

Underground Storage Tank Monitoring (UST): General

Category	Compound Class
Retention Time Standards	Hydrocarbons
Fuel Composite Standards	Hydrocarbons
Motor Oil Composite Standards	Hydrocarbons
Single Source Fuel Standards	Hydrocarbons
Military Fuels (Jet Propellant)	Hydrocarbons
Fuel Oil Degradation Test	Hydrocarbons
Mineral Spirits	Hydrocarbons
PVOC, GRO and BTEX	Hydrocarbons
Gasoline Surrogate and Internal Standards	Volatiles
Diesel Surrogate and Internal Standards	Hydrocarbons
Diesel/Biodiesel Blend	Hydrocarbons

Retention Time Standards

Used during initial sample screening, to determine retention time windows for each petroleum product. Gasoline generally elutes in the window from C6 to C10 (or C12), and diesel fuel from C10 (or C12) to C24 (or C28). Retention above C24 (or C28) indicates oil or lubricant contamination.

Leaking Underground Storage Tank Retention Time Standard (7 components)

n-hexane (C6) *n*-octacosane (C28)
n-decane (C10) *n*-triacontane (C30)
n-dodecane (C12) *n*-tetracontane (C40)
n-tetracosane (C24)

25µg/mL each in 1mL methylene chloride, 1mL/ampul
 cat. # 31200 (ea.)

Retention Time Marker Standard

n-decane (C10) *n*-hexatriacontane (C36)
n-pentacosane (C25)

1,000µg/mL each in hexane, 1mL/ampul
 cat. # 31637 (ea.)

Retention Time Marker

n-hexane (C6) *n*-dodecane (C12)
n-decane (C10)

1,000µg/mL each in P&T methanol, 1mL/ampul
 cat. # 30483 (ea.)

TNRCC 1005 Retention Time Markers Mix

n-hexane (C6) *n*-octacosane (C28)
n-dodecane (C12) *n*-pentatriacontane (C35)

200µg/mL each in pentane, 1mL/ampul
 cat. # 31698 (ea.)

Retention Time Marker - Alaska

n-hexane (C6) *n*-pentacosane (C25)
n-decane (C10) *n*-hexatriacontane (C36)

1,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31819 (ea.)

Fuel Composite Standards

Unleaded Gasoline Composite Standard

2,500µg/mL in P&T methanol, 1mL/ampul
 cat. # 30081 (ea.)

50,000µg/mL in P&T methanol, 1mL/ampul
 cat. # 30205 (ea.)

50,000µg/mL in P&T methanol, 5mL/ampul
 cat. # 30206 (ea.)

Diesel Fuel #2 Composite Standard

5,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31093 (ea.)

50,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31258 (ea.)

50,000µg/mL in methylene chloride, 5mL/ampul
 cat. # 31259 (ea.)

Kerosene Composite Standard

5,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31094 (ea.)

50,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31256 (ea.)

50,000µg/mL in methylene chloride, 5mL/ampul
 cat. # 31257 (ea.)

Motor Oil Composite Standards

Motor Oil Composite Standard

Prepared from an equal volume blend of 5W30, 10W30, 10W40, and 20W50 motor oils. After blending, a precisely weighed amount of the composite is added to a volumetric flask to produce the standard.

50,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31464 (ea.)

Used Motor Oil Composite Standard

Prepared from an equal volume blend from five gasoline powered vehicles (belonging to Restek employees). After blending, a precisely weighed amount of the composite is added to a volumetric flask to produce the standard.

50,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31465 (ea.)

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EPA Office of Underground Storage Tanks (OUST) Recommended Methods

Download your free copy from www.restek.com

Fast Facts
lit. cat. # 59397

See pages 491-497 for information on UST technical literature for individual states.

also available

Other fuels, oils and lubricant oils available on request as custom products.

Single Source Fuels

Unleaded Gasoline Standard

Prepared from a single source (one refinery) product.
5,000 μ g/mL in P&T methanol, 1mL/ampul
cat. # 30096 (ea.)

Kerosene Standard

Prepared from a single source (one refinery) product.
5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31229 (ea.)

Diesel Fuel #2 Standard

Prepared from a single source (one refinery) product.
5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31233 (ea.)

Fuel Oil #4 Standard

Fuel oil #4 is typically used in limited applications in which the fuel cannot be preheated prior to burning. The fuel is a blend of distillate (fuel oil #2) and residual (fuel oil #6) to meet ASTM viscosity specifications. Fuel oil #4 used to prepare this mixture has a kinematic viscosity of 21.9 at 38°C (100°F), measured using ASTM D-445.

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31216 (ea.)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31244 (ea.)

Fuel Oil #5 Standard

Fuel oil #5 is typically used in applications in which there is little or no preheating of the fuel prior to burning. A blend of distillate (fuel oil #2) and residual (fuel oil #6), the fuel oil #5 used to prepare this mixture has a kinematic viscosity of 106.5 at 38°C (100°F), measured using ASTM D-445.

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31217 (ea.)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31246 (ea.)

Fuel Oil #6 Standard

This fuel, sometimes called bunker C or residual, is a black viscous oil. Applications in which it may be used require the ability to preheat the fuel prior to pumping and burning.

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31218 (ea.)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31248 (ea.)
50,000 μ g/mL in methylene chloride, 5mL/ampul
cat. # 31249 (ea.)

Diesel/Biodiesel 80:20 Blend Standard

The biodiesel component is methyl soyate.
diesel/biodiesel 80:20
5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31880 (ea.)

Single Source Fuels *cont'd*

Aviation Gas Standard

100-octane low-lead fuel currently used in piston-type aircraft.

