non-Ketone Deuterated

##### Monitoring Compounds (11 components)

benzene-d6  
chloroethane-d5  
chloroform-d  
1,2-dichlorobenzene-d4  
1,2-dichloroethane-d4  
1,1-dichloroethene-d2  
500µg/mL each in deuterated methanol (MeOD), 1mL/ampul  
cat. # 30624 (ea.)

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1,2-dichloropropane-d6  
1,3-dichloropropene-d4\*  
1,1,1,2,2-tetrachloroethane-d2  
toluene-d8  
vinyl chloride-d3  
1,000µg/mL each in deuterated methanol (MeOD), 1mL/ampul  
cat. # 30635 (ea.)

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\*Mix of *cis* and *trans* isomers. Exact proportions will be reported on the data sheet.

#### SOM01.1 VOA Ketone Deuterated Monitoring Compounds

2-butanone-d5  
500µg/mL each in deuterium oxide (D<sub>2</sub>O), 1mL/ampul  
cat. # 30625 (ea.)

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2-hexanone-d5  
1,000µg/mL each in deuterium oxide (D<sub>2</sub>O), 1mL/ampul  
cat. # 30636 (ea.)

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#### SOM01.1 VOA DMC Kit (500µg/mL)

30624: Non-Ketones  
30625: Ketones  
500µg/mL  
500µg/mL  
1mL each of these mixtures.  
cat. # 30630 (kit)

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kit

#### SOM01.1 VOA DMC Kit (1,000µg/mL)

30635: Non-Ketones  
30636: Ketones  
1,000µg/mL  
1,000µg/mL  
1mL each of these mixtures.  
cat. # 30637 (kit)

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kit

#### 1,4-Dioxane-d8

1,4-dioxane-d8  
2,000µg/mL in P&T methanol, 1mL/ampul  
cat. # 30614 (ea.)

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## Semivolatiles

### Calibration Mixes

#### SOM01.1 SVOA MegaMix® (67 components)

acenaphthene  
acenaphthylene  
acetophenone  
anthracene  
atrazine  
benzo(a)anthracene  
benzo(b)fluoranthene  
benzo(k)fluoranthene  
benzo(ghi)perylene  
benzo(a)pyrene  
benzyl butyl phthalate  
biphenyl  
bis(2-chloroethyl)ether  
bis(2-chloroethoxy)methane  
bis(2-chloroisopropyl)ether  
(2,2'-oxybis(1-chloropropane))  
bis(2-ethylhexyl)phthalate  
4-bromophenyl-phenylether  
ε-caprolactam  
carbazole  
4-chloroaniline  
4-chloro-3-methylphenol  
2-chloronaphthalene  
2-chlorophenol  
4-chlorophenyl-phenylether  
chrysene  
dibenzo(a,h)anthracene  
dibenzofuran  
3,3'-dichlorobenzidine  
2,4-dichlorophenol  
diethylphthalate  
2,4-dimethylphenol  
dimethylphthalate  
di-*n*-butylphthalate  
4,6-dinitro-2-methylphenol  
2,4-dinitrophenol  
2,4-dinitrotoluene  
2,6-dinitrotoluene  
di-*n*-octyl phthalate  
diphenylamine<sup>1</sup>  
fluoranthene  
fluorene  
hexachlorobenzene  
hexachloro-1,3-butadiene  
(hexachlorobutadiene)  
hexachlorocyclopentadiene  
hexachloroethane  
indeno(1,2,3-*cd*)pyrene  
isophorone  
2-methylnaphthalene  
2-methylphenol (*o*-cresol)  
3-methylphenol (*m*-cresol)\*  
4-methylphenol (*p*-cresol)\*  
naphthalene  
2-nitroaniline  
3-nitroaniline  
4-nitroaniline  
nitrobenzene  
2-nitrophenol  
4-nitrophenol  
N-nitroso-di-*n*-propylamine  
pentachlorophenol  
phenanthrene  
phenol  
pyrene  
1,2,4,5-tetrachlorobenzene  
2,3,4,6-tetrachlorophenol  
2,4,5-trichlorophenol  
2,4,6-trichlorophenol  
1,000µg/mL each in methylene chloride, 1mL/ampul  
cat. # 33019 (ea.)

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\*3-methylphenol and 4-methylphenol concentration is 500µg/mL.

<sup>1</sup> N-nitrosodiphenylamine (CLP-listed analyte) decomposes to diphenylamine (mix component).

#### Benzaldehyde

benzaldehyde  
2,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 33017 (ea.)

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#### SOM01.1 SVOA MegaMix® Kit

33019: SOM01.1 SVOA MegaMix® 1,000µg/mL  
33017: Benzaldehyde 2,000µg/mL

kit

Contains 1mL each of these mixtures.

cat. # 33005 (kit)

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### QA Mixes

#### SV Tuning Compound

decafluorotriphenylphosphine (DFTPP)  
2,500µg/mL in methylene chloride, 1mL/ampul  
cat. # 31001 (ea.)

