

Analytical Reference Materials

NEW PRODUCTS
FOR 2007

RESTEK

Chromatography Products

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ECHnology Pty Ltd

Australian Distributors
Importers & Manufacturers
www.chromtech.net.au

Website NEW : www.chromalytic.com.au E-mail : info@chromtech.net.au Tel: 03 9762 2034 . . . in AUSTRALIA

Searching for the **perfect** solution?

Take these **eight** steps to create the right solution:

1. Mixture Description: _____

2. Solvent: _____

3. Number of Components: _____

4. Volume per ampul (select): 1mL, 2mL, 5mL, 10mL or other _____ mL

5. Quantity of ampuls: _____

6. Testing and documentation that best meet your requirements:

Gravimetric Documentation: Lot Sheet with balance printout attached.

Qualitative Documentation: Certificate of Composition, Chromatogram, and Gravimetric Documentation.

Quantitative Documentation: Certificate of Analysis and Data Pack.

7. Compound(s) (list or attach sheet)

CAS Number

Concentration

Compound 01: _____

Compound 02: _____

Compound 03: _____

Compound 04: _____

Compound 05: _____

Compound 06: _____

Compound 07: _____

Compound 08: _____

Compound 09: _____

Compound 10: _____

Compound 11: _____

Compound 12: _____

Compound 13: _____

Compound 14: _____

Compound 15: _____

Compound 16: _____

Compound 17: _____

Compound 18: _____

Compound 19: _____

Compound 20: _____

8. Concentration Units

mg/mL µg/mL ng/mL vol./wt. % wt./wt. % other _____

Contact Information:

Name: _____ Date: _____

Company/Location: _____

Phone #: _____ FAX #: _____

E-mail: _____

U.S. Customers

FAX#: (814) 355-2895

email: standards@restek.com

online form: www.restek.com/solutions

International Customers

Contact Your

Restek Representative.

ALL mixtures are produced in accordance with our ISO 9001:2000 registration.
Analytical balances are calibrated daily at seven mass levels using NIST traceable weights.
ALL raw materials used are a minimum of 97% pure unless otherwise specified.



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Neat & Single Analyte Solutions

Solvent	Code
methylene chloride	.D
purge & trap grade methanol	.PTM

Compound	Packaged 1mL/ampul*	CAS#	Solvent Code	$\mu\text{g/mL}^{**}$	Individual cat.#
Neat Solutions					
dibromofluoromethane	1868-53-7		Neat	100mg	30634
perfluorotributylamine (PFTBA)	311-89-7		Neat	1g	33027
Single Analyte Solutions					
tert-amyl alcohol	75-85-4		PTM	1,000	30631
benzaldehyde	100-52-7		D	2,000	33017
benzene	71-43-2		D	250	35262
1,3-butadiene	106-99-0		PTM	1,000	30622
(s)-(-)-12,4-butanetriol	42890-76-6		pyridine	1,000	33024
(s)-(-)-12,4-butanetriol (5mL)	42890-76-6		pyridine	1,000	33032
1-butanol	71-36-3		D	250	35260
diolein (1,3-di[<i>cis</i> -octadecenoyl]glycerol)	2465-32-9		pyridine	5,000	33022
ethylenediamine	107-15-3		M	540	35222
glycerin	56-81-5		pyridine	500	33020
monolein (1-mono[<i>cis</i> -9-octadecenoyl]-rac-glycerol)	111-03-5		pyridine	5,000	33021
monopalmitin	524-44-9		pyridine	5,000	33026
1-nitropropane	108-03-2		D	250	35263
2-pentanone	107-87-9		D	250	35261
tricaprin (1,2,3-tricaprinoyl glycerol)	621-71-6		pyridine	8,000	33025
tricaprin (1,2,3-tricaprinoyl glycerol) (5mL)	621-71-6		pyridine	8,000	33033
triolein (1,2,3-Tri[<i>cis</i> -octadecenoyl]glycerol)	122-32-7		pyridine	5,000	33023

*Volume is 1mL/ampul unless otherwise noted.

**Concentration is $\mu\text{g/mL}$ unless otherwise noted.

500 Series Methods - US EPA Safe Drinking Water Act (SDWA)

US EPA Method No.	Compound Class
525.2Semivolatile Organics NEW
527Pesticides & Flame Retardants-GC/MS NEW

Method 525.2 (Semivolatile Organics)

Organonitrogen Pesticide Mix #1 (Rev),

Method 525.2 (37 components)

alachlor	molinate
ametryn	napropamide (Devrinol®)
atraton	norflurazon
atrazine	pebulate
bromacil	prometon
butachlor	prometryne
butylate	pronamide (propyzamide)
chlorpropham	propachlor
cyazafop (Bladex)	propazine
cycloate	simazine
diphenamid	simetryn
EPTC	tebuthiuron
etridiazole (Terrazole®)	terbacil
fenarimol	terbutryn
fluridone (Sonar®)	triadimefon
hexazinone (Velpar®)	tricyclazole (Beam)
metolachlor	trifluralin
metribuzin	vernolate
MGK-264	

500 $\mu\text{g/mL}$ each in acetone, 1mL/ampul
cat. # 33012 (ea.)

Method 525.2

(Semivolatile Organics) cont'd

Organochlorine Pesticide Mix #2 (Rev),

Method 525.2 (8 components)

chlorobenzilate	heptachlor epoxide (isomer A)
chloroneb	trans-nonachlor
chlorothalonil	cis-permethrin
DCPA (Dacthal®)	trans-permethrin

500 $\mu\text{g/mL}$ each in acetone, 1mL/ampul
cat. # 33011 (ea.)

