

600 Series Methods - US EPA Clean Water Act (CWA)

US EPA Method No.	Compound Class	US EPA Method No.	Compound Class
601	Purgeable Hydrocarbons	609	Nitroaromatics/Isophorone
602	Purgeable Aromatics	610	Polycyclic Aromatic Hydrocarbons (PAHs)
603	Acrolein/Acrylonitrile	611	Haloethers
604	Phenols	612	Chlorinated Hydrocarbons
605	Benzidine/3,3'-Dichlorobenzidine	615	Chlorinated Acid Herbicides
606	Phthalate Esters	624	Purgeable Halocarbons
607	Nitrosamines	625	Semivolatiles
608	Organochlorine Pesticides and PCBs		

did you know?

We have more than 2,000 pure, characterized, neat compounds in our inventory! If you do not see the EXACT mixture you need listed on any of these pages, call us.

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Method 601 (Purgeable Hydrocarbons)

VOA Purgeable Halocarbon Mix #1 (23 components)

bromodichloromethane	1,1-dichloroethene
bromoform	<i>trans</i> -1,2-dichloroethene
carbon tetrachloride	1,2-dichloropropane
chlorobenzene	<i>cis</i> -1,3-dichloropropene
2-chloroethyl vinyl ether	<i>trans</i> -1,3-dichloropropene
chloroform	methylene chloride
dibromochloromethane	1,1,2,2-tetrachloroethane
1,2-dichlorobenzene	tetrachloroethene
1,3-dichlorobenzene	1,1,1-trichloroethane
1,4-dichlorobenzene	1,1,2-trichloroethane
1,1-dichloroethane	trichloroethene
1,2-dichloroethane	
2,000µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30212 (ea.)	

Method 602 (Purgeable Aromatics)

602 Purgeable Aromatics Calibration Mix

benzene	1,4-dichlorobenzene
chlorobenzene	ethylbenzene
1,2-dichlorobenzene	toluene
1,3-dichlorobenzene	
2,000µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30035 (ea.)	

Method 603 (Acrolein/Acrylonitrile)

Acrolein/Acrylonitrile

acrolein	acrylonitrile
2,000µg/mL each in DI water, 1mL/ampul	
cat. # 30600 (ea.)	

Acrolein

10,000µg/mL in P&T methanol, 1mL/ampul
cat. # 30499 (ea.)

10,000µg/mL in water, 1mL/ampul
cat. # 30478 (ea.)

Acrylonitrile

2,000µg/mL in P&T methanol, 1mL/ampul
cat. # 30246 (ea.)

Method 604 (Phenols)

604 Phenols Calibration Mix (11 components)

4-chloro-3-methylphenol	2-nitrophenol
2-chlorophenol	4-nitrophenol
2,4-dichlorophenol	pentachlorophenol
2,4-dimethylphenol	phenol
2,4-dinitrophenol	2,4,6-trichlorophenol
2-methyl-4,6-dinitrophenol	
2,000µg/mL each in methanol, 1mL/ampul	
cat. # 31029 (ea.)	

Method 605 (Benzidine/
3,3'-Dichlorobenzidine)

605 Benzidines Calibration Mix

benzidine	3,3'-dichlorobenzidine
2,000µg/mL each in methanol, 1mL/ampul	
cat. # 31030 (ea.)	
2,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 31834 (ea.)	

Method 606 (Phthalate Esters)

606 Phthalate Esters Calibration Mix

bis(2-ethylhexyl)phthalate	dimethyl phthalate
butyl benzyl phthalate	di- <i>n</i> -butyl phthalate
diethyl phthalate	di- <i>n</i> -octyl phthalate
2,000µg/mL each in methanol, 1mL/ampul	
cat. # 31031 (ea.)	

Method 607 (Nitrosamines)

607 Nitrosamines Calibration Mix

N-nitrosodimethylamine	N-nitrosodiphenylamine
N-nitroso-di- <i>n</i> -propylamine	
2,000µg/mL each in methanol, 1mL/ampul	
cat. # 31032 (ea.)	

