

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, 1 mL/ampul

cat. # 30492 (ea.)

1,4-Dioxane

1,4-dioxane
2,000 µg/mL in P&T methanol, 1 mL/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, 1 mL/ampul
cat. # 30439 (ea.)

2,000 µg/mL each in P&T methanol, 1 mL/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), 1 mL/ampul
cat. # 30006 (ea.)



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.)

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.)

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
1,2-dichloropropane-d6
1,3-dichloropropene-d4*
1,1,1,2,2-tetrachloroethane-d2
toluene-d8
vinyl chloride-d3

500µg/mL each in deuterated methanol (MeOD), 1mL/ampul
cat. # 30624 (ea.)

1,000µg/mL each in deuterated methanol (MeOD), 1mL/ampul
cat. # 30635 (ea.)

new!

*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
2-hexanone-d5
500µg/mL each in deuterium oxide (D₂O), 1mL/ampul
cat. # 30625 (ea.)

1,000µg/mL each in deuterium oxide (D₂O), 1mL/ampul
cat. # 30636 (ea.)

new!

SOM01.1 VOA DMC Kit (500µg/mL)

30624: Non-Ketones
30625: Ketones
500µg/mL
500µg/mL

1mL each of these mixtures.

cat. # 30630 (kit)

kit

new!

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)

kit

new!

1,4-Dioxane-d8

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

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
diphenylamine¹
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.)

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

¹ N-nitrosodiphenylamine (CLP-listed analyte) decomposes to diphenylamine (mix component).

Benzaldehyde

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

SOM01.1 SVOA MegaMix® Kit

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

kit

Contains 1mL each of these mixtures.

cat. # 33005 (kit)

QA Mixes

SV Tuning Compound

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

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 (SIM)
anthracene-d10	fluorene-d10
benzo(a)pyrene-d12	2-methylnaphthalene-d10 (SIM)
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.

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.)	

free data

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

For complete information detailing manufacturing and testing for Restek inventoried reference standards, just visit our website at www.restek.com. To view lot certificates and/or an MSDS, enter the catalog number of the product in the Search feature. For a free data pack, as a printable pdf file, enter the catalog number and lot number of the product.

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

**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.

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 (isomer B)	10
dieldrin	20	methoxychlor	100
4,4'-DDD	20	2,4,5,6-tetrachloro- <i>m</i> -xylene (SUR)	10
4,4'-DDE	20		
4,4'-DDT	20		

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 acetone, 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 isooctane, 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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