

Explosive Standards Reference Guide



AccuStandard®

Explosive standards are traditionally used for the remediation of soil and water in locations where explosives have been stored. These same standards are now being used to calibrate baggage screening detectors at airports and other secure locations (embassies and other government buildings). They also are used by police departments and the military in K-9 odor recognition training for explosives.

AccuStandard has working relationships with both government and private sector K-9 training facilities and laboratories which provide valuable information and insight into the latest developments in explosives.

To assist in all aspects of explosive detection and analysis, AccuStandard synthesizes an array of explosives as well as metabolites, degradation products and raw materials. AccuStandard is the only U.S. commercial source for TATP, HMTD, HMDD and HNS.

In addition to catalog items, we offer special formulations for EPA method and customer-specific applications.

Physical properties are for the neat material. However all products are supplied in a solvent in 1 mL size.

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**EXCLUSIVELY
from AccuStandard**



**Widest Selection of
Explosives and associated
Metabolites**

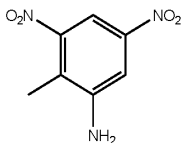
Bomb detection dogs are imprinted and trained to detect various types of explosives using pharmaceutical-type tins. Holes are drilled into the top of the tin to provide an odor cone for each explosive.

The dog is repeatedly subjected to each odor and is rewarded when it properly alerts to it. Through this positive reinforcement process, the dog "learns" the odors associated with each explosive.



Individual Explosive Standards

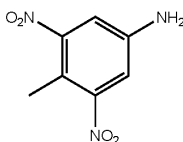
2-Amino-4,6-dinitrotoluene ♦



CAS 35572-78-2 MF C₇H₇N₃O₄ MW 197.15
log Kow -0.36 SG 1.50 g/cm³ MP 174-175 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-13-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-13	1 mL

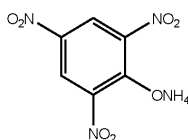
4-Amino-2,6-dinitrotoluene ♦



CAS 19406-51-0 MF C₇H₇N₃O₄ MW 197.15
log Kow -0.36 SG 1.50 g/cm³ MP 171 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-14-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-14	1 mL

Ammonium picrate

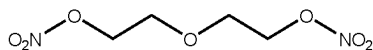


CAS 131-74-8 MF C₆H₆N₄O₇ MW 246.13
log Kow N/A SG N/A MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-27	1 mL

DEGDN

Diethyleneglycol dinitrate



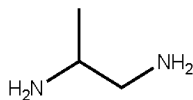
CAS 693-21-0 MF C₄H₈N₂O₇ MW 196.12
log Kow 0.98 SG 1.41 g/cm³ MP -11 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-36	1 mL

Property Key

CAS	Chemical Abstract Service Number
MF	Molecular Formula
MW	Molecular Weight
log Kow	Partition Coefficient
SG	Specific Gravity (g/cm ³)
MP	Melting Point (°C)

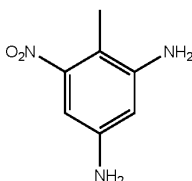
1,2-Diaminopropane



CAS 78-90-0 MF C₃H₁₀N₂ MW 74.12
log Kow -1.20 SG 0.86 g/cm³ MP -22 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-9	1 mL

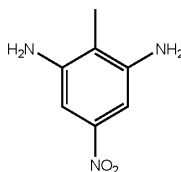
2,4-Diamino-6-nitrotoluene ♦



CAS 6629-29-4 MF C₇H₉N₃O₂ MW 167.17
log Kow -2.23 SG 1.40 g/cm³ MP 211 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-12	1 mL

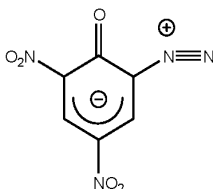
2,6-Diamino-4-nitrotoluene ♦



CAS 59229-75-3 MF C₇H₉N₃O₂ MW 167.17
log Kow -2.23 SG 1.40 g/cm³ MP 211 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-13	1 mL

Diazodinitrophenol **NEW**

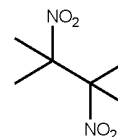


CAS 4682-03-5 MF C₆H₂N₄O₅ MW 210.10
log Kow 2.09 SG N/A MP 230 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-48	1 mL
1000 µg/mL in AcCN	M-8330-ADD-48-10X	1 mL

♦ TNT Metabolites

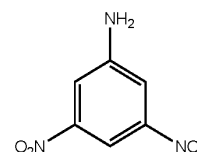
2,3-Dimethyl-2,3-dinitrobutane (DMNB)



CAS 3964-18-9 MF C₆H₁₂N₂O₄ MW 176.17
log Kow -0.24 SG 1.15 g/cm³ MP 174-175 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-21	1 mL

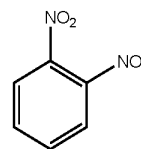
3,5-Dinitroaniline



CAS 618-87-1 MF C₆H₅N₃O₄ MW 183.12
log Kow -0.91 SG 1.59 g/cm³ MP 162 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-4	1 mL

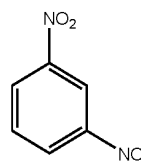
1,2-Dinitrobenzene



CAS 528-29-0 MF C₆H₄N₂O₄ MW 168.11
log Kow -0.57 SG 1.49 g/cm³ MP 192-193 °C

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	M-8330-SS	1 mL

1,3-Dinitrobenzene



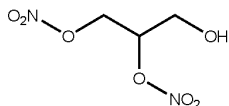
CAS 99-65-0 MF C₆H₄N₂O₄ MW 168.11
log Kow -0.57 SG 1.49 g/cm³ MP 192-193 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-01-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-01	1 mL

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Individual Explosive Standards

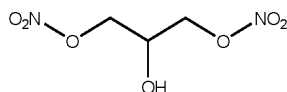
1,2-Dinitrolycerin



CAS 621-65-8 MF $C_3H_6N_2O_7$ MW 182.09
log Kow 0.83 SG 1.59 g/cm³ MP 40-41 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-33	1 mL

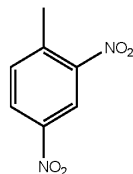
1,3-Dinitrolycerin



CAS 623-87-0 MF $C_3H_6N_2O_7$ MW 182.09
log Kow 0.71 SG 1.59 g/cm³ MP 26 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-34	1 mL

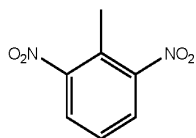
2,4-Dinitrotoluene ♦



CAS 121-14-2 MF $C_7H_6N_2O_4$ MW 182.13
log Kow -0.02 SG 1.41 g/cm³ MP 197-198 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-02-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-02	1 mL