Organophosphorus Pesticide Mix #1 (Rev),

Method 525.2 (7 components)

chlorpyrifos (Dursban®)	methyl paraoxon (parathion methyl-O-analog)
dichlorvos (DDVP)	mevinphos (phosdrin)
disulfoton sulfone	stirofos (tetrachlorvinphos)
ethoprop (ethoprophos)	

500 $\mu\text{g/mL}$ each in acetone, 1mL/ampul
cat. # 33013 (ea.)

Method 527

(Pesticides & Flame Retardants-GC/MS)

PBDE Mix

2,2',4,4',5-pentabromodiphenyl ether (BDE-99)
2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-153)
2,2',4,4',5,5'-hexabromodiphenyl ether (BDE-100)
2,2',4,4'-tetrabromodiphenyl ether (BDE-47)

100 $\mu\text{g/mL}$ each in isooctane:ethyl acetate (4:1), 1mL/ampul
cat. # 33006 (ea.)

Pesticides Mix #1, Method 527 (16 components)

atrazine	mirex
bifenthrin	nitrofen
esbilo (Bioallethrin®, S-cyclopentyl isomer)	norflurazon
bromacil	oxychlorodane
esfenvalerate	prometryne
fenvalerate	propazine
hexazinone	thiobencarb
kepone	vinclozolin

500 $\mu\text{g/mL}$ each in ethyl acetate, 1mL/ampul
cat. # 33007 (ea.)

Pesticides Mix #2, Method 527

chlorpyrifos (Dursban®)	parathion
dimethoate	terbufos sulfone
malathion	

500 $\mu\text{g/mL}$ each in ethyl acetate, 1mL/ampul
cat. # 33008 (ea.)

Surrogate Standard, Method 527

1,3-dimethyl-2-nitrobenzene	triphenylphosphate
perylene-d12	

500 $\mu\text{g/mL}$ each in acetone, 1mL/ampul
cat. # 33009 (ea.)

Internal Standard, Method 527

acenaphthene-d10	phenanthrene-d10
chrysene-d12	

500 $\mu\text{g/mL}$ each in acetone, 1mL/ampul
cat. # 33010 (ea.)

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Ken Herwehe
Analytical Reference
Materials Marketing
Manager
6+ years of service!

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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 1** for our Custom Reference Materials Request Form.

8000 Series Methods - Resource Conservation and Recovery Act (RCRA)

US EPA Method No.	Compound Class
8270D, 8270C	Reformulated Semivolatile Organic Compounds
8315/ASTM D5192/CARB 1004	Aldehydes/Ketones-DNPH by HPLC NEW

Method 8270D, 8270C (Semivolatile Organic Compounds)

PFTBA (MS Tuning Compound)

perfluorotributylamine (PFTBA)

Neat

1mL cat. # 30482 (ea.)

1g cat. # 33027 (ea.) **NEW**

No data pack available.

B/N Surrogate Mix (4/89 SOW)

2-fluorobiphenyl *p*-terphenyl-d14
nitrobenzene-d5

1,000µg/mL each in methylene chloride, 1mL/ampul
cat. # 31024 (ea.)

5,000µg/mL each in methylene chloride, 1mL/ampul*
cat. # 31062 (ea.)

5,000µg/mL each in methylene chloride, 5mL/ampul*
cat. # 31086 (ea.)

5,000µg/mL each in methylene chloride, 10mL/ampul*
cat. # 33028 (ea.) **NEW**

*Warm and sonicate before using.

Acid Surrogate Mix (4/89 SOW)

2-fluorophenol 2,4,6-tribromophenol
phenol-d6

2,000µg/mL each in methanol, 1mL/ampul
cat. # 31025 (ea.)

10,000µg/mL each in methanol, 1mL/ampul
cat. # 31063 (ea.)

10,000µg/mL each in methanol, 5mL/ampul
cat. # 31087 (ea.)

10,000µg/mL each in methylene chloride, 10mL/ampul
cat. # 33029 (ea.) **NEW**

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.) **NEW**

Acid Matrix Spike Mix

4-chloro-3-methylphenol pentachlorophenol
2-chlorophenol phenol
4-nitrophenol

2,000µg/mL each in methanol, 1mL/ampul
cat. # 31014 (ea.)

10,000µg/mL each in methylene chloride, 10mL/ampul
cat. # 33031 (ea.) **NEW**

10,000µg/mL each in methanol, 1mL/ampul
cat. # 31061 (ea.)

10,000µg/mL each in methanol, 5mL/ampul
cat. # 31071 (ea.)

Method 8315/ASTM D5192/CARB 1004 (Aldehydes/Ketones-DNPH by HPLC)

CARB 1004 Aldehyde/Ketone-DNPH Calibration Standard (13 components)

acetaldehyde-2,4-DNPH	hexaldehyde-2,4-DNPH
acetone-2,4-DNPH	methacrolein-2,4-DNPH
acrolein-2,4-DNPH	methyl ethyl ketone-2,4-DNPH
benzaldehyde-2,4-DNPH	propionaldehyde-2,4-DNPH
<i>n</i> -butyraldehyde-2,4-DNPH	<i>m</i> -tolualdehyde-2,4-DNPH
crotonaldehyde-2,4-DNPH	valeraldehyde-2,4-DNPH
formaldehyde-2,4-DNPH	
3µg/mL each in acetonitrile, 1mL/ampul cat. # 33093 (ea.)	

