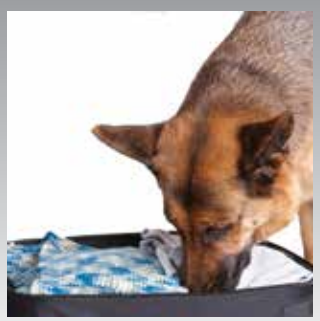
Explosive Standards Reference Guide



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, 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.

EXCLUSIVELY from AccuStandard

TATP HMDD & HNS

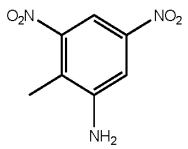
Widest Selection of Explosives and associated Metabolites

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 positve reinforcement process, the dog "learns" the odors associated with each explosvie.

Individual Explosive Standards

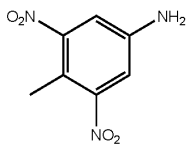
2-Amino-4,6-dinitrotoluene ♦



CAS 35572-78-2 **MF** $C_7H_7N_3O_4$ **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

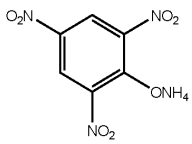
4-Amino-2,6-dinitrotoluene ♦



CAS 19406-51-0 **MF** $C_7H_7N_3O_4$ **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

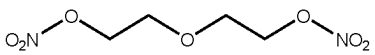


CAS 131-74-8 **MF** $C_6H_6N_4O_7$ **MW** 246.13
log Kow N/A **SG** N/A **MP** N/A

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

DEGDN

Diethyleneglycol dinitrate

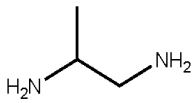


CAS 693-21-0 **MF** $C_4H_8N_2O_7$ **MW** 196.12
log Kow 0.98 **SG** 1.41 g/cm³ **MP** -11 °C

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/cm³)
MP	Melting Point (°C)

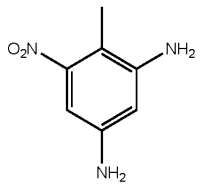
1,2-Diaminopropane



CAS 78-90-0 **MF** $C_3H_{10}N_2$ **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

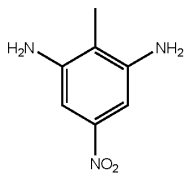
2,4-Diamino-6-nitrotoluene ♦



CAS 6629-29-4 **MF** $C_7H_9N_3O_2$ **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

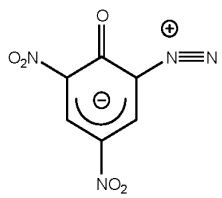
2,6-Diamino-4-nitrotoluene ♦



CAS 59229-75-3 **MF** $C_7H_9N_3O_2$ **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

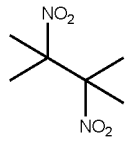


CAS 4682-03-5 **MF** $C_6H_2N_4O_5$ **MW** 210.10
log Kow 2.09 **SG** N/A **MP** 230 °C

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

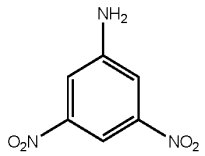
2,3-Dimethyl-2,3-dinitrobutane (DMNB)



CAS 3964-18-9 **MF** $C_6H_{12}N_2O_4$ **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

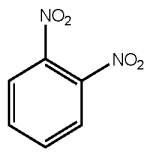
3,5-Dinitroaniline



CAS 618-87-1 **MF** $C_6H_5N_3O_4$ **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

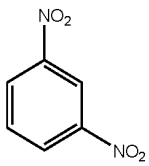
1,2-Dinitrobenzene



CAS 528-29-0 **MF** $C_6H_4N_2O_4$ **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



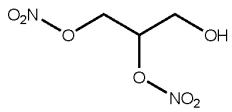
CAS 99-65-0 **MF** $C_6H_4N_2O_4$ **MW** 168.11
log Kow -0.57 **SG** 1.49 g/cm³ **MP** 192-193 °C