2,500 μ g/mL in P&T methanol, 1mL/ampul
cat. # 30094 (ea.)
50,000 μ g/mL in P&T methanol, 1mL/ampul
cat. # 30207 (ea.)
50,000 μ g/mL in P&T methanol, 5mL/ampul
cat. # 30208 (ea.)

Jet Fuel A Standard

Commercial jet fuel A.

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31215 (ea.)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31242 (ea.)
50,000 μ g/mL in methylene chloride, 5mL/ampul
cat. # 31243 (ea.)

Creosote Oil Standard

Creosote oil, a widely used wood preservative produced by distilling coal tar, contains chemicals that are classified as carcinogens (e.g., benzo(a)pyrene). We offer this high concentration standard.

50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31838 (ea.)

Hydraulic Oil Standard

50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31839 (ea.)

Military Fuels (Jet Propellant)

JP-4 Military Fuel Standard

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31219 (ea.)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31250 (ea.)
50,000 μ g/mL in P&T methanol, 1mL/ampul
cat. # 30472 (ea.)

JP-5 Military Fuel Standard

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31220 (ea.)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31252 (ea.)
50,000 μ g/mL in methylene chloride, 5mL/ampul
cat. # 31253 (ea.)

JP-8 Military Fuel Standard

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31262 (ea.)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31254 (ea.)

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

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.

Fuel Oil Degradation Test

Subsurface degradation of fuel oil spills can be estimated by examining the ratios of C17/pristane and C18/phytane.¹ To assist in identifying these four compounds from the complex fuel oil analysis, we offer a product that contains these compounds for retention time determination.

Fuel Oil Degradation Mix

heptadecane (C17)
octadecane (C18)
pristane (2,6,10,14-tetramethylpentadecane)
phytane (2,6,10,14-tetramethylhexadecane)

2,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31240 (ea.)

¹Interpretation of Gas Chromatographic Data in Subsurface Hydrocarbon Investigations, R. Senn and M. Johnson, *Ground Water Monitoring Review*, Winter 1987.

Mineral Spirits

There are four general types of mineral spirits, classified according to boiling point range (BPR):

- Type I (Stoddard solvent) BPR 149–182°C
- Type II (high flash point) BPR 177–196°C
- Type III (odorless) BPR 149–196°C
- Type IV (low dry point) BPR 149–174°C

We prepare our solutions from an equal volume blend of Type I, II, and III mineral spirits.

Mineral Spirits Standards

5,000µg/mL in methylene chloride, 1mL/ampul
cat. # 31225 (ea.)

50,000µg/mL in methylene chloride, 1mL/ampul
cat. # 31260 (ea.)

50,000µg/mL in methylene chloride, 5mL/ampul
cat. # 31261 (ea.)

Stoddard Solvent Standard

Stoddard solvent is also known as Type I mineral spirits, Teksolve S[®], or Varsol 1[®] mineral spirits. We offer this reference material for those who need to calibrate Stoddard solvent separately. This standard is dissolved in methanol for analysis by either direct injection or purge and trap.

10,000µg/mL in P&T methanol, 1mL/ampul
cat. # 30487 (ea.)

Petroleum Volatile Organic Compounds (PVOC), Gasoline Range Organics (GRO), & Benzene-Toluene-Ethylbenzene-Xylenes (BTEX)

PVOC Mix (California) (7 components)

benzene	<i>m</i> -xylene
ethylbenzene	<i>o</i> -xylene
methyl <i>tert</i> -butyl ether (MTBE)	<i>p</i> -xylene
toluene	

1,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30231 (ea.)

PVOC/GRO Mix (Wisconsin) (10 components)

benzene	1,2,4-trimethylbenzene
ethylbenzene	1,3,5-trimethylbenzene
methyl <i>tert</i> -butyl ether (MTBE)	<i>m</i> -xylene
naphthalene	<i>o</i> -xylene
toluene	<i>p</i> -xylene

1,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30095 (ea.)

GRO Mix (9 components)

benzene	1,2,4-trimethylbenzene
ethylbenzene	2,2,4-trimethylpentane (isooctane)
3-methylpentane	
naphthalene	<i>m</i> -xylene
toluene	<i>o</i> -xylene

1,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30069 (ea.)

GRO Mix (EPA) (9 components)

benzene	500µg/mL	1,2,4-trimethylbenzene	1,000
ethylbenzene	500	2,2,4-trimethylpentane	1,500
heptane	500	<i>m</i> -xylene	1,000
2-methylpentane	1,500	<i>o</i> -xylene	1,000
toluene	1,500		

In P&T methanol, 1mL/ampul
cat. # 30065 (ea.)

BTEX Standard

benzene	<i>m</i> -xylene
ethylbenzene	<i>o</i> -xylene
toluene	<i>p</i> -xylene

200µg/mL each in P&T methanol, 1mL/ampul
cat. # 30051 (ea.)

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30213 (ea.)

2,000µg/mL each in P&T methanol, (*m*-xylene and *p*-xylene at 1,000µg/mL), 1mL/ampul
cat. # 30488 (ea.)

BTEX Gas Mix

Cylinder Construction: aluminum
Cylinder Fitting: CGA-180 outlet

benzene	<i>m</i> -xylene
ethylbenzene	<i>o</i> -xylene
toluene	<i>p</i> -xylene

In nitrogen, 104 liters @ 1,800psi
1ppm cat. # 34414 (ea.)

100ppb cat. # 34428 (ea.)

In nitrogen, 110 liters @ 1,800psi (Pi-marked Cylinder)

1ppm cat. # 34414-PI (ea.)

100ppb cat. # 34428-PI (ea.)

Requires a high-purity VOC single-stage regulator. See page 415.
No data pack available.

free literature

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Fast Facts
lit. cat. # 59397

See **pages 491-497** for information on UST technical literature for individual states.