2,6-Dinitrotoluene ♦



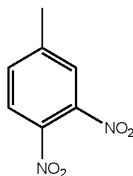
CAS 606-20-2 MF $C_7H_6N_2O_4$ MW 182.13
log Kow -0.02 SG 1.41 g/cm³ MP 197-198 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-03-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-03	1 mL

Property Key

CAS	Chemical Abstract Service Number
MF	Molecular Formula
MW	Molecular Weight
log Kow	Partition Coefficient
SG	Specific Gravity (g/cm ³)
MP	Melting Point (°C)

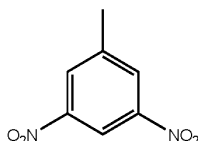
3,4-Dinitrotoluene



CAS 610-39-9 MF $C_7H_6N_2O_4$ MW 182.13
log Kow -0.02 SG 1.41 g/cm³ MP 197-198 °C

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	M-8330-IS	1 mL

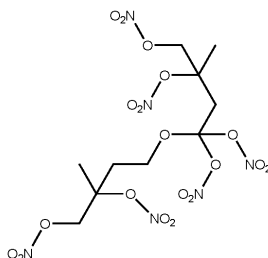
3,5-Dinitrotoluene ♦



CAS 618-85-9 MF $C_7H_6N_2O_4$ MW 182.13
log Kow -0.02 SG 1.41 g/cm³ MP 197-198 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-39	1 mL

Dipentaerythritol hexanitrate NEW

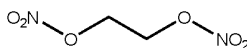


CAS 13184-80-0 MF $C_{10}H_{16}N_6O_{19}$ MW 524.26
log Kow 1.23 SG 1.66 g/cm³ MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-43	1 mL

EGDN

Dinitroethylene glycol

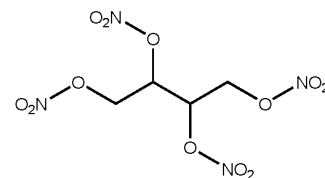


CAS 628-96-6 MF $C_2H_4N_2O_6$ MW 152.06
log Kow 1.16 SG 1.52 g/cm³ MP -10 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-5	1 mL

♦ TNT Metabolites

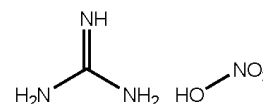
Erythritol tetranitrate (ETN) NEW



CAS 7297-25-8 MF $C_4H_6N_4O_{12}$ MW 302.11
log Kow 1.85 SG 1.76 g/cm³ MP 103-104 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-47	1 mL
1000 µg/mL in MeOH	M-8330-ADD-47-10X	1 mL

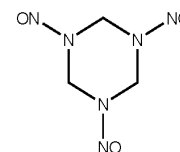
Guanidine nitrate



CAS 506-93-4 MF $CH_5N_3 \cdot HNO_3$ MW 122.08
log Kow N/A SG N/A MP 213-214 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-10	1 mL

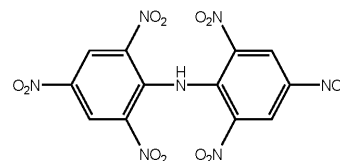
Hexahydro-1,3,5-trinitroso-1,3,5-triazine (R-Salt) NEW



CAS 13980-04-6 MF $C_3H_6N_6O_3$ MW 174.12
log Kow -1.78 SG 1.92 g/cm³ MP 145-146 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-46	1 mL
1000 µg/mL in MeOH	M-8330-ADD-46-10X	1 mL

Hexanitrodiphenylamine

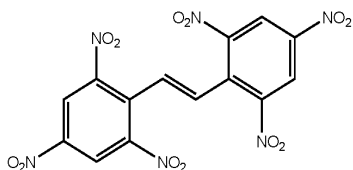


CAS 131-73-7 MF $C_{12}H_5N_7O_{12}$ MW 439.21
log Kow 1.15 SG 1.94 g/cm³ MP 244 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-37	1 mL

Individual Explosive Standards

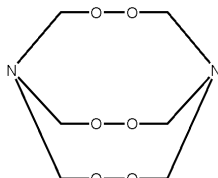
Hexanitrostilbene (HNS) ♦



CAS 20062-22-0 MF $C_{14}H_6N_6O_{12}$ MW 450.23
log Kow 1.23 SG 1.85 g/cm³ MP 332-349 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-26	1 mL

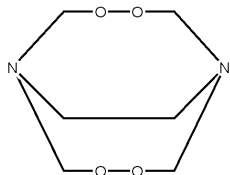
Hexamethylene triperoxide diamine (HMTD)



CAS 283-66-9 MF $C_6H_{12}N_2O_6$ MW 208.17
log Kow 1.01 SG 1.47 g/cm³ MP 95-98 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-25	1 mL

Hexamethylene diperoxide diamine (HMDD) **NEW**

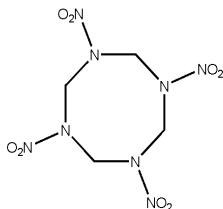


CAS 112204-35-0 MF $C_6H_{12}N_2O_4$ MW 176.17
SG 1.50 g/cm³ MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-45	1 mL

HMX

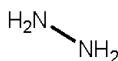
Cyclotetramethylene-tetranitramine



CAS 2691-41-0 MF $C_4H_8N_8O_8$ MW 296.16
log Kow -4.55 SG 1.95 g/cm³ MP 284-285 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-04-0.1X	1 mL
1000 µg/mL in AcCN: MeOH	M-8330-04	1 mL

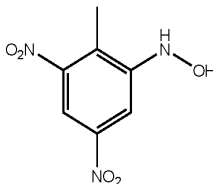
Hydrazine



CAS 302-01-2 MF H_2N_2 MW 32.05 log Kow -1.47
SG 1.01 g/cm³ MP 1-2 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-8	1 mL

2-Hydroxylamino-4,6-dinitrotoluene ♦

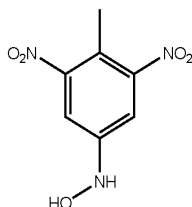


(3 months stability)

CAS 59283-76-0 MF $C_7H_7N_3O_5$ MW 213.15
log Kow 1.79 SG 1.64 g/cm³ MP 142-143 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-18 *	1 mL

4-Hydroxylamino-2,6-dinitrotoluene ♦

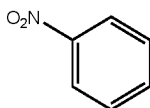


(3 months stability)

CAS 59283-75-9 MF $C_7H_7N_3O_5$ MW 213.15
log Kow 1.79 SG 1.64 g/cm³ MP 142-143 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-20 *	1 mL

Nitrobenzene ♦

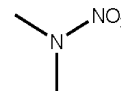


CAS 98-95-3 MF $C_6H_5NO_2$ MW 123.11
log Kow -0.39 SG 1.22 g/cm³ MP 5-6 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-06-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-06	1 mL