DNPH Reference Materials

100µg/mL in acetonitrile, 1mL/ampul

Compound	CAS#	Individual cat.#
acetaldehyde-2,4-DNPH	1019-57-4	33074
acetone-2,4-DNPH	1567-89-1	33075
acrolein-2,4-DNPH	888-54-0	33076
benzaldehyde-2,4-DNPH	1157-84-2	33077
2-butanone-2,4-DNPH	958-60-1	33078
<i>n</i> -butyraldehyde-2,4-DNPH	1527-98-6	33079
crotonaldehyde-2,4-DNPH	1527-96-4	33080
2,5-dimethylbenzaldehyde-2,4-DNPH	152477-96-8	33081
formaldehyde-2,4-DNPH	1081-15-8	33082
glycolaldehyde-2,4-DNPH	—	33091
hexaldehyde-2,4-DNPH	1527-97-5	33083
isobutyraldehyde-2,4-DNPH	2057-82-1	33084
isovaleraldehyde-2,4-DNPH	2256-01-1	33085
methacrolein-2,4-DNPH	5077-73-6	33095
propionaldehyde-2,4-DNPH	725-00-8	33086
<i>m</i> -tolualdehyde-2,4-DNPH	2880-05-9	33088
<i>o</i> -tolualdehyde-2,4-DNPH	1773-44-0	33087
<i>p</i> -tolualdehyde-2,4-DNPH	2571-00-8	33089
valeraldehyde-2,4-DNPH	2057-84-3	33090

EPA Superfund Contract Lab Program (CLP)

US EPA Method No.	Compound Class
SOM01.0	Volatiles / Semivolatiles NEW
4.2 and 04.1 SOW	Semivolatiles NEW

SOM01.1 (Volatiles)

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.)

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

*Mix of *cis* and *trans* isomers. Exact proportions will be reported on the data sheet.



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SOM01.1 (Volatiles) cont'd

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.)

SOM01.1 VOA DMC Kit (500µg/mL)

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

kit

1mL each of these mixtures.

cat. # 30630 (kit)

SOM01.1 VOA DMC Kit (1,000µg/mL)

30635: Non-Ketones 1,000µg/mL
30636: Ketones 1,000µg/mL

kit

1mL each of these mixtures.

cat. # 30637 (kit)

SOM01.1 (Semivolatiles)

SOM01.1 SVOA MegaMix® (67 components)

acenaphthene 2,4-dinitrophenol
acenaphthylene 2,4-dinitrotoluene
acetophenone 2,6-dinitrotoluene
anthracene di-*n*-octyl phthalate
atrazine diphenylamine¹
benzo(a)anthracene fluoranthene
benzo(b)fluoranthene fluorene
benzo(k)fluoranthene hexachlorobenzene
benzo(ghi)perylene hexachloro-1,3-butadiene
benzo(a)pyrene (hexachlorobutadiene)
benzyl butyl phthalate hexachlorocyclopentadiene
biphenyl hexachloroethane
bis(2-chloroethyl)ether indeno(1,2,3-cd)pyrene
bis(2-chloroethoxy)methane isophorone
bis(2-chloroisopropyl)ether 2-methylnaphthalene
(2,2'-oxybis(1-chloropropane)) 2-methylphenol (*o*-cresol)
bis(2-ethylhexyl)phthalate 3-methylphenol (*m*-cresol)*
4-bromophenyl-phenylether 4-methylphenol (*p*-cresol)*
ε-caprolactam naphthalene
carbazole 2-nitroaniline
4-chloroaniline 3-nitroaniline
4-chloro-3-methylphenol 4-nitroaniline
2-chloronaphthalene nitrobenzene
2-chlorophenol 2-nitrophenol
4-chlorophenyl-phenylether 4-nitrophenol
chrysene N-nitroso-di-*n*-propylamine
dibenzo(a,h)anthracene pentachlorophenol
dibenzofuran phenanthrene
3,3'-dichlorobenzidine phenol
2,4-dichlorophenol pyrene
diethylphthalate 1,2,4,5-tetrachlorobenzene
2,4-dimethylphenol 2,3,4,6-tetrachlorophenol
dimethylphthalate 2,4,5-trichlorophenol
di-*n*-butylphthalate 2,4,6-trichlorophenol
4,6-dinitro-2-methylphenol

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).

SOM01.1 (Semivolatiles) cont'd

Benzaldehyde

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

SOM01.1 SVOA MegaMix® Kit

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

kit

Contains 1mL each of these mixtures.

cat. # 33005 (kit)

04.2 and 04.1 (Semivolatiles)

CLP 04.1 B/N MegaMix® (49 components)

acenaphthene diethylphthalate
acenaphthylene dimethylphthalate
acetophenone di-*n*-butyl phthalate
anthracene 2,4-dinitrotoluene
atrazine 2,6-dinitrotoluene
benzo(a)anthracene di-*n*-octyl phthalate
benzo(a)pyrene diphenylamine¹
benzo(b)fluoranthene fluoranthene
benzo(ghi)perylene fluorene
benzo(k)fluoranthene hexachlorobenzene
benzyl butyl phthalate hexachloro-1,3-butadiene
biphenyl (hexachlorobutadiene)
bis(2-chloroethoxy)methane hexachlorocyclopentadiene
bis(2-chloroethyl)ether hexachloroethane
bis(2-chloroisopropyl)ether indeno(1,2,3-cd)pyrene
(2,2'-oxybis(1-chloropropane)) isophorone
bis(2-ethylhexyl)phthalate 2-methylnaphthalene
4-bromophenyl phenyl ether naphthalene
ε-caprolactam 2-nitroaniline
carbazole 3-nitroaniline
4-chloroaniline 4-nitroaniline
2-chloronaphthalene nitrobenzene
4-chlorophenyl phenyl ether N-nitroso-di-*n*-propylamine
chrysene phenanthrene
dibenzo(a,h)anthracene pyrene
dibenzofuran

1,000µg/mL each in methylene chloride, 1mL/ampul

cat. # 33018 (ea.)

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

Benzaldehyde

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

CLP 04.1 B/N MegaMix® Kit

33018: CLP 04.1 B/N MegaMix® 1,000µg/mL
33017: Benzaldehyde 2,000µg/mL

kit

Contains 1mL each of these mixtures.

cat. # 33014 (kit)

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.