Brendan Conway
Analytical Reference
Materials Manager
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Petroleum Volatile Organic Compounds (PVOC), Gasoline Range Organics (GRO), & Benzene-Toluene-Ethylbenzene-Xylenes (BTEX) *cont'd*

Gasoline Component Standard (10 components)

benzene	500µg/mL	1,2,4-trimethylbenzene	1000
ethylbenzene	500	2,2,4-trimethylpentane	1500
heptane	500	<i>m</i> -xylene	1000
2-methylpentane	1500	<i>o</i> -xylene	1000
toluene	1500	<i>p</i> -xylene	1000
10,000µg/mL total in P&T methanol, 1mL/ampul			
cat. # 30486 (ea.)			

Certified BTEX in Unleaded Gas Composite Standard (9 components)

Certified for:	
benzene*	naphthalene*
ethylbenzene*	toluene*
isopropyl benzene*	<i>m</i> -xylene*
methyl <i>tert</i> -butyl ether (MTBE)*	<i>o</i> -xylene*
	<i>p</i> -xylene*

5,500ppm gasoline in P&T methanol, 1mL/ampul
cat. # 30237 (ea.)

*Concentration differs lot-to-lot. See on-line Certificate of Analysis for certified concentrations.

Certified Aromatics in Gasoline (16 components)

Certified for:	
benzene*	naphthalene*
ethylbenzene*	<i>n</i> -propylbenzene*
<i>m</i> -ethyltoluene*	toluene*
<i>o</i> -ethyltoluene*	1,2,3-trimethylbenzene*
<i>p</i> -ethyltoluene*	1,2,4-trimethylbenzene*
isopropylbenzene*	1,3,5-trimethylbenzene*
methyl <i>tert</i> -butyl ether (MTBE)*	<i>m</i> -xylene*
	<i>o</i> -xylene*
	<i>p</i> -xylene*

5,500ppm gasoline in P&T methanol, 1mL/ampul
cat. # 30485 (ea.)

*Concentration differs lot-to-lot. See on-line Certificate of Analysis for certified concentrations.

Certified PAHs in Diesel (7 components)

Certified PAHs	
acenaphthene*	1-methylnaphthalene*
acenaphthylene*	2-methylnaphthalene*
fluorene*	naphthalene*
	phenanthrene*

50,000ppm diesel #2 in methylene chloride, 1mL/ampul
cat. # 31673 (ea.)

*Concentration differs lot-to-lot. See on-line Certificate of Analysis for certified concentrations.

Gasoline Surrogate and Internal Standards

Compound	cat.# (ea.)
2,500µg/mL in P&T methanol, 1mL/ampul	
4-bromofluorobenzene	30067
α,α,α-trifluorotoluene	30068
10,000µg/mL in P&T methanol, 1mL/ampul	
4-bromofluorobenzene	30082
α,α,α-trifluorotoluene	30083
1-chlorooctane	30084

Recommended Internal Standard (PID) for EPA GRO Method

Compound	cat.# (ea.)
2,500µg/mL in P&T methanol, 1mL/ampul	
1-chloro-4-fluorobenzene	30066

Diesel Surrogate and Internal Standards

Compound	cat.# (ea.)
10,000µg/mL in methylene chloride, 1mL/ampul	
<i>p</i> -terphenyl	31095
2-fluorobiphenyl	31096
<i>o</i> -terphenyl	31097
1-chlorooctadecane	31098

Recommended Internal Standards

Compound	cat.# (ea.)
2,000µg/mL in methylene chloride, 1mL/ampul	
5-α-androstane	31065
2,000µg/mL in acetone, 1mL/ampul	
<i>o</i> -terphenyl	31066

Diesel/Biodiesel Standard

Diesel/Biodiesel 80:20 Blend Standard

The biodiesel component is methyl soyate.

5,000µg/mL in methylene chloride, 1mL/ampul
cat. # 31880 (ea.)

also available

ASTM Method D6584-00 and EN14105 Biodiesel Standards.
See **page 501**.

Underground Storage Tank Monitoring (UST): State Specific Methods

State	Compound Class
Alaska	Hydrocarbons
Arizona	Hydrocarbons
California/Los Angeles	Hydrocarbons
Connecticut	Hydrocarbons
Florida	Hydrocarbons
Massachusetts	Hydrocarbons
Michigan	Hydrocarbons
Mississippi	Hydrocarbons
Northwest (Oregon & Washington)	Hydrocarbons
Pennsylvania	Hydrocarbons
Tennessee/Mississippi	Hydrocarbons
Texas	Hydrocarbons
Washington	Hydrocarbons
Wisconsin	Hydrocarbons

Alaska

Alaska Department of Environmental Conservation (ADEC) Regulations indicate which products and indicator compounds are to be tested for each petroleum range. The analyst must use the following Alaska Series Methods or appropriate SW-846 method for the indicator compounds. The Alaska UST procedural manual indicates which products are to be tested for each petroleum range.

AK101

Method for determination of aromatic and aliphatic hydrocarbons in gasoline range organics.

Retention Time Marker - Alaska

<i>n</i> -hexane (C6)	<i>n</i> -pentacosane (C25)
<i>n</i> -decane (C10)	<i>n</i> -hexatriacontane (C36)

1,000µg/mL in methylene chloride, 1mL/ampul
cat. # 31819 (ea.)

Alaska *cont'd*

Alaska UST Method AK101AA (14 components)

benzene	toluene
ethylbenzene	1,2,3-trimethylbenzene
1-ethyl-2-methylbenzene	1,2,4-trimethylbenzene
1-ethyl-3-methylbenzene	1,3,5-trimethylbenzene
1-ethyl-4-methylbenzene	<i>m</i> -xylene
isopropylbenzene	<i>o</i> -xylene
<i>n</i> -propylbenzene	<i>p</i> -xylene

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30461 (ea.)