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

Continued on next page

Individual Explosive Standards

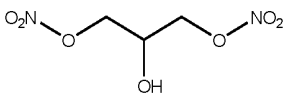
1,2-Dinitroglycerin



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

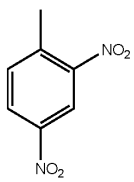
1,3-Dinitroglycerin



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

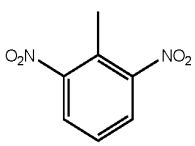
2,4-Dinitrotoluene ♦



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 ♦



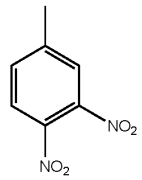
CAS 606-20-2 **MF** $C_7H_6N_2O_4$ **MW** 182.13
log Kow -0.02 **SG** 1.41 g/cm³ **MP** 197-198 °C

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/cm³)
MP	Melting Point (°C)

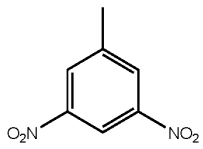
3,4-Dinitrotoluene



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

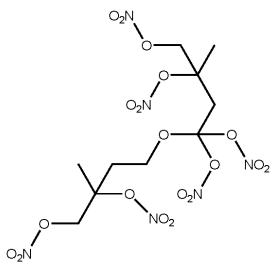
3,5-Dinitrotoluene ♦



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

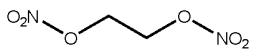


CAS 13184-80-0 **MF** $C_{10}H_{16}N_6O_{19}$ **MW** 524.26
log Kow 1.23 **SG** 1.66 g/cm³ **MP** N/A

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

EGDN

Dinitroethylene glycol

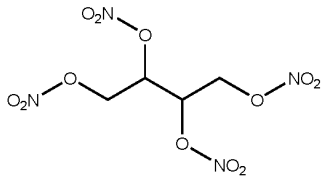


CAS 628-96-6 **MF** $C_2H_4N_2O_6$ **MW** 152.06
log Kow 1.16 **SG** 1.52 g/cm³ **MP** -10 °C

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

♦ TNT Metabolites

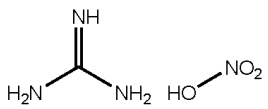
Erythritol tetranitrate (ETN)



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

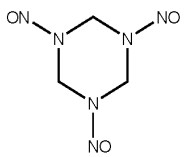
Guanidine nitrate



CAS 506-93-4 **MF** $CH_5N_3 \bullet HNO_3$ **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

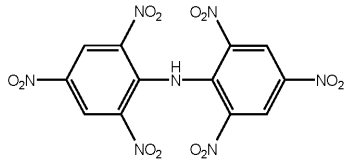
Hexahydro-1,3,5-trinitroso-1,3,5-triazine (R-Salt)



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

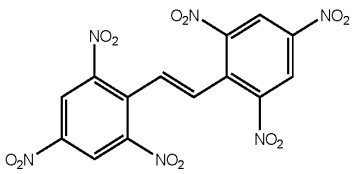


CAS 131-73-7 **MF** $C_{12}H_5N_7O_{12}$ **MW** 439.21
log Kow 1.15 **SG** 1.94 g/cm³ **MP** 244 °C

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

Individual Explosive Standards

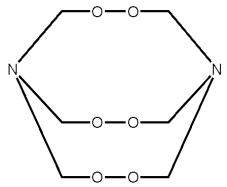
Hexanitrostilbene (HNS) ♦



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)

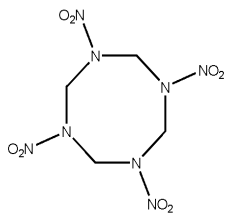


CAS 283-66-9 **MF** $C_6H_{12}N_2O_6$ **MW** 208.17
log Kow 1.01 **SG** 1.47 g/cm³ **MP** 95-98 °C

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

HMX

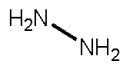
Cyclotetramethylene-tetranitramine



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

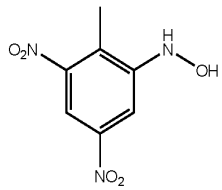
Hydrazine



CAS 302-01-2 **MF** H_4N_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 ♦

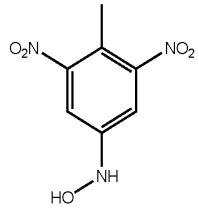


(3 months stability)

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 ♦

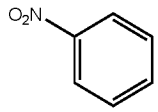


(3 months stability)