Other Materials

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Blood Alcohol Standards	NEW
Exempted Drug of Abuse Reference Materials	NEW
USP-467 Standards	NEW
Column Test Mixes	NEW
ASTM Method D6584-00 Biodiesel	NEW

Blood Alcohol Standards

Rely on our ethanol standards for your calibration needs. Ethanol levels are National Institute of Standards and Technology (NIST)-traceable. Data packs (which can be downloaded from our website at www.restek.com/datapacks) include a Certificate of Analysis, raw material testing results, statistical QA results, analytical balance printout, and gravimetric weight.

Compound	qty.	cat.#
0.010g/dL forensic ethanol solution		
1mL/ampul	5-pk.	36276
1mL/ampul	10-pk.	36278
5mL/ampul	ea.	36277

Other volumes and concentrations up to 0.4g/dL also available. See our catalog or website.

Exempted Drug of Abuse Reference Materials

Concentration is 1,000µg/mL (except where noted). Volume is 1mL/ampul, unless noted otherwise.

Compound	CAS#	Solvent Code	Individual cat.#
Methadone & Metabolites			
EDDP perchlorate	66729-78-0	M	34069
Amphetamines & Metabolites			
3,4-MDA HCl	4764-17-4	M	34070
3,4-MDEA HCl	82801-81-8	M	34072
3,4-MDMA HCl	42542-10-9	M	34071
phenylpropranolamine HCl	154-41-6	M	34073
Opiates & Metabolites			
dextromethorphan HBr monohydrate	125-69-9	M	34081
Cannabinoid & Metabolites			
Δ ⁹ -THC	1972-08-3	M	34067
(±)11-nor-9-carboxy-Δ ⁹ -THC	104874-50-2	M	34068
GHB			
1,4-butanediol	110-63-4	M	34078
γ-butyrolactone	96-48-0	ACN	34077
γ-hydroxybutyrate	502-85-2	M	34076
α-methylene-γ-butyrolactone	547-65-9	ACN	34079
γ-valerolactone	108-29-2	ACN	34080
LSD			
LAMPA	40158-98-3	ACN	34075
LSD	50-37-3	ACN	34074
2-oxo-3-hydroxy-LSD*	—	ACN	34087
Other			
caffeine	58-08-2	M	34084
continine	486-56-6	M	34086
fentanyl	437-38-7	M	34082
nor-fentanyl oxalate	1609-66-1	M	34083
nicotine	54-11-5	M	34085

ACN = acetonitrile, M = methanol

*100µg/mL in acetonitrile.

USP-467 Standards

Residual Solvents Mixture - Class 1

benzene	10mg/mL	1,1-dichloroethene	40
carbon tetrachloride	20	1,1,1-trichloroethylene	50
1,2-dichloroethane	25		
In dimethyl sulfoxide, 1mL/ampul			
cat. # 36279 (ea.)			

Residual Solvents Class 2 - Mix B (8 components)

chloroform	60µg/mL	nitromethane	50
1,2-dimethoxyethane	100	pyridine	200
n-hexane (C6)	290	tetralin	100
2-hexanone	50	trichloroethylene	80
In dimethyl sulfoxide, 1mL/ampul			
cat. # 36280 (ea.)			

Column Test Mixes

Amine 900 Test Mix (8 components)

n-decane (C10)	900µg/mL	diethylenetriamine	1800
n-dodecane (C12)	900	2,6-dimethylaniline	900
1,2-butanediol	900	2-nonanol	900
diethanolamine (DEA)	1800	pyridine	900
In methanol:methylene chloride (50:50), 1mL/ampul			
cat. # 35235 (ea.)			

0.25 Amine Mix (8 components)

n-decane (C10)	600µg/mL	diethylenetriamine	1,200
n-dodecane (C12)	600	2,6-dimethylaniline	600
1,2-butanediol	600	2-nonanol	600
diethanolamine (DEA)	1,200	pyridine	600
In methanol:methylene chloride, 1mL/ampul			
cat. # 35083 (ea.)			

0.32 Amine Mix (8 components)

n-decane (C10)	450µg/mL	diethylenetriamine	900
n-dodecane (C12)	450	2,6-dimethylaniline	450
1,2-butanediol	450	2-nonanol	450
diethanolamine (DEA)	900	pyridine	450
In methanol:methylene chloride, 1mL/ampul			
cat. # 35084 (ea.)			

0.53 Amine Mix (8 components)

n-decane (C10)	200µg/mL	diethylenetriamine	400
n-dodecane (C12)	200	2,6-dimethylaniline	200
1,2-butanediol	200	2-nonanol	200
diethanolamine (DEA)	400	pyridine	200
In methanol:methylene chloride, 1mL/ampul			
cat. # 35085 (ea.)			

BAC2 Iso-Test Mix (7 components)

1,2-butanediol	1-methylnaphthalene
2,6-dimethylaniline	netetradecane
2,6-dimethylphenol	1-undecanol
n-hexadecane	
250µg/mL each in toluene, 1mL/ampul	
cat. # 35235 (ea.)	

also available

All of the reference standards required to run the newly revised USP-467, Organic Volatile Impurities (USP30/NF25), are now available! Use Restek Class 1 and Class 2 Mixtures for reliable identification and any of our 36 single-component solvent standards for precise and accurate quantification.

For more information on the new USP-467 Standards, Blood Alcohol Standards and Exempted Drug of Abuse Reference Materials, visit our website at www.restek.com.

Column Test Mixes *cont'd*

Breakdown Test Mix (10ppb)

4,4'-DDD	endrin aldehyde
4,4'-DDE	endrin ketone
decachlorobiphenyl	2,4,5,6-tetrachloro- <i>m</i> -xylene
10µg/mL each in hexane, 1mL/ampul	
cat. # 35243 (ea.)	