Unleaded Gasoline Composite Standard

2,500µg/mL in P&T methanol, 1mL/ampul cat. # 30081 (ea.)
50,000µg/mL in P&T methanol, 1mL/ampul cat. # 30205 (ea.)
50,000µg/mL in P&T methanol, 5mL/ampul cat. # 30206 (ea.)

1-Chloro-4-fluorobenzene Mix

2,500µg/mL in P&T methanol, 1mL/ampul cat. # 30066 (ea.)

4-Bromofluorobenzene Mix

2,000µg/mL in P&T methanol, 1mL/ampul cat. # 30026 (ea.)

α,α,α-Trifluorotoluene

2,000µg/mL in P&T methanol, 1mL/ampul cat. # 30048 (ea.)
2,500µg/mL in P&T methanol, 1mL/ampul cat. # 30068 (ea.)
10,000µg/mL in P&T methanol, 1mL/ampul cat. # 30083 (ea.)

for more info

State of Alaska

Method and regulatory information is available from:

Alaska Department of Environmental Conservation
410 Willoughby Avenue
Juneau, AK 99801-1795
Phone: (907)465-5203
Fax: (907)465-5218

www.dec.state.ak.us/regulations/index.htm

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Alaska UST Monitoring

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Fast Facts
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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.

See page 427 for our Custom Reference Materials Request Form.

Alaska cont'd

AK102

Method for determination of aromatic and aliphatic hydrocarbons in diesel range organics.

DRO Mix (Tennessee/Mississippi) (16 components)

<i>n</i> -decane (C10)	<i>n</i> -octadecane (C18)
<i>n</i> -undecane (C11)	<i>n</i> -nonadecane (C19)
<i>n</i> -dodecane (C12)	<i>n</i> -eicosane (C20)
<i>n</i> -tridecane (C13)	<i>n</i> -heneicosane (C21)
<i>n</i> -tetradecane (C14)	<i>n</i> -docosane (C22)
<i>n</i> -pentadecane (C15)	<i>n</i> -tricosane (C23)
<i>n</i> -hexadecane (C16)	<i>n</i> -tetracosane (C24)
<i>n</i> -heptadecane (C17)	<i>n</i> -pentacosane (C25)

1,000 μ g/mL each in methylene chloride, 1mL/ampul
cat. # 31214 (ea.)

Kerosene Composite Standard

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31094 (ea.)

50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31256 (ea.)

50,000 μ g/mL in methylene chloride, 5mL/ampul
cat. # 31257 (ea.)

Diesel Fuel #2 Composite Standard

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31093 (ea.)

50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31258 (ea.)

50,000 μ g/mL in methylene chloride, 5mL/ampul
cat. # 31259 (ea.)

o-Terphenyl

2,000 μ g/mL in acetone, 1mL/ampul
cat. # 31066 (ea.)

10,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31097 (ea.)

5- α -androstane

2,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31065 (ea.)

Alaska cont'd

AK103

Method for determination of aromatic and aliphatic hydrocarbons in residual range organics.

Residual Range Calibration Standard (RCS)

SAE30 motor oil:SAE40 motor oil (1:1)
50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31817 (ea.)

Residual Range Calibration Verification Standard (CVS)

SAE30 motor oil:SAE40 motor oil (1:1)
25,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31818 (ea.)

Motor Oil Composite Standard

50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31464 (ea.)

Fuel Oil #6 Standard

This fuel, sometimes called bunker C or residual, is a black viscous oil. Applications in which it may be used require the ability to preheat the fuel prior to pumping and burning.

5,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31218 (ea.)

50,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31248 (ea.)

50,000 μ g/mL in methylene chloride, 5mL/ampul
cat. # 31249 (ea.)

n-Triacontane-d62

500 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31816 (ea.)

Surrogate Standard Mixture

squalane tetrahydronaphthol
o-terphenyl
1,000 μ g/mL each in methylene chloride, 1mL/ampul
cat. # 31638 (ea.)

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Alaska UST Monitoring

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Fast Facts

lit. cat. # 59503

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

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.

Arizona

Extraction Retention Time Standard

n-hexane(C6) *n*-docosane(C22)
n-decane(C10) *n*-dotriacontane(C32)

2,000µg/mL each in methylene chloride, 1mL/ampul
 cat. # 31830 (ea.)

DRO/ORO Calibration Standard

10W30 motor oil:diesel fuel #2 (1:1 blend)

25,000µg/mL each in methylene chloride, 1mL/ampul
 cat. # 31831 (ea.)

DRO/ORO Range Calibration Standard

(12 components)

n-decane (C10) *n*-docosane (C22)
n-dodecane (C12) *n*-tetracosane (C24)
n-tetradecane (C14) *n*-hexacosane (C26)
n-hexadecane (C16) *n*-octacosane (C28)
n-octadecane (C18) *n*-triacontane (C30)
n-eicosane (C20) *n*-dotriacontane (C32)

2,000µg/mL each in methylene chloride, 1mL/ampul
 cat. # 31832 (ea.)

GRO P&T Retention Time Standard

benzene naphthalene

1,000µg/mL each in P&T methanol, 1mL/ampul
 cat. # 30496 (ea.)

o-Terphenyl

2,000µg/mL in acetone, 1mL/ampul
 cat. # 31066 (ea.)

10,000µg/mL in methylene chloride, 1mL/ampul
 cat. # 31097 (ea.)

California

PVOC Mix (California) (7 components)

benzene *m*-xylene
 ethylbenzene *o*-xylene
 methyl *tert*-butyl ether (MTBE) *p*-xylene
 toluene

1,000µg/mL each in P&T methanol, 1mL/ampul
 cat. # 30231 (ea.)

California Oxygenates Mix

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

In P&T methanol, 1mL/ampul
 cat. # 30465 (ea.)