♦ TNT Metabolites

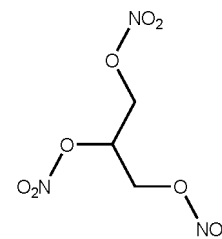
N-Nitrodimethylamine



CAS 4164-28-7 MF $C_2H_6N_2O_2$ MW 90.08
log Kow -2.89 SG 1.10 g/cm³ MP 58 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-40	1 mL

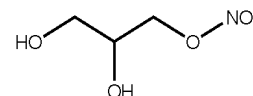
Nitroglycerin



CAS 55-63-0 MF $C_3H_5N_3O_9$ MW 227.09
log Kow 1.62 SG 1.67 g/cm³ MP 50 °C

Matrix	Cat. No.	Unit
100 µg/mL in ETOH	M-8330-ADD-1	1 mL
1000 µg/mL in ETOH:MeOH(97:3)	M-8330-ADD-1-10X	1 mL

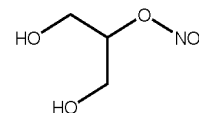
1-Nitroglycerin



CAS 624-43-1 MF $C_3H_7NO_5$ MW 137.09
log Kow -0.86 SG 1.48 g/cm³ MP 61 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-31	1 mL

2-Nitroglycerin



CAS 620-12-2 MF $C_3H_7NO_5$ MW 137.09
log Kow -0.86 SG 1.48 g/cm³ MP 54 °C

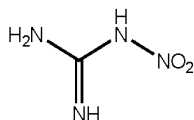
Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-32	1 mL

* To delay premature breakdown of thermally labile products in transit a ColdPAK is required.

Continued on next page

Individual Explosive Standards

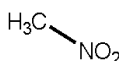
Nitroguanidine



CAS 556-88-7 MF $\text{CH}_4\text{N}_4\text{O}_2$ MW 104.07
log Kow -4.01 SG 2.01 g/cm³ MP 167-168 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-6	1 mL

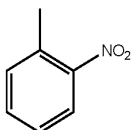
Nitromethane



CAS 75-52-5 MF CH_3NO_2 MW 61.04
log Kow -1.61 SG 1.06 g/cm³ MP 115-116 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-7	1 mL

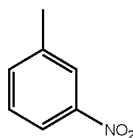
2-Nitrotoluene ♦



CAS 88-72-2 MF $\text{C}_7\text{H}_7\text{NO}_3$ MW 137.14
log Kow 2.30 SG 1.17 g/cm³ MP -9 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-07-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-07	1 mL

3-Nitrotoluene ♦



CAS 99-08-1 MF $\text{C}_7\text{H}_7\text{NO}_3$ MW 137.14
log Kow 2.30 SG 1.16 g/cm³ MP 15-16 °C

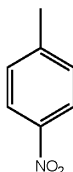
Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-08-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-08	1 mL

Property Key

CAS	Chemical Abstract Service Number
MF	Molecular Formula
MW	Molecular Weight
log Kow	Partition Coefficient
SG	Specific Gravity (g/cm ³)
MP	Melting Point (°C)

♦ TNT Metabolites

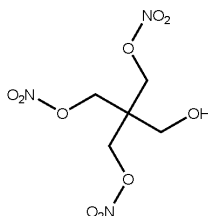
4-Nitrotoluene ♦



CAS 99-99-0 MF $\text{C}_7\text{H}_7\text{NO}_3$ MW 137.14
log Kow 2.37 SG 1.39 g/cm³ MP 51-54 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-09-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-09	1 mL

Pentaerythrityl trinitrate NEW

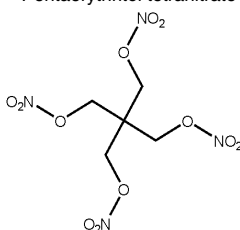


CAS N/A MF $\text{C}_5\text{H}_9\text{N}_3\text{O}_{10}$ MW 271.14

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-44	1 mL

PETN

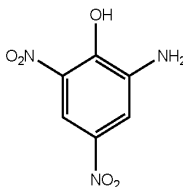
Pentaerythritol tetranitrate



CAS 78-11-5 MF $\text{C}_5\text{H}_8\text{N}_4\text{O}_{12}$ MW 316.14
log Kow 2.38 SG 1.68 g/cm³ MP 119-120 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-2	1 mL
1000 µg/mL in MeOH	M-8330-ADD-2-10X	1 mL

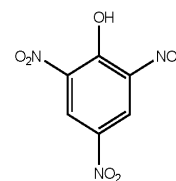
Picramic acid



CAS 96-91-3 MF $\text{C}_6\text{H}_6\text{N}_2\text{O}_5$ MW 199.12
log Kow N/A SG N/A MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-22	1 mL

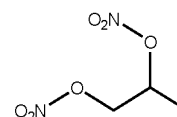
Picric acid



CAS 88-89-1 MF $\text{C}_6\text{H}_3\text{N}_3\text{O}_7$ MW 229.10
log Kow 1.33 SG 1.86 g/cm³ MP 122-123 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-3	1 mL

Propyleneglycol dinitrate

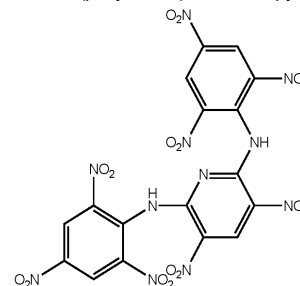


CAS 6423-43-4 MF $\text{C}_3\text{H}_6\text{N}_2\text{O}_6$ MW 166.09
log Kow 1.59 SG 1.42 g/cm³ MP -9 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	M-8330-ADD-35	1 mL

PYX

2-6-bis,bis(picrylamino)-3,5-dinitropyridine

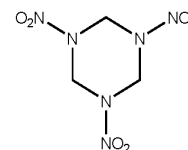


CAS 38082-89-2 MF $\text{C}_{17}\text{H}_{17}\text{N}_{11}\text{O}_{16}$ MW 621.30
log Kow N/A SG 2.01 g/cm³ MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-11	1 mL

RDX

Cyclotrimethylene-trinitramine



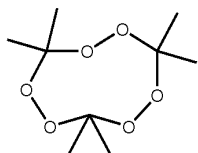
CAS 121-82-4 MF $\text{C}_3\text{H}_6\text{N}_6\text{O}_6$ MW 222.12
log Kow -4.70 SG 1.90 g/cm³ MP 245-246 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-05-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-05	1 mL