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## Semivolatiles (cont'd)

### DMC\*\*

#### OLC 03.2 SVOA Deuterated Monitoring Compounds (DMC) (16 components)

acenaphthylene-d8	4,6-dinitro-methylphenol-d2
anthracene-d10	fluorene-d10
benzo(a)pyrene-d12	4-methylphenol-d8
4-chloroaniline-d4	nitrobenzene-d5
bis-(2-chloroethyl)ether-d8	2-nitrophenol-d4
2-chlorophenol-d4	4-nitrophenol-d4
2,4-dichlorophenol-d3	phenol-d5
dimethylphthalate-d6	pyrene-d10
2,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 31810 (ea.)	

#### SOM01.1 Deuterated Monitoring Compound Mix SIM Compounds

fluoranthene-d10	2-methylnaphthalene-d10
2,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 33913 (ea.)	

#### SOM01.1 Deuterated Monitoring Compound Mix w/ SIM Compounds (18 components)

acenaphthylene-d8	fluoranthene-d10
anthracene-d10	fluorene-d10
benzo(a)pyrene-d12	2-methylnaphthalene-d10
bis-(2-chloroethyl)ether-d8	4-methylphenol-d8
4-chloroaniline-d4	nitrobenzene-d5
2-chlorophenol-d4	2-nitrophenol-d4
2,4-dichlorophenol-d3	4-nitrophenol-d4
dimethylphthalate-d6	phenol-d5
4,6-dinitro-2-methylphenol-d	pyrene-d10
2,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 33918 (ea.)	

## QA Mixes: IS

### SV Internal Standard Mix

acenaphthene-d10	naphthalene-d8
chrysene-d12	perylene-d12
1,4-dichlorobenzene-d4	phenanthrene-d10
2,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 31206 (ea.)	
4,000µg/mL each in methylene chloride, 1mL/ampul*	
cat. # 31006 (ea.)	

\*Warm and sonicate before using.

### Revised SV Internal Standard Mix (7 components)

acenaphthene-d10	naphthalene-d8
chrysene-d12	perylene-d12
1,4-dichlorobenzene-d4	phenanthrene-d10
1,4-dioxane-d8	
2,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 31885 (ea.)	
4,000µg/mL each in methylene chloride, 1mL/ampul*	
cat. # 31886 (ea.)	

\*Warm and sonicate before using.

\*\*The EPA Contract Lab Program (CLP) Statement of Work (SOW) OLC03.2 is an analytical method for detection of low concentration volatile, semivolatile, and pesticide/Aroclor® organics in aqueous samples. For VOA and SVOA GC/MS analysis OLC03.2 introduces deuterated monitoring compounds (DMCs) as a sample-by-sample accuracy indicator.

## QA Mixes: Matrix Spike

### SOM01.1 SVOA B/N Matrix Spike Mix

acenaphthene	N-nitroso-di-n-propylamine
2,4-dinitrotoluene	pyrene
5,000µg/mL each in methanol, 1mL/ampul	
cat. # 33916 (ea.)	
5,000µg/mL each in methanol, 5mL/ampul	
cat. # 33917 (ea.)	

### B/N Matrix Spike Mix

acenaphthene	N-nitroso-di-n-propylamine
1,4-dichlorobenzene	pyrene
2,4-dinitrotoluene	1,2,4-trichlorobenzene
1,000µg/mL each in methanol, 1mL/ampul	
cat. # 31004 (ea.)	
5,000µg/mL each in methanol, 1mL/ampul	
cat. # 31074 (ea.)	
5,000µg/mL each in methanol, 5mL/ampul	
cat. # 31084 (ea.)	
5,000µg/mL each in methylene chloride, 10mL/ampul	
cat. # 33030 (ea.)	

### Acid Matrix Spike Mix

4-chloro-3-methylphenol	pentachlorophenol
2-chlorophenol	phenol
4-nitrophenol	
1,500µg/mL each in methanol, 1mL/ampul	
cat. # 31005 (ea.)	
7,500µg/mL each in methanol, 1mL/ampul	
cat. # 31075 (ea.)	
7,500µg/mL each in methanol, 5mL/ampul	
cat. # 31085 (ea.)	

## Pesticides

### GPC Mixes

#### Revised GPC Calibration Mix

Qualitative mixture useful for determining GPC dump/collect times. The compounds are dissolved in methylene chloride at the concentrations listed. Data packs are not available.

bis(2-ethylhexyl)phthalate	5mg/mL
corn oil	250
methoxychlor	1.0
perylene	0.2
sulfur	0.8

In methylene chloride, 1mL/ampul  
cat. # 32041 (ea.)

In methylene chloride, 5mL/ampul  
cat. # 32042 (ea.)