Methanol

10,000µg/mL in DI Water, 1mL/ampul
 cat. # 30467 (ea.)

Ethanol

10,000µg/mL in DI Water, 1mL/ampul
 cat. # 30466 (ea.)

Glycols Standard

ethylene glycol propylene glycol
 50,000µg/mL each in DI water, 1mL/ampul
 cat. # 30471 (ea.)

Los Angeles County, CA
Well Investigation Program (WIP)*

CA WIP VOA Standard (11 components)

benzene methyl *tert*-butyl ether (MTBE)
 chlorobenzene toluene
 1,2-dichlorobenzene *m*-xylene
 1,3-dichlorobenzene *o*-xylene
 1,4-dichlorobenzene *p*-xylene
 ethylbenzene

2,000µg/mL each in P&T methanol, 1mL/ampul
 cat. # 30236 (ea.)

*For samples suspected of gasoline contamination, Los Angeles County requires laboratories to calibrate and report these compounds.

Connecticut

Connecticut ETPH Calibration Mixture

(15 components)

n-nonane (C9) *n*-tetracosane (C24)
n-decane (C10) *n*-hexacosane (C26)
n-dodecane (C12) *n*-octacosane (C28)
n-tetradecane (C14) *n*-triacontane (C30)
n-hexadecane (C16) *n*-dotriacontane (C32)
n-octadecane (C18) *n*-tetraatriacontane (C34)
n-eicosane (C20) *n*-hexatriacontane (C36)
n-docosane (C22)

1,000µg/mL each in methylene chloride, 1mL/ampul
 cat. # 31614 (ea.)

Florida

Florida TRPH Standard (17 components)

n-octane (C8) *n*-hexacosane (C26)
n-decane (C10) *n*-octacosane (C28)
n-dodecane (C12) *n*-triacontane (C30)
n-tetradecane (C14) *n*-dotriacontane (C32)
n-hexadecane (C16) *n*-tetraatriacontane (C34)
n-octadecane (C18) *n*-hexatriacontane (C36)
n-eicosane (C20) *n*-octatriacontane (C38)
n-docosane (C22) *n*-tetracontane (C40)
n-tetracosane (C24)

500µg/mL each in hexane, 1mL/ampul
 cat. # 31266 (ea.)

2,000µg/mL each in carbon disulfide, 1mL/ampul*
 cat. # 31878 (ea.)

*Ground transportation shipments only.

Florida TRPH Surrogate Mix

n-nonatriacontane (C39)
 3,000µg/mL in carbon disulfide, 1mL/ampul*
 cat. # 31456 (ea.)

3,000µg/mL in carbon disulfide, 10mL/ampul*
 cat. # 31877 (ea.)

*Ground transportation shipments only.

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Massachusetts

MA VPH Standard with Surrogate Rev. 1.1 (July 2004) (16 components)

benzene	<i>n</i> -pentane (C5)
<i>n</i> -butylcyclohexane	toluene
<i>n</i> -decane (C10)	1,2,4-trimethylbenzene
2,5-dibromotoluene (SUR)	2,2,4-trimethylpentane (isooctane)
ethylbenzene	<i>m</i> -xylene
2-methylpentane	<i>o</i> -xylene
methyl <i>tert</i> -butyl ether (MTBE)	<i>p</i> -xylene
naphthalene	
<i>n</i> -nonane (C9)	
10,000µg/mL in P&T methanol, 1mL/ampul	
cat. # 30604 (ea.)	

MA VPH Matrix Spike Mix with Surrogate Rev. 1.1 (July 2004) (16 components)

benzene	<i>n</i> -pentane (C5)
<i>n</i> -butylcyclohexane	toluene
<i>n</i> -decane (C10)	1,2,4-trimethylbenzene
2,5-dibromotoluene (SUR)	2,2,4-trimethylpentane (isooctane)
ethylbenzene	<i>m</i> -xylene
2-methylpentane	<i>o</i> -xylene
methyl <i>tert</i> -butyl ether (MTBE)	<i>p</i> -xylene
naphthalene	
<i>n</i> -nonane (C9)	
50µg/mL in P&T methanol, 1mL/ampul	
cat. # 30605 (ea.)	

MA Volatile Petroleum Hydrocarbon (VPH) Standard (13 components)

<i>n</i> -pentane (C5)	1,000µg/mL	naphthalene	1,000
<i>n</i> -nonane (C9)	1,000	toluene	1,500
benzene	500	1,2,4-trimethylbenzene	1,000
ethylbenzene	500	<i>m</i> -xylene	1,000
isooctane	1,500	<i>o</i> -xylene	1,000
2-methylpentane	1,500	<i>p</i> -xylene	1,000
methyl <i>tert</i> -butyl ether (MTBE)	1,500		
In P&T methanol, 1mL/ampul			
cat. # 30434 (ea.)			

MA VPH Standard with Surrogate (14 components)

<i>n</i> -pentane (C5)	1,000µg/mL	methyl <i>tert</i> -butyl ether (MTBE)	1,500
<i>n</i> -nonane (C9)	1,000	naphthalene	1,000
benzene	500	toluene	1,500
2,5-dibromotoluene (SUR)	1,000	1,2,4-trimethylbenzene	1,000
ethylbenzene	500	<i>m</i> -xylene	1,000
isooctane	1,500	<i>o</i> -xylene	1,000
2-methylpentane	1,500	<i>p</i> -xylene	1,000
In P&T methanol, 1mL/ampul			
cat. # 30452 (ea.)			

MA VPH Matrix Spike Mix with Surrogate (14 components)

<i>n</i> -pentane (C5)	methyl <i>tert</i> -butyl ether (MTBE)
<i>n</i> -nonane (C9)	naphthalene
benzene	toluene
2,5-dibromotoluene (SUR)	1,2,4-trimethylbenzene
ethylbenzene	<i>m</i> -xylene
isooctane	<i>o</i> -xylene
2-methylpentane	<i>p</i> -xylene
2,500µg/mL each in P&T methanol, 1mL/ampul	
cat. # 30454 (ea.)	