Breakdown Test Mix (50ppb)

4,4'-DDD	endrin aldehyde
4,4'-DDE	endrin ketone
decachlorobiphenyl	2,4,5,6-tetrachloro- <i>m</i> -xylene
50µg/mL each in hexane, 1mL/ampul	
cat. # 35242 (ea.)	

1-Butanol

1-butanol
250µg/mL in methylene chloride, 1mL/ampul
cat. # 35260 (ea.)

C6-C9 Hydrocarbon Test Mix

<i>n</i> -heptane (C7)	<i>n</i> -nonane (C9)
<i>n</i> -hexane (C6)	<i>n</i> -octane (C8)
1,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 35258 (ea.)	

Chiral Column Test Mix (9 components)

methyl decanoate (C10:0)	210µg/mL	<i>n</i> -dodecane (C12)	150
methyl undecanoate (C11:0)	210	2,3-butanediol (+/-)	500
methyl dodecanoate (C12:0)	210	1-heptanol	180
		3-methylphenol (<i>m</i> -cresol)	160
		1-phenylethanol (+/-)	500
		α-pinene (+/-)	500
In methylene chloride, 1mL/ampul			
cat. # 35098 (ea.)			

DB1-1000 (8 components)

methyl nonanoate (C9:0)	4-chlorophenol
<i>n</i> -tridecane (C13)	1,6-hexanediol
<i>n</i> -pentadecane (C15)	4-propylaniline
acenaphthylene	1-undecanol
1,000µg/mL each in methylene chloride, 1mL/ampul	
cat. # 35224 (ea.)	

Grob Mix 280 (10 components)

L(+)-2,3-butanediol	530µg/mL	methyl dodecanoate (C12:0)	420
<i>n</i> -decane (C10)	280	methyl undecanoate (C11:0)	420
2,6-dimethylaniline	320	nonanal	400
2,6-dimethylphenol	320	1-octanol	360
methyl decanoate (C10:0)	420	<i>n</i> -undecane (C11)	280
In methylene chloride, 1mL/ampul			
cat. # 35227 (ea.)			

Grob Test Mix (Revised) 0.25 without Nonanal

(9 components)			
<i>n</i> -decane (C10)	380µg/mL	methyl dodecanoate (C12:0)	540
methyl decanoate (C10:0)	560	2,6-dimethylaniline	420
<i>n</i> -undecane (C11)	380	2,6-dimethylphenol	420
methyl undecanoate (C11:0)	560	L(+)-2,3-butanediol	700
		1-octanol	480
In methylene chloride, 1mL/ampul			
cat. # 35215 (ea.)			

0.32mm Revised Grob-DB Mix A without

Ethylenediamine (9 components)			
L(+)-2,3-butanediol	440µg/mL	methyl decanoate	340
<i>n</i> -decane (C10)	220	methyl dodecanoate	340
2,6-dimethylaniline	260	methyl undecanoate	340
2,6-dimethylphenol	260	1-octanol	300
		<i>n</i> -undecane (C11)	240
In methylene chloride, 1mL/ampul			
cat. # 35221 (ea.)			

0.32mm Revised Grob-DB Mix B

ethylenediamine	
540µg/mL in methanol, 1mL/ampul	
cat. # 35222 (ea.)	

Marine Oil Test Mix (20 components)

C14:0 methyl myristate	600µg/mL
C14:1 methyl myristoleate	100
C16:0 methyl palmitate	1600
C16:1 methyl palmitoleate	500
C18:0 methyl stearate	800
C18:1 methyl oleate	1300
C18:1 methyl vaccenate	400
C18:2 methyl linoleate	200
C18:3 methyl linolenate	200
C20:0 methyl arachidate	100
C20:1 methyl 11-eicosenoate	900
C20:2 methyl 11-14-eicosadienoate	100
C20:4 methyl arachidonate	300
C20:3 methyl 11-14-17-eicosatrienoate	100
C20:5 methyl eicosapentaenoate	1000
C22:0 methyl behenate	100
C22:1 methyl erucate	300
C22:6 methyl docosahexaenoate	1200
C24:0 methyl lignocerate	100
C24:1 methyl nervonate	100
In methylene chloride, 0.5mL/ampul	
cat. # 35249 (ea.)	

Kovats Probe Test Standard

benzene	1-nitropropane
1-butanol	2-pentanone
500µg/mL each in methylene chloride, 1mL/ampul	
cat. # 35259 (ea.)	

Benzene Kovats Probe Standard

benzene
250µg/mL in methylene chloride, 1mL/ampul
cat. # 35262 (ea.)

1-Nitropropane Kovats Probe Standard

1-nitropropane
250µg/mL in methylene chloride, 1mL/ampul
cat. # 35263 (ea.)

2-Pentanone Kovats Probe Standard

2-pentanone
250µg/mL in methylene chloride, 1mL/ampul
cat. # 35261 (ea.)

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.

See **page 1** for our Custom Reference Materials Request Form.

Column Test Mixes *cont'd*

Pesticide Performance Evaluation Test Mix

w/ Surrogate (8 components)

α -BHC	1 μ g/mL	decachlorobiphenyl	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	2

In hexane, 1mL/ampul

cat. # 35244 (ea.)

Phenols/Anilines/Pesticides Test Mix

(9 components)

4-chloroaniline	3-nitroaniline
4,4'-DDT	N-nitroso-di- <i>n</i> -propylamine
2,4-dinitrophenol	pentachlorophenol
endrin	phenanthrene
naphthalene	

50 μ g/mL each in methylene chloride, 1mL/ampul

cat. # 35245 (ea.)

Rxi™ Test Mix (Rev. A) (8 components)

acenaphthylene	methyl nonanoate
4-chlorophenol	<i>n</i> -pentadecane
<i>n</i> -decylamine	<i>n</i> -tridecane
1,6-hexanediol	1-undecanol

1,000 μ g/mL each in toluene, 1mL/ampul

cat. # 35241 (ea.)

