

Analytical Reference Materials for SOM01.1

by Ken Herwehe, Analytical Reference Materials Product Manager

- SIM compounds included in reformulated OLC 03.2 SVOA Deuterated Monitoring Compounds (DMC) mix for semivolatiles (cat.# 31810).
- SOM01.1 SVOA MegaMix™ (cat.# 33005) combines 67 semivolatiles in a single mix.
- Both ketones and non-ketones included in reformulated SOM01.1 VOA DMC Kit (cat.# 30630).

SOM01.1 defines methods for isolating, detecting, and quantitatively measuring 52 trace and low/medium level volatile, 67 semi-volatile, 21 pesticide, and 9 Aroclor® target compounds in water or soil/sediment environmental samples. This document incorporates major changes to the organic methods, including separating the pesticide and Aroclor® methods, reformulating the deuterated monitoring compounds for volatiles and semivolatiles, and including selected ion monitoring (SIM) analysis. SOM01.1 calls for gas chromatography/mass spectrometry (GC/MS) and gas chromatography/electron capture detector (GC/ECD) methods for analyzing the target compounds.

please note

1. Ketone and non-ketone mixes can be purchased individually.
2. Ketone and non-ketone mixes are prepared at 500µg/mL.
3. Our methanol-d solvent (CH₃-OD; MW33) does not interfere with MS scans. Per-deuterated methanol (CD₃-OD; MW 36) interferes with MS scans.

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	

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

cat. # 30492 (ea.) \$49

1,4-Dioxane

2,000µg/mL in P&T methanol, 1mL/ampul
cat. # 30287 (ea.) \$23

502.2 Calibration Mix #1 (gases)

bromomethane	dichlorodifluoromethane
chloroethane	trichlorofluoromethane
chloromethane	vinyl chloride

200µg/mL each in P&T methanol, 1mL/ampul
cat. # 30439 (ea.) \$25

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30042 (ea.) \$36

VOA Calibration Mix #1 (ketones)

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

5,000µg/mL each in P&T methanol:water (90:10), 1mL/ampul
cat. # 30006 (ea.) \$25

Volatiles: DMC

SOM01.1 VOA Non-Ketone Deuterated Monitoring Compounds (11 components)

benzene-d6	1,2-dichloropropane-d6
chloroethane-d5	1,3-dichloropropene-d4*
chloroform-d	1,1,2,2-tetrachloroethane-d2
1,2-dichlorobenzene-d4	toluene-d8
1,2-dichloroethane-d4	vinyl chloride-d3
1,1-dichloroethene-d2	

500µg/mL each in deuterated methanol (MeOD), 1mL/ampul
cat. # 30624 (ea.) \$520

*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
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500µg/mL each in deuterium oxide (D₂O), 1mL/ampul
cat. # 30625 (ea.) \$230

SOM01.1 VOA DMC Kit

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

1mL each of these mixtures.
cat. # 30630 (kit) \$665

kit

1,4-Dioxane-d8

2,000µg/mL in P&T methanol, 1mL/ampul
cat. # 30614 (ea.) \$23

Semivolatiles: 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.) \$228

SOM01.1 Deuterated Monitoring Compound Mix SIM Compounds

fluoranthene-d10	2-methylnaphthalene-d10
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2,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 33913 (ea.) \$40

did you know?

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For additional information, visit our website at www.restek.com/rxi

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.) \$250

Semivolatiles: Calibration Mixes

SOM01.1 SVOA MegaMix™ (67 components)

acenaphthene	2,4-dinitrophenol
acenaphthylene	2,4-dinitrotoluene
acetophenone	2,6-dinitrotoluene
anthracene	diphenylamine*
atrazine	di- <i>n</i> -octyl phthalate
benzaldehyde	fluoranthene
benzo(a)anthracene	fluorene
benzo(a)pyrene	hexachlorobenzene
benzo(b)fluoranthene	hexachlorobutadiene
benzo(ghi)perylene	hexachlorocyclopentadiene
benzo(k)fluoranthene	hexachloroethane
biphenyl	indeno(1,2,3-cd)pyrene
bis(2-chloroethoxy)methane	isophorone
bis(2-chloroethyl)ether	2-methylnaphthalene
bis(2-chloroisopropyl) ether	2-methylphenol
bis(2-ethylhexyl)phthalate	3-methylphenol*
4-bromophenyl phenyl ether	4-methylphenol*
butyl benzyl phthalate	naphthalene
ε-caprolactam	2-nitroaniline
carbazole	3-nitroaniline
4-chloro-3-methylphenol	4-nitroaniline
2-chloronaphthalene	nitrobenzene
2-chlorophenol	2-nitrophenol
4-chlorophenyl phenyl ether	4-nitrophenol
chrysene	N-nitroso-di- <i>n</i> -propylamine
dibenz(a,h)anthracene	pentachlorophenol
dibenzofuran	phenanthrene
3,3'-dichlorobenzidine	phenol
2,4-dichlorophenol	pyrene
diethyl phthalate	1,2,4,5-tetrachlorobenzene
2,4-dimethylphenol	2,3,4,6-tetrachlorophenol
dimethyl phthalate	2,4,5-trichlorophenol
di- <i>n</i> -butyl phthalate	2,4,6-trichlorophenol
4,6-dinitro-2-(dinitro-ocresol)	

1,000µg/mL each in methylene chloride (*3-methylphenol and 4-methylphenol at 500µg/mL), 1mL/ampul
cat. # 33005 (ea.) \$140

*N-Nitroso-diphenylamine (listed analyte) decomposes to diphenylamine (mix component).

Semivolatiles: QA Mixes

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.) \$39

4,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31006 (ea.) \$76

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.) \$44

4,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31886 (ea.) \$81

SOM01.1 SVOA B/N Matrix Spike Mix

acenaphthene	N-nitroso-di- <i>n</i> -propylamine
2,4-dinitrotoluene	pyrene

5,000µg/mL each in methanol, 1mL/ampul
cat. # 33916 (ea.) \$32

5,000µg/mL each in methanol, 5mL/ampul
cat. # 33917 (ea.) \$78

B/N Matrix Spike Mix

acenaphthene	N-nitroso-di- <i>n</i> -propylamine
1,4-dichlorobenzene	pyrene
2,4-dinitrotoluene	1,2,4-trichlorobenzene

1,000µg/mL each in methanol, 1mL/ampul
cat. # 31004 (ea.) \$25

5,000µg/mL each in methanol, 1mL/ampul
cat. # 31074 (ea.) \$41

5,000µg/mL each in methanol, 5mL/ampul
cat. # 31084 (ea.) \$91

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.) \$25

7,500µg/mL each in methanol, 1mL/ampul
cat. # 31075 (ea.) \$41

7,500µg/mL each in methanol, 5mL/ampul
cat. # 31085 (ea.) \$91

SV Tuning Compound

decafluorotriphenylphosphine (DFTPP)

2,500µg/mL in methylene chloride, 1mL/ampul
cat. # 31001 (ea.) \$23

Organochlorine Pesticide Resolution Check Mix

(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	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	10

In hexane:toluene, 1mL/ampul
cat. # 32454 (ea.) \$55

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.) \$25

Aroclor® 1016/1260

400µg/mL each in acetone, 1mL/ampul
400µg/mL in acetone, 1mL/ampul

cat. # 32456 (ea.) \$30

for more info

For reference materials for OLC 03.2 analyses of pesticides or Aroclor® PCBs, please visit our website, or call your Restek representative.

free data

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