MA VPH Surrogate Standard

2,5-dibromotoluene	
1,000µg/mL in P&T methanol, 1mL/ampul	cat. # 30435 (ea.)
10,000µg/mL in P&T methanol, 1mL/ampul	cat. # 30453 (ea.)

Massachusetts APH Mix (26 components)

Cylinder Construction:	aluminum
Cylinder Fitting:	CGA-180 outlet

benzene	4-isopropyltoluene
1,3-butadiene	methyl <i>tert</i> -butyl ether (MTBE)
butylcyclohexane	1-methyl-3-ethylbenzene
cyclohexane	<i>n</i> -nonane (C9)
<i>n</i> -decane (C10)	<i>n</i> -octane (C8)
2,3-dimethylheptane	toluene
2,3-dimethylpentane	toluene-d8 (IS)
ethylbenzene	<i>n</i> -dodecane (C12)
<i>n</i> -heptane (C7)	1,2,3-trimethylbenzene
<i>n</i> -hexane (C6)	1,3,5-trimethylbenzene
isopentane	<i>n</i> -undecane (C11)
isopropylbenzene	<i>m</i> -xylene
	<i>o</i> -xylene
	<i>p</i> -xylene

In nitrogen, 104 liters @ 1800psi
1ppm cat. # 34540 (ea.)

In nitrogen, 110 liters @ 1800psi (Pi-marked Cylinder)
1ppm cat. # 34540-PI (ea.)

Requires a high-purity VOC single-stage regulator. See page 415.
 No data pack available.

MA EPH Aromatic Hydrocarbon Standard

(17 components)	
acenaphthene	dibenzo(a,h)anthracene
acenaphthylene	fluoranthene
anthracene	fluorene
benzo(a)anthracene	indeno(1,2,3-cd)pyrene
benzo(a)pyrene	2-methylnaphthalene
benzo(b)fluoranthene	naphthalene
benzo(k)fluoranthene	phenanthrene
benzo(ghi)perylene	pyrene
chrysene	

1,000µg/mL each in methylene chloride, 1mL/ampul
 cat. # 31458 (ea.)

MA EPH Aliphatic Hydrocarbon Standard

(14 components)	
<i>n</i> -nonane (C9)	<i>n</i> -eicosane (C20)
<i>n</i> -decane (C10)	<i>n</i> -docosane (C22)
<i>n</i> -dodecane (C12)	<i>n</i> -tetracosane (C24)
<i>n</i> -tetradecane (C14)	<i>n</i> -hexacosane (C26)
<i>n</i> -hexadecane (C16)	<i>n</i> -octacosane (C28)
<i>n</i> -octadecane (C18)	<i>n</i> -triacontane (C30)
<i>n</i> -nonadecane (C19)	<i>n</i> -hexatriacontane (C36)

1,000µg/mL each in hexane, 1mL/ampul
 cat. # 31459 (ea.)

MA EPH Matrix Spike Mix (10 components)

<i>n</i> -nonane (C9)	acenaphthene
<i>n</i> -tetradecane (C14)	anthracene
<i>n</i> -nonadecane (C19)	chrysene
<i>n</i> -eicosane (C20)	naphthalene
<i>n</i> -octacosane (C28)	pyrene

250µg/mL each in acetone, 1mL/ampul
 cat. # 31460 (ea.)

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Massachusetts *cont'd*

MA EPH Internal Standard

5- α -androstane
2,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31065 (ea.)

MA EPH Surrogate Spike Mix

1-chlorooctadecane *o*-terphenyl
4,000 μ g/mL each in acetone, 1mL/ampul
cat. # 31479 (ea.)

1-Chlorooctadecane Mix

1-chlorooctadecane
10,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31098 (ea.)

Naphthalene-d8

2,000 μ g/mL in methylene chloride, 1mL/ampul
cat. # 31043 (ea.)

MA Fractionation Surrogate Spike Mix

2-bromonaphthalene 2-fluorobiphenyl
4,000 μ g/mL each in hexane, 1mL/ampul
cat. # 31480 (ea.)

MA Fractionation Check Mix (31 components)

PAHs:	Hydrocarbons:
acenaphthene	<i>n</i> -nonane (C9)
acenaphthylene	<i>n</i> -decane (C10)
anthracene	<i>n</i> -dodecane (C12)
benzo(a)anthracene	<i>n</i> -tetradecane (C14)
benzo(a)pyrene	<i>n</i> -hexadecane (C16)
benzo(b)fluoranthene	<i>n</i> -octadecane (C18)
benzo(k)fluoranthene	<i>n</i> -nonadecane (C19)
benzo(ghi)perylene	<i>n</i> -eicosane (C20)
chrysene	<i>n</i> -docosane (C22)
dibenzo(a,h)anthracene	<i>n</i> -tetracosane (C24)
fluoranthene	<i>n</i> -hexacosane (C26)
fluorene	<i>n</i> -octacosane (C28)
indeno(1,2,3-cd)pyrene	<i>n</i> -triacontane (C30)
2-methylnaphthalene	<i>n</i> -hexatriacontane (C36)
naphthalene	
phenanthrene	
pyrene	

25 μ g/mL each in hexane, 1mL/ampul
cat. # 31481 (ea.)

Michigan

Michigan GRO Mix (14 components)

benzene	naphthalene
1,2-dibromoethane	toluene
1,2-dichloroethane	1,2,4-trimethylbenzene
ethylbenzene	1,3,5-trimethylbenzene
isopropylbenzene	<i>m</i> -xylene
2-methylnaphthalene	<i>o</i> -xylene
methyl <i>tert</i> -butyl-ether (MTBE)	<i>p</i> -xylene

2,000 μ g/mL each in P&T methanol, 1mL/ampul
cat. # 30468 (ea.)