Rxi™ Test Mix (500ppm) (8 components)

acenaphthylene	methyl nonanoate (C9:0 FAME)
4-chlorophenol	<i>n</i> -pentadecane (C15)
<i>n</i> -decylamine	<i>n</i> -tridecane (C13)
1,6-hexanediol	1-undecanol

500 μ g/mL each in toluene, 1mL/ampul

cat. # 35247 (ea.)

Snap & Shoot 0.25 XTI Test Mix (14 components)

<i>n</i> -tetradecane (C14)	250 μ g/mL	carbazole	500
<i>n</i> -eicosane (C20)	250	2,4-dinitrophenol	500
<i>n</i> -heneicosane (C21)	250	1,2-hexanediol	250
<i>n</i> -docosane (C22)	250	4-nitroaniline	500
benzo(b)fluoranthene	500	4-nitrophenol	500
benzo(k)fluoranthene	500	N-nitroso-di- <i>n</i> -propylamine	200
benzoic acid	500	pentachlorophenol	500

In methylene chloride, 1mL/ampul

cat. # 35082 (ea.)

Snap & Shoot 0.32 XTI Test Mix (14 components)

<i>n</i> -tetradecane (C14)	167 μ g/mL	carbazole	333
<i>n</i> -eicosane (C20)	167	2,4-dinitrophenol	333
<i>n</i> -heneicosane (C21)	167	1,2-hexanediol	167
<i>n</i> -docosane (C22)	167	4-nitroaniline	333
benzo(b)fluoranthene	333	4-nitrophenol	333
benzo(k)fluoranthene	333	N-nitroso-di- <i>n</i> -propylamine	133
benzoic acid	333	pentachlorophenol	333

In methylene chloride, 1mL/ampul

cat. # 35091 (ea.)

Snap & Shoot 0.53 XTI Test Mix (14 components)

<i>n</i> -tetradecane (C14)	66 μ g/mL	carbazole	132
<i>n</i> -eicosane (C20)	66	2,4-dinitrophenol	132
<i>n</i> -heneicosane (C21)	66	1,2-hexanediol	66
<i>n</i> -docosane (C22)	66	4-nitroaniline	132
benzo(b)fluoranthene	132	4-nitrophenol	132
benzo(k)fluoranthene	132	N-nitroso-di- <i>n</i> -propylamine	53
benzoic acid	132	pentachlorophenol	132

In methylene chloride, 1mL/ampul

cat. # 35092 (ea.)

ASTM Method D6584-00 Biodiesel

Determining Free and Total Glycerin in B-100 Biodiesel Methyl Esters by GC

In the manufacture of biodiesel fuel, triglycerides are split into their monoalkyl ester components via transesterification. The fatty acid monoalkyl esters can be used as fuel in diesel engines. Amounts of free glycerin and total glycerin indicate the quality of the conversion of the oil or fat to monoalkyl esters. D6584-00 is a test method for quantitative determination of free glycerin, total glycerin, and mono-, di-, and triglycerides in biodiesel fuel methyl esters by GC, after silylation of the sample with N-methyl-N-(trimethylsilyl) trifluoroacetamide (MSTFA).

(s)-(-)-1,2,4-Butanetriol

(s)-(-)-1,2,4-butanetriol

1,000 μ g/mL in pyridine, 1mL/ampul

cat. # 33024 (ea.)

1,000 μ g/mL in pyridine, 5mL/ampul

cat. # 33032 (ea.)

Diolein

diolein (1,3-di[*cis*-octadecenyl]glycerol)

5,000 μ g/mL in pyridine, 1mL/ampul

cat. # 33022 (ea.)

Glycerin

500 μ g/mL in pyridine, 1mL/ampul

cat. # 33020 (ea.)

Monolein

monolein (1-mono[*cis*-9-octadecenyl]-rac-glycerol)

5,000 μ g/mL in pyridine, 1mL/ampul

cat. # 33021 (ea.)

Monopalmitin

monopalmitin

5,000 μ g/mL in pyridine, 1mL/ampul

cat. # 33026 (ea.)

Tricaprin

tricaprin (1,2,3-tricaprinoylglycerol)

8,000 μ g/mL in pyridine, 1mL/ampul

cat. # 33025 (ea.)

8,000 μ g/mL in pyridine, 5mL/ampul

cat. # 33033 (ea.)

Triolein

triolein (1,2,3-Tri[*cis*-octadecenyl]glycerol)

5,000 μ g/mL in pyridine, 1mL/ampul

cat. # 33023 (ea.)

free data

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Petroleum Standards

These petroleum standards are gravimetrically prepared, NIST-traceable by weight, and verified by one or more analytical methods.

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Sulfur Simulated Distillation Standard

SSDS

30 ppm total sulfur by weight from ethanethiol
60 ppm total sulfur by weight from 1-propanethiol
30 ppm total sulfur by weight from 1-butanethiol
60 ppm total sulfur by weight from 1-pentanethiol
30 ppm total sulfur by weight from 1-hexanethiol
60 ppm total sulfur by weight from 1-heptanethiol
30 ppm total sulfur by weight from 3,5-dimethylbenzenethiol
60 ppm total sulfur by weight from 1-octanethiol
30 ppm total sulfur by weight from 1-nonanethiol
60 ppm total sulfur by weight from 1-decanethiol
30 ppm total sulfur by weight from 1-pentadecanethiol
60 ppm total sulfur by weight from 1-hexadecanethiol
30 ppm total sulfur by weight from 1-octadecanethiol
Balance: toluene/isooctane 1:15

1mL pre-scored amber ampul.

cat. # 33049 (ea.)