Individual Explosive Standards

TATP

Triacetone triperoxide

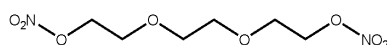


CAS 17088-37-8 MF C₉H₁₈O₆ MW 222.24
log Kow 4.63 SG 1.00 g/cm³ MP 64-65 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-24 *	1 mL

TEGDN

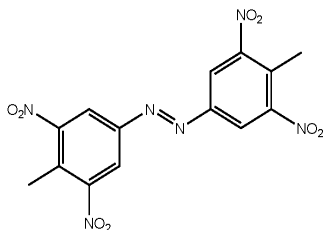
Triethyleneglycol dinitrate



CAS 111-22-8 MF C₆H₁₂N₂O₈ MW 240.17
log Kow 0.62 SG 1.34 g/cm³ MP 65-66 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-41-R1	1 mL

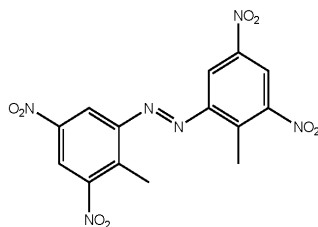
2,2',6,6'-Tetranitro-4,4'-azotoluene ♦



CAS N/A MF C₁₄H₁₀N₆O₈ MW 390.26
log Kow N/A SG N/A MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-17	1 mL

4,4',6,6'-Tetranitro-2,2'-azotoluene ♦

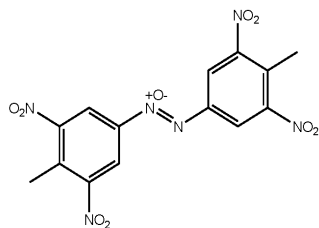


CAS N/A MF C₁₄H₁₀N₆O₈ MW 390.26
log Kow N/A SG N/A MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-19	1 mL

* To delay premature breakdown of thermally labile products in transit a ColdPAK is required.

2,2',6,6'-Tetranitro-4,4'-azoxytoluene ♦

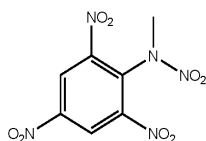


CAS N/A MF C₁₄H₁₀N₆O₉ MW 406.26
log Kow N/A SG N/A MP N/A

Matrix	Cat. No.	Unit
100 µg/mL in AcCN	M-8330-ADD-15	1 mL

Tetryl

N-Methyl-N,2,4,6-tetranitroaniline

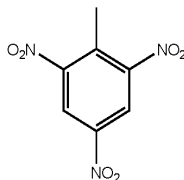


CAS 479-45-8 MF C₇H₅N₅O₈ MW 287.14
log Kow -0.56 SG 1.80 g/cm³ MP 255 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-10-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-10	1 mL

TNT

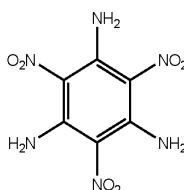
Trinitrotoluene



CAS 118-96-7 MF C₇H₅N₃O₆ MW 227.13
log Kow -0.21 SG 1.61 g/cm³ MP 223-224 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-11-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-11	1 mL

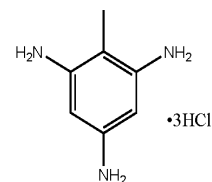
1,3,5-Triamino-2,4,6-trinitrobenzene



CAS 3058-38-6 MF C₆H₆N₆O₆ MW 258.15
log Kow -2.93 SG 1.96 g/cm³ MP 278 °C

Matrix	Cat. No.	Unit
40 µg/mL in DMF	M-8330-ADD-14-DMF	1 mL

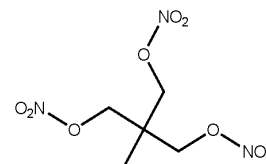
2,4,6-Triaminotoluene trihydrochloride (TNT free)



CAS 634-87-7 MF C₇H₁₁N₃ • 3HCl MW 246.56
log Kow -0.76 SG 1.22 g/cm³ MP 109-110 °C

Matrix	Cat. No.	Unit
Neat	M-8330-ADD-23N-5MG	5 mg

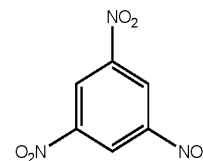
Trimethylolethane trinitrate



CAS 3032-55-1 MF C₅H₉N₃O₉ MW 255.14
log Kow 2.46 SG 1.51 g/cm³ MP 77 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-28	1 mL

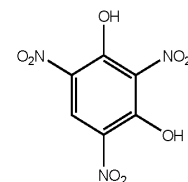
1,3,5-Trinitrobenzene ♦



CAS 99-35-4 MF C₆H₃N₃O₆ MW 213.10
log Kow -0.75 SG 1.70 g/cm³ MP 122 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-12-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-12	1 mL

2,4,6-Trinitroresorcinol



CAS 82-71-3 MF C₆H₃N₃O₈ MW 245.10
log Kow 1.06 SG 2.01 g/cm³ MP 175-176 °C

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN:MeOH	M-8330-ADD-29	1 mL

♦ TNT Metabolites

Explosive Standards

Method 8330 Multi-Component Formulations for Explosive Analysis

The following A and B mixes provide better resolution between possible coeluting analytes to better optimize the HPLC system. We suggest when first performing Method 8330 development, to purchase the high concentration 14 x 1 mL set "M-8330-R-10X-SET"

Mix A

M-8330A *		1 x 1 mL
0.1 mg/mL each in AcCN:MeOH (1:1)		7 comps.
M-8330A-10X *		1 x 1 mL
1.0 mg/mL each in AcCN:MeOH (1:1)		7 comps.
1,3-Dinitrobenzene	RDX	
2,4-Dinitrotoluene	1,3,5-Trinitrobenzene	
HMX	TNT	
Nitrobenzene		

M-8330A-R *		1 x 1 mL
0.1 mg/mL each in AcCN:MeOH (1:1)		8 comps.
M-8330A-R-10X *		1 x 1 mL
1.0 mg/mL each in AcCN:MeOH (1:1)		8 comps.
2-Amino-4,6-dinitrotoluene	Nitrobenzene	
1,3-Dinitrobenzene	RDX	
2,4-Dinitrotoluene	1,3,5-Trinitrobenzene	
HMX	TNT	

Composite Explosive Mixture

M-8330-R		1 x 1 mL
M-8330-R-PAK	SAVE	5 x 1 mL
1.0 mg/mL each in MeOH:AcCN (1:1)		14 comps.
1,3-Dinitrobenzene	3-Nitrotoluene	
2,4-Dinitrotoluene	4-Nitrotoluene	
2,6-Dinitrotoluene	Tetryl	
HMX	TNT	
RDX	1,3,5-Trinitrobenzene	
Nitrobenzene	2-Amino-4,6-dinitrotoluene	
2-Nitrotoluene	4-Amino-2,6-dinitrotoluene	