Mississippi

DRO Mix (Tennessee/Mississippi) (16 components)

<i>n</i> -decane (C10)	<i>n</i> -octadecane (C18)
<i>n</i> -undecane (C11)	<i>n</i> -nonadecane (C19)
<i>n</i> -dodecane (C12)	<i>n</i> -eicosane (C20)
<i>n</i> -tridecane (C13)	<i>n</i> -heneicosane (C21)
<i>n</i> -tetradecane (C14)	<i>n</i> -docosane (C22)
<i>n</i> -pentadecane (C15)	<i>n</i> -tricosane (C23)
<i>n</i> -hexadecane (C16)	<i>n</i> -tetracosane (C24)
<i>n</i> -heptadecane (C17)	<i>n</i> -pentacosane (C25)

1,000 μ g/mL each in methylene chloride, 1mL/ampul
cat. # 31214 (ea.)

Gasoline Component Standard (10 components)

benzene	500 μ g/mL	1,2,4-trimethylbenzene	1000
ethylbenzene	500	2,2,4-trimethylpentane	1500
heptane	500	<i>m</i> -xylene	1000
2-methylpentane	1500	<i>o</i> -xylene	1000
toluene	1500	<i>p</i> -xylene	1000

10,000 μ g/mL total in P&T methanol, 1mL/ampul
cat. # 30486 (ea.)

Northwest USA Regional Method (Oregon & Washington)

also see Washington, page 497

NW TPH-HCID Retention Time Mix

<i>n</i> -dodecane (C12)	toluene
<i>n</i> -tetracosane (C24)	

2,500 μ g/mL each in methylene chloride, 1mL/ampul
cat. # 31485 (ea.)

NW TPH-HCID Surrogate Mix

<i>n</i> -pentacosane (C25)	4-bromofluorobenzene
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5,000 μ g/mL each in methylene chloride, 1mL/ampul
cat. # 31486 (ea.)

Glycols Standard

ethylene glycol	propylene glycol
-----------------	------------------

50,000 μ g/mL each in DI water, 1mL/ampul
cat. # 30471 (ea.)

NW TPH-Dx Surrogate Mix Standards

Each at 10,000 μ g/mL in methylene chloride, 1mL/ampul

Compound	cat.# (ea.)
2-fluorobiphenyl	31096
<i>o</i> -terphenyl	31097
<i>p</i> -terphenyl	31095
pentacosane (C25)	31487

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See the GC Applications section for glycols application chromatograms - pages 634-635.

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Pennsylvania

PA DEP UST Standard (11 components)

benzene	naphthalene
1,2-dibromoethane	toluene
1,2-dichloroethane	<i>m</i> -xylene
ethylbenzene	<i>o</i> -xylene
isopropyl benzene	<i>p</i> -xylene
methyl <i>tert</i> -butyl ether (MTBE)	

2,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30433 (ea.)

Tennessee/Mississippi

DRO Mix (Tennessee/Mississippi) (16 components)

<i>n</i> -decane (C10)	<i>n</i> -octadecane (C18)
<i>n</i> -undecane (C11)	<i>n</i> -nonadecane (C19)
<i>n</i> -dodecane (C12)	<i>n</i> -eicosane (C20)
<i>n</i> -tridecane (C13)	<i>n</i> -heneicosane (C21)
<i>n</i> -tetradecane (C14)	<i>n</i> -docosane (C22)
<i>n</i> -pentadecane (C15)	<i>n</i> -tricosane (C23)
<i>n</i> -hexadecane (C16)	<i>n</i> -tetracosane (C24)
<i>n</i> -heptadecane (C17)	<i>n</i> -pentacosane (C25)

1,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31214 (ea.)

Gasoline Component Standard (10 components)

benzene	500µg/mL	1,2,4-trimethylbenzene	1000
ethylbenzene	500	2,2,4-trimethylpentane	1500
heptane	500	<i>m</i> -xylene	1000
2-methylpentane	1500	<i>o</i> -xylene	1000
toluene	1500	<i>p</i> -xylene	1000

10,000µg/mL total in P&T methanol, 1mL/ampul
cat. # 30486 (ea.)



Don't see the UST mix you need? We can custom blend a UST mix to meet the requirements of your method. Use the form on [page 427](#) or visit our web site at www.restek.com.

Texas

Texas TNRCC Method 1006

TNRCC 1006 Retention Time Marker Mix

(9 components)

<i>n</i> -hexane (C6)	<i>n</i> -hexadecane (C16)
<i>n</i> -heptane (C7)	<i>n</i> -heneicosane (C21)
<i>n</i> -octane (C8)	<i>n</i> -octacosane (C28)
<i>n</i> -decane (C10)	<i>n</i> -pentatriacontane (C35)
<i>n</i> -dodecane (C12)	

200µg/mL in pentane, 1mL/ampul
cat. # 31814 (ea.)

Texas TNRCC Method 1005

TNRCC 1005 Retention Time Markers Mix

(9 components)

<i>n</i> -hexane (C6)	<i>n</i> -octacosane (C28)
<i>n</i> -dodecane (C12)	<i>n</i> -pentatriacontane (C35)

200µg/mL each in pentane, 1mL/ampul
cat. # 31698 (ea.)

TX TPH Locator Mix

<i>n</i> -hexane (C6)	<i>n</i> -octacosane (C28)
<i>n</i> -decane (C10)	

200µg/mL each in pentane, 1mL/ampul
cat. # 31482 (ea.)