Speciated Sulfur System Suitability Checkout Standard

SSSSCS

0.50 ppm total sulfur by weight from dimethylsulfide
35.0 ppm total sulfur by weight from tertiary butyl mercaptan
50.0 ppm total sulfur by weight from thiopene
15.0 ppm total sulfur by weight from dimethyl disulfide
25.0 ppm total sulfur by weight from benzothiopene
Balance: isooctane

1mL pre-scored amber ampul.

cat. # 33050 (ea.)

EPA Ultra Low & Low Sulfur Diesel Standards and Samples in Diesel Fuel to Meet EPA Requirements for Lab Qualification

EPA Ultra Low Sulfur Diesel Precision Sample # 1

EPA Section 80.580 - 80.585 Title 40, Chapter 1, Part 80

Homogenous commercially available diesel fuel with sulfur content of 5-15 ppm. 1 x 200mL amber bottle.

cat. # 33051 (ea.)

EPA Low Sulfur Diesel Precision Sample # 2

EPA Section 80.580 - 80.585 Title 40, Chapter 1, Part 80

Homogenous commercially available diesel fuel with sulfur content of 200 - 500 ppm. 1 x 200mL amber bottle.

cat. # 33052 (ea.)

EPA Ultra Low Sulfur Diesel Accuracy Standard # 1

EPA Section 80.520(a)(1) and 80.510(b)

1 - 10 ppm total sulfur in a diesel fuel matrix for motor vehicle diesel and diesel additives subject to the 15 ppm sulfur standard. 1 x 200mL amber bottle.

cat. # 33053 (ea.)

EPA Ultra Low Sulfur Diesel Accuracy Standard # 2

EPA Section 80.520(a)(1) and 80.510(b)

10 - 20 ppm total sulfur in a diesel fuel matrix for motor vehicle diesel and diesel additives subject to the 15 ppm sulfur standard. 1 x 200mL amber bottle.

cat. # 33054 (ea.)

EPA Low Sulfur Diesel Accuracy Standard # 3

EPA Section 80.520(c) and 80.510(c)

100 - 200 ppm total sulfur in a diesel fuel matrix for motor vehicle diesel and diesel additives subject to the 500 ppm sulfur standard. 1 x 200mL amber bottle.

cat. # 33055 (ea.)

EPA Low Sulfur Diesel Accuracy Standard # 4

EPA Section 80.520(c) and 80.510(c)

400 - 500 ppm total sulfur in a diesel fuel matrix for motor vehicle diesel and diesel additives subject to the 500 ppm sulfur standard. 1 x 200mL amber bottle.

cat. # 33056 (ea.)

also available

Custom ULSD and LSD calibration standards are also available in 100mL, 200mL, 500mL, and 1 liter bottles.

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Ultra Low & Low Sulfur in Diesel Fuel Calibration Kits

EPA Section 80.580 - 80.585 Title 40, Chapter 1, Part 80

Cal Kit ULSD 1 - 20

Blank
1.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
2.5 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
5.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
10.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
15.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
20.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel

Set of seven 20mL bottles.

cat. # 33060 (kit)

kit

Cal Kit ULSD 20 - 100

Blank
20.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
35.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
50.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
75.0 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
100 ppm total sulfur from di-*n*-butylsulfide in diesel fuel

Set of six 20mL bottles.

cat. # 33061 (kit)

kit

Cal Kit LSD 100 - 500

Blank
100 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
200 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
300 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
400 ppm total sulfur from di-*n*-butylsulfide in diesel fuel
500 ppm total sulfur from di-*n*-butylsulfide in diesel fuel

Set of six 20mL bottles.

cat. # 33062 (kit)

kit

Low Sulfur in Gasoline Calibration Standards

EPA Section 80.190 - 80.415 Title 40, Chapter 1, Part 80

Cal Kit SG 10 - 50

Blank
10 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
20 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
30 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
40 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
50 ppm sulfur from di-*n*-butylsulfide in gasoline by weight

Set of six 5mL amber bottles.

cat. # 33043 (kit)

kit

Check Standard SG 25

25 ppm sulfur from di-*n*-butylsulfide in gasoline by weight.
Set of five 5mL amber bottles.

cat. # 33044 (ea.)

Low Sulfur in Gasoline Calibration Standards *cont'd*

Cal Kit SG 50 - 125

Blank
50 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
65 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
80 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
95 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
110 ppm sulfur from di-*n*-butylsulfide in gasoline by weight
125 ppm sulfur from di-*n*-butylsulfide in gasoline by weight

Set of seven 5mL amber bottles.

cat. # 33045 (kit)

kit

Check Standard SG 75

75 ppm sulfur from di-*n*-butylsulfide in gasoline by weight.
Set of five 5mL amber bottles.

cat. # 33046 (ea.)

Cal Kit SG 110 - 500

Blank
110 ppm sulfur from di-*n*-butylsulfide
200 ppm sulfur from di-*n*-butylsulfide
300 ppm sulfur from di-*n*-butylsulfide
400 ppm sulfur from di-*n*-butylsulfide
500 ppm sulfur from di-*n*-butylsulfide

Set of six 5mL amber bottles.

cat. # 33047 (kit)

kit

Check Standard SG 175

175 ppm sulfur from di-*n*-butylsulfide in gasoline by weight.
Set of five 5mL amber bottles.

cat. # 33048 (ea.)

Sulfur in Isooctane Calibration Kits and Check Standards

ASTM Methods D3120, D4045, D5453, D6920

Cal Kit SISO 0.125 - 2.5ppm

Blank
0.125 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
0.25 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
0.50 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
1.00 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
2.50 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane

Calibration kit for total sulfur by weight from di-*n*-butylsulfide in isooctane 0.125-2.5ppm range. Set of six 1mL pre-scored ampuls.

cat. # 33035 (kit)

kit

Check Standard SISO 0.75

0.75ppm total sulfur by weight from di-*n*-butylsulfide in isooctane.
Set of five 1mL pre-scored ampuls.

cat. # 33036 (ea.)

please note

These petroleum standards are gravimetrically prepared, NIST-traceable by weight, and verified by one or more analytical methods.