Internal Standard

M-8330-IS		1 x 1 mL
M-8330-IS-PAK	SAVE	5 x 1 mL
1.0 mg/mL in MeOH		
3,4-Dinitrotoluene		

Explosives by HPLC Set

M-8330-R-SET *		14 x 1 mL
Each at 100 µg/mL in AcCN:MeOH (1:1)		
M-8330-R-10X-SET *		14 x 1 mL
Each at 1000 µg/mL in AcCN:MeOH (1:1)		
1,3-Dinitrobenzene (01)	3-Nitrotoluene (08)	
2,4-Dinitrotoluene (02)	4-Nitrotoluene (09)	
2,6-Dinitrotoluene (03)	Tetryl (10)	
HMX (04)	TNT (11)	
RDX (05)	1,3,5-Trinitrobenzene (12)	
Nitrobenzene (06)	2-Amino-4,6-dinitrotoluene (13)	
2-Nitrotoluene (07)	4-Amino-2,6-dinitrotoluene (14)	

* To delay premature breakdown of thermally labile products in transit a ColdPAK is required.

Mix B

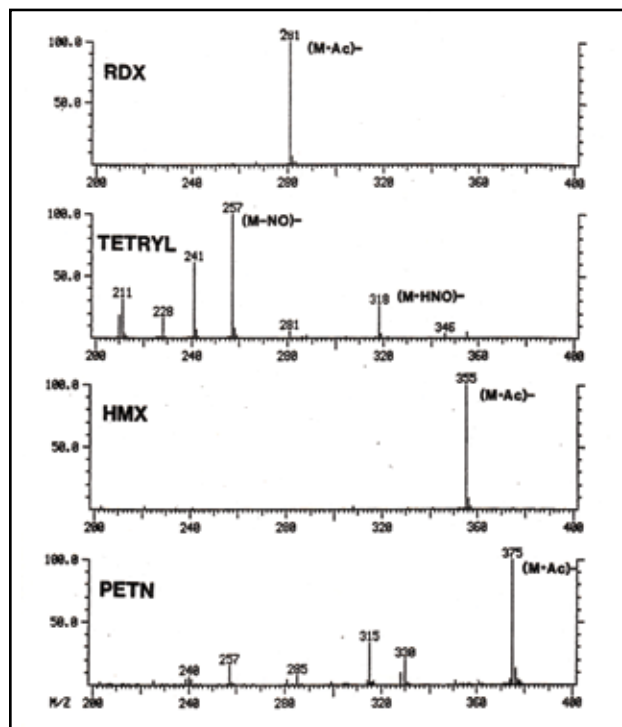
M-8330B *		1 x 1 mL
0.1 mg/mL each in AcCN:MeOH (1:1)		5 comps.
M-8330B-10X *		1 x 1 mL
1.0 mg/mL each in AcCN:MeOH (1:1)		5 comps.
Tetryl	3-Nitrotoluene	
2,6-Dinitrotoluene	4-Nitrotoluene	

M-8330B-R *		1 x 1 mL
0.1 mg/mL each in AcCN:MeOH (1:1)		7 comps.
M-8330B-R-10X *		1 x 1 mL
1.0 mg/mL each in AcCN:MeOH (1:1)		7 comps.
2-Amino-4,6-dinitrotoluene	2-Nitrotoluene	
4-Amino-2,6-dinitrotoluene	3-Nitrotoluene	
Tetryl	4-Nitrotoluene	
2,6-Dinitrotoluene		

M-8330B-R2 *		1 x 1 mL
0.1 mg/mL each in AcCN:MeOH (1:1)		6 comps.
M-8330B-R2-10X *		1 x 1 mL
1.0 mg/mL each in AcCN:MeOH (1:1)		6 comps.
4-Amino-2,6-dinitrotoluene	2-Nitrotoluene	
Tetryl	3-Nitrotoluene	
2,6-Dinitrotoluene	4-Nitrotoluene	

Surrogate Standard

M-8330-SS		1 x 1 mL
1.0 mg/mL in MeOH		
1,2-Dinitrobenzene		



Negative ion thermospray mass spectra for RDX, HMX, PETN and tetryl from Berberich, D.W., Yost, R.A., and Fetterhoff, D.D., J. Forensic Sci., 33, 946, 1988.

Method 8330 Chromatogram with Certificate of Analysis

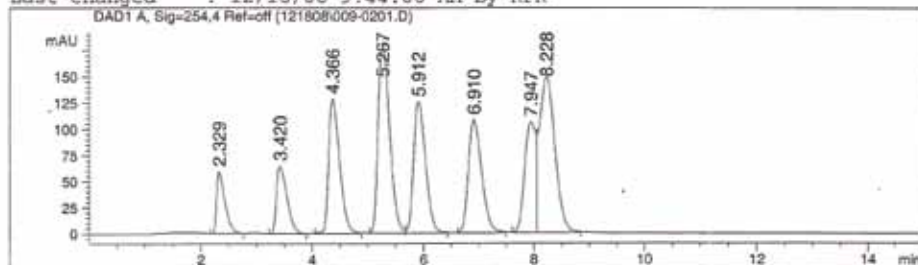
Data File C:\HPCHEM\1\DATA\121808\009-0201.D

Sample Name: M8330AR B3110232

M-8330A-R B3110232-3C UNDILUTED
10uLAUTO;50%MeOH;1.0ML/MIN;254NM LC-18 150X4.6 MM
100uL/MIN DRAW/INJ;200uL LOOP

=====
Injection Date : 12/18/08 10:02:05 AM Seq. Line : 2
Sample Name : M8330AR B3110232 Vial : 9
Acq. Operator : RPK Inj : 1
Inj Volume : 10 µl

Method : C:\HPCHEM\1\METHODS\EXPTST.M
Last changed : 12/18/08 9:44:06 AM by RPK



Area Percent Report

Sorted By : Retention Time
Multiplier : 1.0000
Dilution : 1.0000

Signal 1: DAD1 A, Sig=254.4 Ref=off

Peak #	RetTime [min]	Sig	Type	Area [mAU*s]	Height [mAU]	Area %
1	2.329	1	PP	618.65326	59.16397	4.4380
2	3.420	1	PB	842.77454	64.60012	6.0458
3	4.366	1	BB	1767.57788	128.49287	12.6800
4	5.267	1	BV	2638.08911	183.48706	18.9247
5	5.912	1	VB	1895.28271	125.48679	13.5961
6	6.910	1	BB	1810.63110	108.50757	12.9888
7	7.947	1	BV	1447.27234	106.23111	10.3822
8	8.228	1	VB	2919.62842	149.48706	20.9444

Totals : 1.39399e4 925.45655

Results obtained with enhanced integrator!