Method 608 (Organochlorine
Pesticides & PCBs)

608 Calibration Mix (16 components)

aldrin	dieldrin
α-BHC	endosulfan I
β-BHC	endosulfan II
δ-BHC	endosulfan sulfate
γ-BHC (lindane)	endrin
4,4'-DDD	endrin aldehyde
4,4'-DDE	heptachlor
4,4'-DDT	heptachlor epoxide (isomer B)
200µg/mL each in hexane:toluene (1:1), 1mL/ampul	
cat. # 32022 (ea.)	

Organochlorine Pesticide System
Evaluation Mix

4,4'-DDT	200µg/mL
endrin	100µg/mL
In MTBE, 1mL/ampul	
cat. # 32417 (ea.)	

free data

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For complete information detailing manufacturing and testing for Restek inventoried reference standards, 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 (Adobe® PDF file), enter the catalog number and lot number of the product.

Method 609 (Nitroaromatics/Isophorone) Method 612 (Chlorinated Hydrocarbons)**609 Nitroaromatics & Isophorone****Calibration Mix**

2,4-dinitrotoluene	2,6-dinitrotoluene
isophorone	nitrobenzene
2,000µg/mL each in hexane, 1mL/ampul	
cat. # 31033 (ea.)	

Method 610 (Polycyclic Aromatic Hydrocarbons [PAHs])**SV Calibration Mix #5 / 610 PAH Mix**

(16 components)

acenaphthene	chrysene
acenaphthylene	dibenzo(a,h)anthracene
anthracene	fluoranthene
benzo(a)anthracene	fluorene
benzo(a)pyrene	indeno(1,2,3-cd)pyrene
benzo(b)fluoranthene	naphthalene
benzo(k)fluoranthene	phenanthrene
benzo(ghi)perylene	pyrene
2,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 31011 (ea.)	

610 PAH Calibration Mix A (16 components)

For HPLC/fluorescence detection.

acenaphthene	1000µg/mL	chrysene	500
acenaphthylene	1000	dibenzo(a,h)anthracene	500
anthracene	1000	fluoranthene	500
benzo(a)anthracene	500	fluorene	1000
benzo(a)pyrene	500	indeno(1,2,3-cd)pyrene	500
benzo(b)fluoranthene	500	naphthalene	1000
benzo(k)fluoranthene	500	phenanthrene	500
benzo(ghi)perylene	500	pyrene	500

In methylene chloride, 1mL/ampul
cat. # 31264 (ea.)**610 PAH Calibration Mix B (16 components)**

For HPLC/UV detection.

acenaphthene	1000µg/mL	chrysene	100
acenaphthylene	2000	dibenzo(a,h)anthracene	200
anthracene	100	fluoranthene	200
benzo(a)anthracene	100	fluorene	200
benzo(a)pyrene	100	indeno(1,2,3-cd)pyrene	100
benzo(b)fluoranthene	200	naphthalene	1000
benzo(k)fluoranthene	100	phenanthrene	100
benzo(ghi)perylene	200	pyrene	100

In methylene chloride:methanol (1:1), 1mL/ampul
cat. # 31455 (ea.)**Method 611 (Haloethers)****611 Haloethers Calibration Mix**

bis(2-chloroethoxy)methane	4-bromophenyl phenyl ether
bis(2-chloroethyl)ether	4-chlorophenyl phenyl ether
bis(2-chloroisopropyl)ether	
2,000µg/mL each in acetone, 1mL/ampul	
cat. # 31034 (ea.)	

612 Chlorinated Hydrocarbons Calibration Mix

(9 components)

2-chloronaphthalene	hexachlorobutadiene
1,2-dichlorobenzene	hexachlorocyclopentadiene
1,3-dichlorobenzene	hexachloroethane
1,4-dichlorobenzene	1,2,4-trichlorobenzene
hexachlorobenzene	

2,000µg/mL each in isooctane, 1mL/ampul
cat. # 31035 (ea.)**Method 615 (Chlorinated Acid Herbicides)****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 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 ether
2,4,5-TP methyl ester	

200µg/mL each in hexane, 1mL/ampul
cat. # 32055 (ea.)**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 #3**Free Acid Form:**

MCPA	MCPP
20,000µg/mL each in methanol, 1mL/ampul	
cat. # 32058 (ea.)	