TX TPH Calibration Mix

diesel fuel #2 composite	unleaded gasoline composite
--------------------------	-----------------------------

10,000µg/mL each in pentane, 1mL/ampul
cat. # 31483 (ea.)

TX TPH Matrix Spike Mix

diesel fuel #2 composite	unleaded gasoline composite
--------------------------	-----------------------------

10,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 31484 (ea.)

Alternate Boiling Point/Carbon Number Distribution Marker Stock Standard (9 components)

<i>n</i> -hexane (C6)	<i>n</i> -heneicosane (C21)
<i>n</i> -octane (C8)	<i>n</i> -octacosane (C28)
<i>n</i> -decane (C10)	<i>n</i> -pentatriacontane (C35)
<i>n</i> -dodecane (C12)	<i>n</i> -hexatriacontane (C36)
<i>n</i> -hexadecane (C16)	

200µg/mL each in pentane, 1mL/ampul
cat. # 31639 (ea.)

 α, α, α -Trifluorotoluene

2,000µg/mL in P&T methanol, 1mL/ampul	cat. # 30048 (ea.)
2,500µg/mL in P&T methanol, 1mL/ampul	cat. # 30068 (ea.)
10,000µg/mL in P&T methanol, 1mL/ampul	cat. # 30083 (ea.)

1-Chlorooctane

10,000µg/mL in P&T methanol, 1mL/ampul	cat. # 30084 (ea.)
--	--------------------

1-Chlorooctadecane Mix

1-chlorooctadecane	
10,000µg/mL in methylene chloride, 1mL/ampul	cat. # 31098 (ea.)

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Washington

WA VPH Marker Standard (9 components)

<i>n</i> -pentane (C5)	1-methylnaphthalene
<i>n</i> -hexane (C6)	naphthalene
<i>n</i> -octane (C8)	toluene
<i>n</i> -decane (C10)	1,2,3-trimethylbenzene
<i>n</i> -dodecane (C12)	

1,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30450 (ea.)

WA VPH Standard (15 components)

<i>n</i> -pentane (C5)	methyl <i>tert</i> -butyl ether (MTBE)
<i>n</i> -hexane (C6)	naphthalene
<i>n</i> -octane (C8)	toluene
<i>n</i> -decane (C10)	1,2,3-trimethylbenzene
<i>n</i> -dodecane (C12)	<i>m</i> -xylene
benzene	<i>o</i> -xylene
ethylbenzene	<i>p</i> -xylene
1-methylnaphthalene	

1,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30451 (ea.)

WA EPH Aromatic Hydrocarbon Mix

acenaphthene	pyrene
benzo(ghi)perylene	toluene
naphthalene	1,2,3-trimethylbenzene

1,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31488 (ea.)

WA EPH Aliphatic Hydrocarbon Mix

<i>n</i> -octane (C8)	<i>n</i> -hexadecane (C16)
<i>n</i> -decane (C10)	<i>n</i> -heneicosane (C21)
<i>n</i> -dodecane (C12)	<i>n</i> -tetratriacontane (C34)

1,000µg/mL each in hexane, 1mL/ampul
cat. # 31489 (ea.)

WA EPH Aromatic Hydrocarbon Standard

(18 components)

acenaphthene	dibenzo(a,h)anthracene
acenaphthylene	fluoranthene
anthracene	fluorene
benzo(a)anthracene	indeno(1,2,3-cd)pyrene
benzo(a)pyrene	2-methylnaphthalene
benzo(b)fluoranthene	naphthalene
benzo(k)fluoranthene	phenanthrene
benzo(ghi)perylene	pyrene
chrysene	1,2,3-trimethylbenzene

1,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31469 (ea.)

Washington *cont'd***WA EPH Matrix Spike Mix** (10 components)

<i>n</i> -decane (C10)	anthracene
<i>n</i> -dodecane (C12)	benzo(a)pyrene
<i>n</i> -hexadecane (C16)	benzo(ghi)perylene
<i>n</i> -heneicosane (C21)	naphthalene
acenaphthene	pyrene

250µg/mL each in acetone, 1mL/ampul
cat. # 31490 (ea.)

WA EPH Fractionation Check Mix (22 components)

<i>n</i> -octane (C8)	benzo(b)fluoranthene
<i>n</i> -decane (C10)	benzo(k)fluoranthene
<i>n</i> -dodecane (C12)	benzo(ghi)perylene
<i>n</i> -hexadecane (C16)	chrysene
<i>n</i> -heneicosane (C21)	dibenzo(a,h)anthracene
<i>n</i> -tetratriacontane (C34)	fluoranthene
acenaphthene	fluorene
acenaphthylene	indeno(1,2,3-cd)pyrene
anthracene	naphthalene
benzo(a)anthracene	phenanthrene
benzo(a)pyrene	pyrene

25µg/mL each in hexane, 1mL/ampul
cat. # 31491 (ea.)

Wisconsin

PVOC/GRO Mix (Wisconsin) (10 components)

benzene	1,2,4-trimethylbenzene
ethylbenzene	1,3,5-trimethylbenzene
methyl <i>tert</i> -butyl ether	<i>m</i> -xylene
naphthalene	<i>o</i> -xylene
toluene	<i>p</i> -xylene

1,000µg/mL each in P&T methanol, 1mL/ampul
cat. # 30095 (ea.)

DRO Mix (EPA/Wisconsin) (10 components)

<i>n</i> -decane (C10)	<i>n</i> -eicosane (C20)
<i>n</i> -dodecane (C12)	<i>n</i> -docosane (C22)
<i>n</i> -tetradecane (C14)	<i>n</i> -tetracosane (C24)
<i>n</i> -hexadecane (C16)	<i>n</i> -hexacosane (C26)
<i>n</i> -octadecane (C18)	<i>n</i> -octacosane (C28)

2,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31064 (ea.)

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