*** End of Report ***



AccuStandard, Inc.
CERTIFICATE OF ANALYSIS

CATALOG NO: M-8330A-R-10K EXPIRATION: Jun 21, 2012
DESCRIPTION: Method 8330 - Explosives by HPLC DATE CERTIFIED: Jun 21, 2010
LOT: B3110232-1A Ratio: SAMPLE SIZE: 1 mL
SOLVENT: Acetonitrile: Methanol 50:50 STORAGE CONDITION: Refrigerated (2-8°C)
Refer to the MSDS for additional safety information HAZARD: HIGHLY FLAMMABLE

* Included on ISO/IEC 17025 Scope of Accreditation
* Included on ISO Guide 34 Scope of Accreditation

Component	Gas Number	Purity %	Prepared Concentration ¹	Certified Analyte Concentration ²
	(GC/FID)	(%)	(µg/mL)	(µg/mL)
1,2-Dichlorobenzene	99-06-9	99.9	1000	1000
1,3-Dichlorobenzene	121-44-5	99.9	1000	1000
1,4-Dichlorobenzene	206-46-9	99.9	1000	1000
1,2-Dibromobenzene	95-45-1	99.9	1000	1000
1,3-Dibromobenzene	123-43-9	99.9	1000	1000
1,4-Dibromobenzene	95-46-4	99.9	1000	1000
DDE	143-85-7	99.9	1000	1000
DDEP	94-55-4	99.9	1000	1000
1,2-Dichloroethane	107-06-2	99.9	1000	1000

¹ Weight component in 50% parts
² Weight component in 100% parts

For use in double laboratory analysis Certified by: Method 8330

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

Explosive Standards

Method 529 Explosive & Related Compounds by SPE & Capillary Column GC/MS

Method 529 Calibration Curve

All in µg/mL in Ethyl acetate

M-529-	01	02	03	04	05	06	07	08	09
2-Amino-4,6-dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
4-Amino-2,6-dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
3,5-Dinitroaniline	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
1,3-Dinitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2,4-Dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2,6-Dinitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
RDX	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
Nitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
2-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
3-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
4-Nitrotoluene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
1,3,5-Trinitrobenzene	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
Tetryl	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10
TNT	0.025	0.05	0.10	0.25	0.50	1.0	2.0	5.0	10

Full Scan MS Calibration Set

M-529-MS-SET 6 x 1 mL
M-529-03, M-529-05, M-529-06,
M-529-07, M-529-08, M-529-09

SIM Calibration Set

M-529-SIM-SET 7 x 1 mL
M-529-01, M-529-02, M-529-03, M-529-04,
M-529-05, M-529-06, M-529-07

Storage Condition.: Freeze (<-10°C)

Internal Standard Stock Solution

M-529-IS 1 x 1 mL
2.0 mg/mL Ethyl acetate:AcCN (96:4)
3,4-Dinitrotoluene

Surrogate Analyte Stock Solutions

M-529-SS1 1 x 1 mL
M-529-SS1-PAK 5 x 1 mL SAVE
1000 µg/mL each in MeOH
1,3,5-Trimethyl-2-nitrobenzene 1,2,4-Trimethyl-5-nitrobenzene
2 comps.

Internal Standard Fortification Solution

M-529-ISFS 1 x 1 mL
200 µg/mL each in Ethyl acetate:AcCN (96:4)
14 comps.
2-Amino-4,6-dinitrotoluene Nitrobenzene
4-Amino-2,6-dinitrotoluene 2-Nitrotoluene
3,5-Dinitroaniline 3-Nitrotoluene
1,3-Dinitrobenzene 4-Nitrotoluene
2,4-Dinitrotoluene 1,3,5-Trinitrobenzene
2,6-Dinitrotoluene Tetryl
RDX TNT

M-529-SS2 1 x 1 mL
M-529-SS2-PAK 5 x 1 mL SAVE
1000 µg/mL each in CH₂Cl₂
Nitrobenzene-d₅

Surrogate Analyte Fortification Solution

M-529-SAFS 1 x 1 mL
100 µg/mL each in MeOH
3 comps.
1,3,5-Trimethyl-2-nitrobenzene Nitrobenzene-d₅
1,2,4-Trimethyl-5-nitrobenzene

Method 8095 Explosives by GC/ECD

This method is a companion to EPA Method 8330, utilizing the sensitivity and selectivity of the ECD.

Explosive Stock Solution A

M-8095-SSA-100X 1 x 1 mL
M-8095-SSA-100X-PAK 5 x 1 mL SAVE
100 µg/mL each in AcCN:MeOH (1:1)
10 comps.
2-Amino-4,6-dinitrotoluene 1,3,5-Trinitrobenzene
4-Amino-2,6-dinitrotoluene TNT
1,3-Dinitrobenzene RDX
2,6-Dinitrotoluene Tetryl
2,4-Dinitrotoluene HMX

Explosive Stock Solution B

M-8095-SSB-100X 1 x 1 mL
M-8095-SSB-100X-PAK 5 x 1 mL SAVE
At stated conc. in AcCN:MeOH (1:1)
7 comps.
Nitrobenzene (500 µg/mL) Nitroglycerin (500 µg/mL)
3-Nitrotoluene (500 µg/mL) PETN (500 µg/mL)
2-Nitrotoluene (500 µg/mL) 3,5-Dinitroaniline (100 µg/mL)
4-Nitrotoluene (500 µg/mL)

Explosive Surrogate Standards

M-8095-SS-01 1 x 1 mL
M-8095-SS-01-PAK 5 x 1 mL SAVE
100 µg/mL in AcCN
3,4-Dinitrotoluene

M-8095-SS-03 1 x 1 mL
M-8095-SS-03-PAK 5 x 1 mL SAVE
100 µg/mL in AcCN
2,5-Dinitrotoluene

M-8095-SS-02 1 x 1 mL
M-8095-SS-02-PAK 5 x 1 mL SAVE
100 µg/mL in AcCN
2-Methyl-4-nitroaniline

Explosive Standards

DIN Explosive Standards

DIN 38407-21 Explosives

Examination of water, wastewater, and sludge for determination of selected explosives and related compounds by HPLC with UV detection

DIN38407-21-A 1 x 1 mL
10 µg/mL each in MeOH 12 comps.

Picric acid	Nitroglycerin
HMX	TNT
RDX	2-Nitrotoluene
Tetryl	PETN
EGDN	4-Nitrotoluene
DEGDN	3-Nitrotoluene

DIN 38407-21 Related Compounds

Examination of water, wastewater, and sludge for determination of selected explosives and related compounds by HPLC with UV detection

DIN38407-21-B 1 x 1 mL
10 µg/mL each in MeOH:AcCN (98:2) 8 comps.