Derivatized Form:

MCPA methyl ester	MCPP methyl ester
20,000µg/mL each in hexane, 1mL/ampul	
cat. # 32059 (ea.)	

also available

Additional chlorinated acid herbicides mixes:

see Method 555, page 453
and Method 8321, page 470dependable
execution

Chris has given the Analytical Reference Materials Group invaluable feedback on many new reference materials for environmental applications, and is always ready to help with redesigning mixes to meet changes in methods or to improve shelf life. In addition, he runs many applications that appear in Restek *Advantage* newsletter articles, to help promote awareness of new mixes.

Chris English,
Innovations Group Leader



John Lidgett
Analytical Reference
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16+ years of service!

also available

Our Rtx®-VMS capillary GC column is optimized for EPA Method 624!

See page 87 for more information.

Antifoam Agent for Purge & Trap Samples

Foam generated as purge gas passes through a sample can enter the analytical trap, and possibly into 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 624 (Purgeable Halocarbons)

Volatiles MegaMix®, EPA Method 624

(26 components)

benzene	1,1-dichloroethene
bromodichloromethane	<i>trans</i> -1,2-dichloroethene
bromoform	1,2-dichloropropane
carbon tetrachloride	<i>cis</i> -1,3-dichloropropene
chlorobenzene	<i>trans</i> -1,3-dichloropropene
2-chloroethyl vinyl ether	ethylbenzene
chloroform	methylene chloride
dibromochloromethane	1,1,2,2-tetrachloroethane
1,2-dichlorobenzene	tetrachloroethene
1,3-dichlorobenzene	toluene
1,4-dichlorobenzene	1,1,1-trichloroethane
1,1-dichloroethane	1,1,2-trichloroethane
1,2-dichloroethane	trichloroethene

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30497 (ea.)

624 Internal Standard Mix

bromochloromethane	1,4-dichlorobutane
2-bromo-1-chloropropane	

1,500µg/mL each in P&T methanol, 1mL/ampul
cat. # 30023 (ea.)

624 Surrogate Standard Mix

4-bromofluorobenzene	pentafluorobenzene
fluorobenzene	

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30243 (ea.)

Surrogate Standard

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

624 Calibration Mix #1 (gases)

bromomethane	trichlorofluoromethane
chloroethane	(CFC-11)
chloromethane	vinyl chloride

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30020 (ea.)

624 Calibration Mix #2 (12 components)

benzene	1,1-dichloroethene
carbon tetrachloride	1,2-dichloropropane
chlorobenzene	methylene chloride
2-chloroethyl vinyl ether	tetrachloroethene
dibromochloromethane	1,1,2-trichloroethane
1,1-dichloroethane	trichloroethene

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30021 (ea.)

624 Calibration Mix #3 (14 components)

bromodichloromethane	<i>trans</i> -1,2-dichloroethene
bromoform	<i>cis</i> -1,3-dichloropropene
chloroform	<i>trans</i> -1,3-dichloropropene
1,2-dichlorobenzene	ethylbenzene
1,3-dichlorobenzene	1,1,2,2-tetrachloroethane
1,4-dichlorobenzene	toluene
1,2-dichloroethane	1,1,1-trichloroethane

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30022 (ea.)

Individual VOA Surrogate and Internal Standards for EPA Methods

Compound	cat.# (ea.)
2,000µg/mL in P&T methanol, 1mL/ampul	
benzene-d6	30025
2-bromochlorobenzene	30228
4-bromochlorobenzene	30230
bromochloromethane	30225
2-bromo-1-chloropropane	30226
4-bromofluorobenzene	30026
chlorobenzene-d5	30223
1-chloro-2-fluorobenzene	30040
1,2-dichlorobenzene-d4	30049
1,4-dichlorobutane	30227
1,2-dichloroethane-d4	30027
1,4-difluorobenzene	30032
ethylbenzene-d5	30028
ethylbenzene-d10	30029
fluorobenzene	30030
pentafluorobenzene	30031
toluene-d8	30224
α,α,α-trifluorotoluene	30048

Method 625 (Semivolatiles)