## Technical Chlordane, Toxaphene Solutions

Compound	cat.# (ea.)
1,000µg/mL in hexane, 1mL/ampul	
chlordane (technical)	32021
toxaphene	32005
2,000µg/mL in methanol, 1mL/ampul	
chlordane (technical)	32016
toxaphene	32015
5,000µg/mL in isooctane, 1mL/ampul	
chlordane (technical)	32072
toxaphene	32071

## free data

### Available on Our Website: Lot Certificates, Data Packs, and MSDSs

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## Pesticides (cont'd)

### Calibration Mixes

#### 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 (B)
4,4'-DDT	methoxychlor

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

#### Organochlorine Pesticide Mix AB #1 (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 (B)
4,4'-DDT	methoxychlor

200µg/mL each in hexane:toluene (1:1), 1mL/ampul  
cat. # 32291 (ea.)

### Resolution Check Mix

#### Organochlorine Pesticide Resolution Check Mix (with surrogates) (22 components)

aldrin	10µg/mL	endosulfan I	10
α-BHC	10	endosulfan II	20
β-BHC	10	endosulfan sulfate	20
δ-BHC	10	endrin	20
γ-BHC (lindane)	10	endrin aldehyde	20
α-chlordane	10	endrin ketone	20
γ-chlordane	10	heptachlor	10
decachlorobiphenyl (SUR)	20	heptachlor epoxide	
dieldrin	20	(isomer B)	10
4,4'-DDD	20	methoxychlor	100
4,4'-DDE	20	2,4,5,6-tetrachloro-	
4,4'-DDT	20	<i>m</i> -xylene (SUR)	10

In hexane:toluene, 1mL/ampul

cat. # 32454 (ea.)

### QA Mixes

#### Pesticide Surrogate Mix

decachlorobiphenyl	200µg/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	100

In P&T methanol, 1mL/ampul  
cat. # 32453 (ea.)

#### Pesticide Performance Evaluation Mix w/Surrogates

(8 components)

α-BHC	1µg/mL	decachlorobiphenyl (SUR)	2
β-BHC	1	endrin	5
γ-BHC (lindane)	1	methoxychlor	25
4,4'-DDT	10	2,4,5,6-tetrachloro- <i>m</i> -xylene (SUR)	2

In hexane, 1mL/ampul

cat. # 32074 (ea.)

## QA Mixes (cont'd)

#### Pesticide Matrix Spike Mix

aldrin	25µg/mL	dieldrin	50
γ-BHC (lindane)	25	endrin	50
4,4'-DDT	50	heptachlor	25

In acetone, 1mL/ampul

cat. # 32018 (ea.)

#### Pesticide Matrix Spike Mix (2/88 SOW)

aldrin	200µg/mL	dieldrin	500
γ-BHC (lindane)	200	endrin	500
4,4'-DDT	500	heptachlor	200

In methanol, 1mL/ampul

cat. # 32031 (ea.)

#### Pesticide Performance Evaluation Mix

α-BHC	1µg/mL	4,4'-DDT	10
β-BHC	1	endrin	5
γ-BHC (lindane)	1	methoxychlor	25

In hexane, 1mL/ampul

cat. # 32002 (ea.)

#### Florisil® Cartridge Check Standard

2,4,5-trichlorophenol  
1,000µg/mL in acetone, 1mL/ampul

cat. # 32017 (ea.)

#### L/C Pesticide Lab Control Sample (7 components)

γ-BHC (lindane)	10µg/mL	endosulfan sulfate	20
γ-chlordane	10	endrin	20
4,4'-DDE	20	heptachlor epoxide (B)	10
dieldrin	20		

In acetone, 1mL/ampul

cat. # 32040 (ea.)

## Aroclor® PCBs

#### Aroclor® Solutions

Compound	cat.# (ea.)
1,000µg/mL in hexane, 1mL/ampul	
Aroclor® 1016	32006
Aroclor® 1221	32007
Aroclor® 1232	32008
Aroclor® 1242	32009
Aroclor® 1248	32010
Aroclor® 1254	32011
Aroclor® 1260	32012
Aroclor® 1016/1260	32039
Aroclor® 1262	32409
Aroclor® 1268	32410

200µg/mL in iso-octane, 1mL/ampul

Aroclor® 1016	32064
Aroclor® 1221	32065
Aroclor® 1232	32066
Aroclor® 1242	32067
Aroclor® 1248	32068
Aroclor® 1254	32069
Aroclor® 1260	32070
Aroclor® 1016/1260	32299

#### SOM011

400µg/mL in acetone, 1mL/ampul  
Aroclor® 1016/1260 32456

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Freon (E. I. du Pont de Nemours & Co., Inc.)



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Australian Distributors **ECH**nology  
www.chromtech.net.au E-mail : info@chromtech.net.au Tel : +61 3 9762 2034 Fax : +61 3 9761 1169