1,3,5-Trinitrobenzene
1,3-Dinitrobenzene
4-Amino-2,6-dinitrotoluene
2,2',4,4',6,6'-Hexanitrodiphenylamine
2-Amino-4,6-dinitrotoluene
2,6-Dinitrotoluene
2,4-Dinitrotoluene
Diphenylamine



Gun Surveillance Standards

Gun Surveillance Standard

EXP-GSS

At stated conc. (µg/mL) in AcCN

1 x 1 mL
9 comps.

Dimethyl phthalate	200	2,2'-Dinitrodiphenylamine	50
2,4'-Dinitrodiphenylamine	50	4,4'-Dinitrodiphenylamine	50
2,4-Dinitrodiphenylamine	50	Diphenylamine	200
2-Nitrodiphenylamine	50	N-Nitrosodiphenylamine	75
4-Nitrodiphenylamine	50		



Photo courtesy of the Connecticut Department of Emergency Services and Public Protection

Inorganic ICP Standards for Gun Shot Residue



Starting Material	Unit	1000 µg/mL Cat. No.	10,000 µg/mL Cat. No.
Antimony	50 mL	-----	ICP-02N-10X-0.5
Sb Dilute HNO ₃ tr.	100 mL	ICP-02N-1	ICP-02N-10X-1
Tartaric acid	500 mL	ICP-02N-5	ICP-02N-10X-5
Barium	50 mL	-----	ICP-04N-10X-0.5
Ba(NO ₃) ₂	100 mL	ICP-04N-1	ICP-04N-10X-1
2-5% Nitric acid	500 mL	ICP-04N-5	ICP-04N-10X-5
Lead	50 mL	-----	ICP-29N-10X-0.5
Pb(NO ₃) ₂	100 mL	ICP-29N-1	ICP-29N-10X-1
2-5% Nitric acid	500 mL	ICP-29N-5	ICP-29N-10X-5

Technical Note

We offer gunshot residue standards through our "AccuTrace" inorganic products. Custom solutions of Antimony, Barium and Lead are available for use with ICP instrumentation. Organic compounds identified in the discharge of a firearm are also available. These include the 14 organic compounds listed below.

Organic Compounds for Firearm Discharge Analysis



Compound	Conc.	Matrix	Cat. No.	Compound	Conc.	Matrix	Cat. No.
2,4-Dinitrotoluene	1000 µg/mL	AcCN:MeOH	M-8330-02	1-Nitroglycerine ▶	100 µg/mL	AcCN:MeOH	M-8330-ADD-31
C ₇ H ₆ N ₂ O ₄	100 µg/mL	AcCN:MeOH	M-8330-02-0.1X	C ₃ H ₅ N ₃ O ₉			
2,6-Dinitrotoluene	1000 µg/mL	AcCN:MeOH	M-8330-03	2-Nitroglycerine ▶	100 µg/mL	AcCN:MeOH	M-8330-ADD-32
C ₇ H ₆ N ₂ O ₄	100 µg/mL	AcCN:MeOH	M-8330-03-0.1X	C ₃ H ₅ N ₃ O ₉			
3,4-Dinitrotoluene	1000 µg/mL	AcCN:MeOH	M-8330-04	N-Nitrosodiphenylamine	100 µg/mL	MeOH	APP-9-150
C ₇ H ₆ N ₂ O ₄	100 µg/mL	AcCN:MeOH	M-8330-04-0.1X	C ₁₂ H ₁₀ N ₂ O			
Diphenylamine	100 µg/mL	DCM	APP-9-007	2-Nitrotoluene	1000 µg/mL	AcCN:MeOH	M-8330-07
C ₁₂ H ₁₁ N				C ₇ H ₇ NO ₃			
Ethylcentralite NEW	100 µg/mL	AcCN:MeOH	M-8330-ADD-50	3-Nitrotoluene	1000 µg/mL	AcCN:MeOH	M-8330-08
C ₁₇ H ₂₀ N ₂ O				C ₇ H ₇ NO ₃			
Methylcentralite NEW	100 µg/mL	AcCN:MeOH	M-8330-ADD-49	4-Nitrotoluene	1000 µg/mL	AcCN:MeOH	M-8330-09
C ₁₅ H ₁₆ N ₂ O				C ₇ H ₇ NO ₃			
2-Nitrodiphenylamine NEW	100 µg/mL	AcCN:MeOH	M-8330-ADD-51				
C ₁₂ H ₁₀ N ₂ O ₂							
4-Nitrodiphenylamine NEW	100 µg/mL	AcCN:MeOH	M-8330-ADD-52				
C ₁₂ H ₁₀ N ₂ O ₂							

See next page for structure and physical data



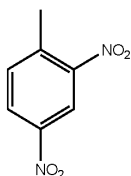
Any compound without ▶ could contain possible isomers

Continued on next page

Explosive Standards

Organic Compounds for Firearm Discharge Analysis - Smokeless Powder Constituents

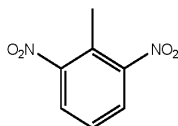
2,4-Dinitrotoluene ♦



CAS 121-14-2 **MF** C₇H₆N₂O₄ **MW** 182.13
log Kow -0.02 **SG** 1.41 g/cm³ **MP** 197-198 °C
BP 299-300 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-02-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-02	1 mL

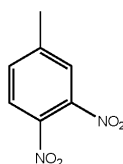
2,6-Dinitrotoluene ♦



CAS 606-20-2 **MF** C₇H₆N₂O₄ **MW** 182.13
log Kow -0.02 **SG** 1.41 g/cm³ **MP** 197-198 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-03-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-03	1 mL

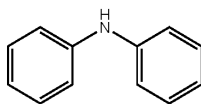
3,4-Dinitrotoluene



CAS 610-39-9 **MF** C₇H₆N₂O₄ **MW** 182.13
log Kow -0.02 **SG** 1.41 g/cm³ **MP** 197-198 °C

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	M-8330-IS	1 mL

Diphenylamine NEW

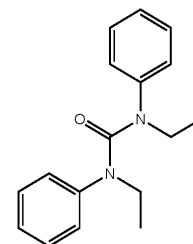


CAS 122-39-4 **MF** C₁₂H₁₁N **MW** 169.22
log Kow 3.50 **SG** 1.09 g/cm³ **MP** 52-54 °C