Semivolatiles MegaMix®, EPA Method 625

(54 components)

acenaphthene	di- <i>n</i> -butylphthalate
acenaphthylene	4,6-dinitro-2-methylphenol
anthracene	2,4-dinitrophenol
benzo(a)anthracene	2,4-dinitrotoluene
benzo(a)pyrene	2,6-dinitrotoluene
benzo(b)fluoranthene	di- <i>n</i> -octylphthalate
benzo(ghi)perylene	diphenylamine*
benzo(k)fluoranthene	fluoranthene
benzyl butyl phthalate	fluorene
bis(2-chloroethoxy)methane	hexachlorobenzene
bis(2-chloroethyl)ether	hexachloro-1,3-butadiene
bis(2-chloroisopropyl)ether	hexachlorocyclopentadiene*
bis(2-ethylhexyl)phthalate	hexachloroethane
4-bromophenyl phenyl ether	indeno(1,2,3-cd)pyrene
4-chloro-3-methylphenol	isophorone
2-chloronaphthalene	naphthalene
2-chlorophenol	nitrobenzene
4-chlorophenyl phenyl ether	2-nitrophenol
chrysene	4-nitrophenol
dibenzo(a,h)anthracene	N-nitrosodimethylamine*
1,2-dichlorobenzene	N-nitroso-di- <i>n</i> -propylamine
1,3-dichlorobenzene	pentachlorophenol
1,4-dichlorobenzene	phenanthrene
2,4-dichlorophenol	phenol
diethylphthalate	pyrene
2,4-dimethylphenol	1,2,4-trichlorobenzene
dimethylphthalate	2,4,6-trichlorophenol

1,000µg/mL each in methylene chloride:benzene (75:25), 1mL/ampul
cat. # 31829 (ea.)

*Listed as an "additional compound" in Method 625 (listed compound N-nitrosodiphenylamine decomposes to MegaMix® component diphenylamine). The six other "additional compounds" are components in other Restek reference mixes used for Method 625: benzidine is included in cat.# 31030 (page 454); β-BHC, δ-BHC, endosulfan I, endosulfan II, endrin are in cat.# 32291 (page 460) and cat.# 32415 (page 460).

Individual Semivolatile Surrogate and Internal Standards for EPA Methods

Compound	cat.# (ea.)
2,000 μ g/mL in methylene chloride, 1mL/ampul	
anthracene-d10	31037
4,4'-dibromobiphenyl	31039
4,4'-dibromooctafluorobiphenyl	31040
decafluorobiphenyl	31041
naphthalene-d8	31043
nitrobenzene-d5	31044
phenanthrene-d10	31045
pyridine-d5	31046
2-fluorophenol	31047
pentafluorophenol	31048
phenol-d6	31049
2-fluorobiphenyl	31091
1-fluoronaphthalene	31092
p-terphenyl-d14	31828
1,000 μ g/mL in acetone, 1mL/ampul	
decafluorobiphenyl	31855
1,000 μ g/mL in methanol, 1mL/ampul	
2,4,6-tribromophenol	31401

SV Internal Standard Mix

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

Tuning Mixtures

VOA Tuning Compound

4-bromofluorobenzene
5,000 μ g/mL in P&T methanol, 1mL/ampul
cat.# 30003 (ea.)

SV Tuning Compound

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

PFTBA (MS Tuning Compound)

perfluorotributylamine (PFTBA)
Neat
1mL cat.# 30482 (ea.)
1g cat.# 33027 (ea.)

No data pack available.

GC/MS Tuning Mixture

benzidine	DFTPP
4,4'-DDT	pentachlorophenol
1,000 μ g/mL each in methylene chloride, 1mL/ampul	
cat.# 31615 (ea.)	

Aroclor Solutions

Compound	cat.# (ea.)
1,000 μ g/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
200 μ g/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

Technical Chlordane, Toxaphene Solutions

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

for **more** info

For a complete listing of solutions of individual environmental compounds, please see **pages 429-440**.

also **available**

Try Restek's Rxi™-5Sil MS columns for EPA Methods 625 and 8270.

Guaranteed for low GC/MS bleed, excellent phenol response, and the resolution needed to quantify critical pairs and structural isomers.

See **page 76** for more information.

