

New Analytical Reference Materials for Fuels, Accelerants

By Ken Herwehe, Analytical Reference Materials Product Marketing Manager, Mark Badger, Senior Organic Chemist



did you know?

We have over 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.

For our on-line Custom Reference Materials Request Form visit us on the web at www.restek.com/solutions.

tert-Amyl ethyl ether Standard

Oxygenate additive in (US) gasolines.

A US EPA target analyte that is not commercially available, this reference material is prepared from a laboratory-synthesized sample.

2,000 μ g/mL in P&T methanol, 1mL/ampul
cat. # 30617 (ea.)

Oxygenates Standard

diisopropyl ether (DIPE)	2,000 μ g/mL
ethyl- <i>tert</i> -butyl ether (ETBE)	2,000
<i>tert</i> -amyl ethyl ether (TAAE)	2,000
<i>tert</i> -amyl methyl ether (TAME)	2,000
<i>tert</i> -butyl alcohol (TBA)	10,000

In P&T methanol, 1mL/ampul
cat. # 30619 (ea.)

tert-Butanol-d⁹ Standard

An internal standard for oxygenates.

20,000 μ g/mL in P&T methanol, 1mL/ampul
cat. # 30618 (ea.)

Diesel/Biodiesel 80:20 Blend Standard

The biodiesel component is methyl soyate.

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

Florida TRPH Standard (17 components)

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

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

2,000 μ g/mL each in carbon disulfide, 1mL/ampul*

NEW Higher concentration

cat. # 31878 (ea.)

Florida TRPH Surrogate Mix

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

3,000 μ g/mL in carbon disulfide, 10mL/ampul*
NEW Larger volume

cat. # 31877 (ea.)

*Ground transportation shipments only.



About Biodiesel Fuel

In the US, soybean oil is the predominant feedstock for biodiesel fuel. Through transesterification, the oil is converted to methyl soyate, which has the characteristics and physical properties appropriate for a diesel-type fuel. Although biodiesel fuel can be used alone in diesel engines, many fleet operators blend it with petroleum-based diesel fuels to stretch the supply and lessen the cost of using what is still an expensive commodity, as biodiesel fuel still is not produced on a large scale.

Biodiesel fuel in an 80:20 blend (B20) has huge benefits for the consumer, including reduced emissions. The relatively high oxygen content of biodiesel fuel can reduce particulates, and has been shown to reduce NO_x emissions and engine wear. New low-sulfur diesel fuels, mandated by the US EPA to reduce SO_x emissions, lose some of the inherent lubrication that the sulfur species impart. However, biodiesel fuel has adequate inherent lubrication to offset the effects of the low-sulfur petroleum-based fuels.

Other biodiesel standards, at different blend ratios (e.g., B80 or B100), are available as custom products. In addition, we can custom prepare materials that comply with ASTM D6584, the method used to determine glycerin and free glycols in biodiesel fuel.

Single Source Unleaded Gasoline (ASTM Class 2 Accelerant)

These solutions are prepared from a single source (one refinery) product. Samples of regular and premium grade unleaded gasoline were collected, then blended in equal volumes. The weathered materials indicate the percent weight loss from the original material.

Compound	cat.# (ea.)
5,000µg/mL in P&T methanol, 1mL/ampul	
unleaded gasoline: unweathered	30096
unleaded gasoline: 25% weathered	30097
unleaded gasoline: 50% weathered	30098
unleaded gasoline: 75% weathered	30099
unleaded gasoline: 99% weathered	30436

Kerosene (ASTM Class 4 Accelerant)

These solutions are prepared from a single source (one refinery) product. The weathered materials indicate the percent weight loss from the original material.

Compound	cat.# (ea.)
5,000µg/mL in methylene chloride, 1mL/ampul	
kerosene: unweathered	31229
kerosene: 25% weathered	31230
kerosene: 50% weathered	31231
kerosene: 75% weathered	31232

Diesel Fuel #2 (ASTM Class 5 Accelerant)

These solutions are prepared from a single source (one refinery) product. The weathered materials indicate the percent weight loss from the original material.

Compound	cat.# (ea.)
5,000µg/mL in methylene chloride, 1mL/ampul	
diesel fuel #2: unweathered	31233
diesel fuel #2: 25% weathered	31234
diesel fuel #2: 50% weathered	31235
diesel fuel #2: 75% weathered	31236

Mineral Spirits

The mineral spirit solutions listed below were prepared from an equal volume blend of Type I, II, and III mineral spirits.

Compound	cat.# (ea.)
5,000µg/mL in methylene chloride, 1mL/ampul	
mineral spirits: unweathered	31225
50,000µg/mL in methylene chloride, 1mL/ampul	
mineral spirits: unweathered	31260
50,000µg/mL in methylene chloride, 5mL/ampul	
mineral spirits: unweathered (5mL/ampul)	31261
5,000µg/mL in methylene chloride, 1mL/ampul	
mineral spirits: 25% weathered	31226
5,000µg/mL in methylene chloride, 1mL/ampul	
mineral spirits: 50% weathered	31227
5,000µg/mL in methylene chloride, 1mL/ampul	
mineral spirits: 75% weathered	31228

Distillates and Crude Oils

In addition to our stock products, we offer the following materials as custom products.

For details, visit our website: www.restek.com/standards

biodiesel (methyl soyate)
diesel #1
diesel #2: straight run - low sulfur - weathered - single source - composite
fuel oil #4
fuel oil #5
fuel oil #6
kerosene: unweathered - weathered
aviation gasoline, 100 octane
jet A: straight run - additized
JP-4
JP-5
JP-8
JP-10
RP-1
unleaded gasoline: oxygenate free - weathered - single source - composite
naphtha cut
charcoal lighter fluid
Stoddard solvent
mineral spirits: unweathered - weathered
mineral oil
gear oil
hydraulic oil
turbine oil
cutting fluid
vacuum pump oil
motor oil: 10W30 - 10W40 - 20W50 - 5W30 - 30W - 40W - 50W - blend - used composite
creosote oil
light cycle oil (LCO)
refined chemical oil (RCO)
coal tar pitch
asphalt
blacktop patch
Californian heavy crude
Alaskan crude
Pennsylvanian crude



for more info

For blended/composite materials, refer to our catalog, or visit our website at www.restek.com/standards