Matrix	Cat. No.	Unit
1000 µg/mL in Ethanol	ALR-041S-ET-10X	1 mL

♦ TNT Metabolites

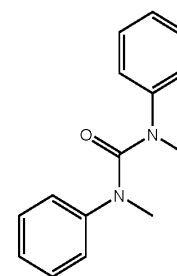
Ethylcentralite NEW



CAS 85-98-3 **MF** C₁₇H₂₀N₂O **MW** 268.35
log Kow 4.20 **SG** 1.12 g/cm³ **MP** 79 °C

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN:MeOH	M-8330-ADD-50	1 mL

Methylcentralite NEW



CAS 611-92-7 **MF** C₁₅H₁₆N₂O **MW** 240.30
log Kow 3.22 **SG** 1.16 g/cm³ **MP** 116-117 °C

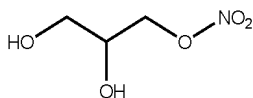
Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-49	1 mL



Explosive Standards

Organic Compounds for Firearm Discharge Analysis - Smokeless Powder Constituents (Continued)

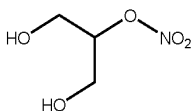
1-Nitroglycerin ▶



CAS 624-43-1 MF C₃H₇NO₅ MW 137.09
log Kow -0.86 SG 1.48 g/cm³ MP 61 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-31	1 mL

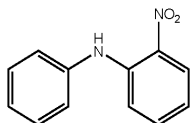
2-Nitroglycerin ▶



CAS 620-12-2 MF C₃H₇NO₅ MW 137.09
log Kow -0.86 SG 1.48 g/cm³ MP 54 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-32	1 mL

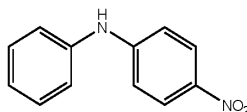
2-Nitrodiphenylamine



CAS 119-75-5 MF C₁₂H₁₀N₂O₂ MW 214.22
log Kow 0.91 SG 1.28 g/cm³ MP 74-76 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-51	1 mL

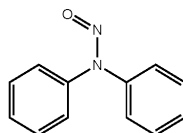
4-Nitrodiphenylamine



CAS 836-30-6 MF C₁₂H₁₀N₂O₂ MW 214.22
log Kow 0.91 SG 1.28 g/cm³ MP 132-136 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-52	1 mL

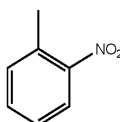
N-Nitrosodiphenylamine



CAS 86-30-6 MF C₁₂H₁₀N₂O MW 198.22
log Kow 3.16 SG 1.23 g/cm³ MP 66-67 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	APP-9-150	1 mL

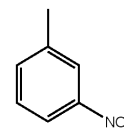
2-Nitrotoluene ◆



CAS 88-72-2 MF C₇H₇NO₃ MW 137.14
log Kow 2.30 SG 1.17 g/cm³ MP -9 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-07-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-07	1 mL

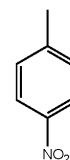
3-Nitrotoluene ◆



CAS 99-08-1 MF C₇H₇NO₃ MW 137.14
log Kow 2.30 SG 1.16 g/cm³ MP 15-16 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-08-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-08	1 mL

4-Nitrotoluene ◆



CAS 99-99-0 MF C₇H₇NO₃ MW 137.14
log Kow 2.37 SG 1.39 g/cm³ MP 51-54 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-09-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-09	1 mL

Any compound without ▶ could contain possible isomers

◆ TNT Metabolites



Property Key

CAS	Chemical Abstract Service Number
MF	Molecular Formula
MW	Molecular Weight
log Kow	Partition Coefficient
SG	Specific Gravity (g/cm ³)
MP	Melting Point (°C)

Custom Services

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The AccuStandard Synthesis Department employs several PhD Organic Chemists with many years of pertinent academic and industrial experience. The experienced staff has developed hundreds of pure chemical compounds for companies and governmental agencies around the world. The very well-equipped synthetic laboratory, with significant analytical support has made many notable synthesis projects possible. We specialize in synthesizing chemicals of high purity to be used as reference standards, and also offer custom synthesis capability on milligram to kilogram scales.



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- GC-MS, GC-FID, GC-ECD, GC-NPD
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- ICP, ICP-MS
- access to more analytical instrumentation if necessary

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- PBDEs (all 209 congeners) & hydroxy, methoxy, and chloro metabolites
- Fluorinated PBDEs
- Other Brominated Flame Retardants
- PBBs
- PAHs, Nitro-PAHs, Methyl-PAHs
- Pesticides and metabolites
- Explosives and metabolites
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- Mono- and Diester Phthalates
- Organophosphates
- Other Rare Chemicals

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1. Gravimetric/Volumetric Certification: Each purity is measured gravimetrically and QC verified instrumentally (where available). Every component in the Standard is guaranteed to be within +/- 0.5% of the requested value unless otherwise stated on the Certificate of Analysis. The solutions are diluted to volume using Class A glassware. A Certificate of Analysis accompanies each Standard and documents the gravimetric values used.
2. Full Quantitative Certification: This QA/QC method includes extended GC analysis using both internal calibration standards plus statistical analysis. A data package containing analytical and gravimetric data can be provided if requested during the quotation phase (Organic Customs only).



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This is to certify that

AccuStandard Inc.
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New Haven, CT 06513

has been assessed by ACLASS
and meets the requirements of international standard

ISO Guide 34:2009

while demonstrating technical competence in the field(s) of

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Refer to the accompanying Scope(s) of Accreditation for information regarding the types of materials to which this accreditation applies.

AR-1463

Certificate Number

ACLASS Approval

Certificate Valid 06/30/2010-06/30/2012
Version No. 001



ANSI-ASQ National Accreditation Board/ACLASS

SCOPE OF ACCREDITATION TO ISO GUIDE 34:2009

AccuStandard Inc.
125 Market Street, New Haven, CT 06513
Sue Powell Phone: 203-786-5290 ext 131

REFERENCE MATERIAL PRODUCER

Valid to: June 30, 2012

Certificate Number: AR-1463

Category and Sub-Category of Reference Material	Class or Type of Reference Materials Produced (include range where applicable)	Methods or Techniques Utilized in the RMP Laboratory if appropriate
Certified Reference Material (CRM) • Chemical	<ul style="list-style-type: none"> Single and multi-component organic and inorganic materials either neat or in solution CRM Categories : <ul style="list-style-type: none"> ■ PCBs ■ Pesticides ■ Explosives ■ VOCs ■ Semivolatiles ■ Metals by ICP ■ Anions / Cations 	<ul style="list-style-type: none"> GC/FID GC/ECD GC/MS ICP Ion Chromatography HPLC

Notes:
1. This scope is part of and must be included with the Certificate of Accreditation No. AR-1463

Vice President

Version 001

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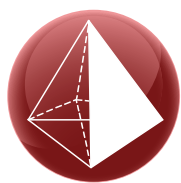
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