Sulfur in Isooctane Calibration Kits and Check Standards *cont'd*

Cal Kit SISO 2.5 - 50 ppm

Blank

2.50 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
5.00 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
10.00 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
15.00 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
20.00 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
25.00 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
50.00 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane

Calibration kit for total sulfur by weight from di-*n*-butylsulfide in isooctane 2.5-50 ppm range. Set of eight 1mL pre-scored ampuls.
cat. # 33037 (kit)

Check Standard SISO 30

30 ppm total sulfur by weight from di-*n*-butylsulfide in isooctane.
Set of five 1mL pre-scored ampuls.

cat. # 33038 (ea.)

Cal Kit SISO 50 - 1000 ppm

Blank

50 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
75 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
100 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
250 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
500 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
1000 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane

Calibration kit for total sulfur by weight from di-*n*-butylsulfide in isooctane 50-1000 ppm range. Set of seven 1mL pre-scored ampuls.
cat. # 33039 (kit)

Check Standard SISO 300

300 ppm total sulfur by weight from di-*n*-butylsulfide in isooctane.
Set of five 1mL pre-scored ampuls.

cat. # 33040 (ea.)

Cal Kit SISO 1000 - 6000

Blank

1000 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
1500 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
2000 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
4000 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane
6000 w/w ppm total sulfur from di-*n*-butylsulfide in isooctane

Calibration kit for total sulfur by weight from di-*n*-butylsulfide in isooctane 1000 - 6000 ppm range. Set of six 1mL pre-scored ampuls.
cat. # 33041 (kit)

Check Standard SISO 3000

3000 ppm total sulfur by weight from di-*n*-butylsulfide in isooctane.
Set of five 1mL pre-scored ampuls.

cat. # 33042 (ea.)

Total Sulfur & Total Nitrogen in Isooctane Calibration Kits

ASTM Methods D3120, D4045, D4629, D5453, D5762, D6069, D6920

Cal Kit SNISO 0.125 - 5.0

Blank

0.125 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
0.25 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
0.50 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
1.00 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
2.50 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
5.00 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane

Set of seven 1mL pre-scored amber ampuls.

cat. # 33057 (kit)

Cal Kit SNISO 5.0 - 50.0

Blank

5.00 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
10.0 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
25.0 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
50.0 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane

Set of five 1mL pre-scored amber ampuls.

cat. # 33058 (kit)

Cal Kit SNISO 50.0 - 1000

Blank

50.0 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
75.0 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
100 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
250 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
500 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane
1000 w/w ppm total sulfur from thiophene & total nitrogen from pyridine in isooctane

Set of seven 1mL pre-scored amber ampuls.

cat. # 33059 (kit)

also available

Custom total sulfur & total nitrogen in isooctane check standards also available.

Call our Analytical Reference Department at 800-356-1688 or 814-353-1300, or your Restek representative for details.

free data

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please **note**

These petroleum standards are gravimetrically prepared, NIST-traceable by weight, and verified by one or more analytical methods.

Sulfur in Mineral Oil Calibration Kits and Check Standards

ASTM Methods D2622, D3120, D4045, D4294, D5453, D6212, D6313, D6428, D6445, D7039

Cal Kit SMO 2 - 20

Blank
2.00 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
5.00 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
7.00 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
10.00 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
15.00 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
20.00 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil

Set of seven 100mL bottles.

cat. # 33063 (kit)

kit

Cal Kit SMO 1000 - 25000

Blank
1000 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
2500 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
5000 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
1.00% total sulfur by weight from di-*n*-butylsulfide in mineral oil
1.50% total sulfur by weight from di-*n*-butylsulfide in mineral oil
2.00% total sulfur by weight from di-*n*-butylsulfide in mineral oil
2.50% total sulfur by weight from di-*n*-butylsulfide in mineral oil

Set of eight 100mL bottles.

cat. # 33069 (kit)

kit

Check Standard SMO 11

11.0 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil.
1 liter bottle.

cat. # 33064 (ea.)

Check Standard SMO 3000

3000 w/w ppm total sulfur from di-*n*-butylsulfide. 1 liter bottle.

cat. # 33070 (ea.)

Cal Kit SMO 10 - 100

Blank
10.0 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
25.0 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
50.0 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
100 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil

Set of five 100mL bottles.

cat. # 33065 (kit)

kit

Cal Kit SMO 25000 - 50000

Blank
2.50% total sulfur by weight from di-*n*-butylsulfide in mineral oil
3.00% total sulfur by weight from di-*n*-butylsulfide in mineral oil
3.50% total sulfur by weight from di-*n*-butylsulfide in mineral oil
4.00% total sulfur by weight from di-*n*-butylsulfide in mineral oil
4.50% total sulfur by weight from di-*n*-butylsulfide in mineral oil
5.00% total sulfur by weight from di-*n*-butylsulfide in mineral oil

Set of seven 100mL bottles.

cat. # 33071 (kit)

kit

Check Standard SMO 30

30.0 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil.
1 liter bottle.

cat. # 33066 (ea.)

Check Standard SMO 37000

3.70% total sulfur by weight from di-*n*-butylsulfide in mineral oil.
1 liter bottle.

cat. # 33072 (ea.)

Cal Kit SMO 100 - 1000

Blank
100 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
200 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
300 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
400 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
500 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
600 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
750 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil
1000 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil

Set of nine 100mL bottles.

cat. # 33067 (kit)

kit

Check Standard SMO 350

350 w/w ppm total sulfur from di-*n*-butylsulfide in mineral oil.
1 liter bottle.

cat. # 33068 (ea.)

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