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

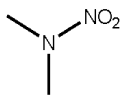
Nitrobenzene ♦



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

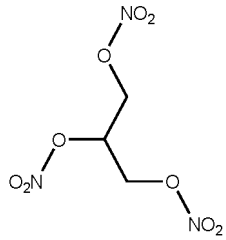
N-Nitrodimethylamine



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

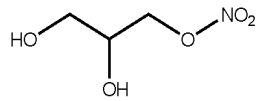
Nitroglycerin



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

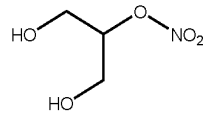
1-Nitroglycerin



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

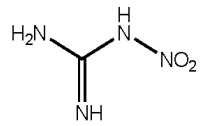
2-Nitroglycerin



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

Nitroguanidine



CAS 556-88-7 **MF** $CH_4N_4O_2$ **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

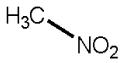
❄ To delay premature breakdown of thermally labile products in transit a ColdPAK is required.

♦ TNT Metabolites

Continued on next page

Individual Explosive Standards

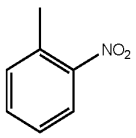
Nitromethane



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

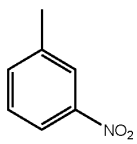
2-Nitrotoluene ♦



CAS 88-72-2 **MF** $C_7H_7NO_3$ **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

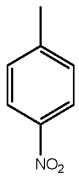
3-Nitrotoluene ♦



CAS 99-08-1 **MF** $C_7H_7NO_3$ **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

4-Nitrotoluene ♦



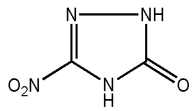
CAS 99-99-0 **MF** $C_7H_7NO_3$ **MW** 137.14
log Kow 2.37 **SG** 1.39 g/cm³ **MP** 51-54 °C

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

Property Key	
CAS	Chemical Abstract Service Number
MF	Molecular Formula
MW	Molecular Weight
log Kow	Partition Coefficient
SG	Specific Gravity (g/cm³)
MP	Melting Point (°C)

♦ TNT Metabolites

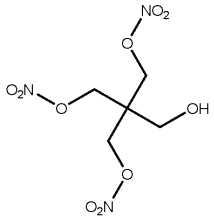
3-Nitro-1,2,4-triazol-5-one (NTO) NEW



CAS 932-64-9 **MF** $C_2H_2O_3N_4$ **MW** 130.10
log Kow -2.72 **SG** 2.55 g/cm³ **MP** 161 °C

Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-53	1 mL

Pentaerithrityl trinitrate

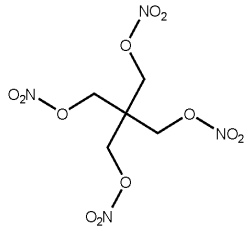


CAS N/A **MF** $C_5H_9N_3O_{10}$ **MW** 271.14

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

PETN

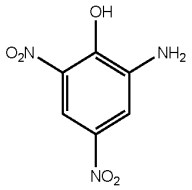
Pentaerythritol tetranitrate



CAS 78-11-5 **MF** $C_5H_8N_4O_{12}$ **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

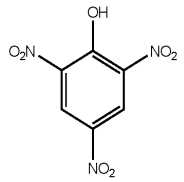
Picramic acid



CAS 96-91-3 **MF** $C_6H_5N_3O_5$ **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

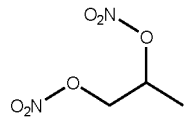
Picric acid



CAS 88-89-1 **MF** $C_6H_3N_3O_7$ **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

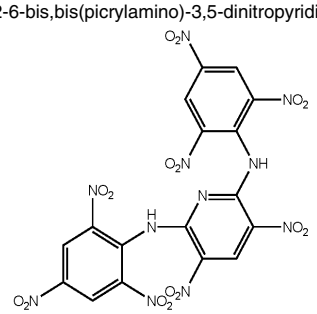


CAS 6423-43-4 **MF** $C_3H_6N_2O_6$ **MW** 166.09
log Kow 1.59 **SG** 1.42 g/cm³ **MP** -9 °C

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

PYX

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

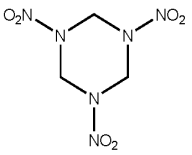


CAS 38082-89-2 **MF** $C_{17}H_7N_{11}O_{16}$ **MW** 621.30
log Kow N/A **SG** 2.01 g/cm³ **MP** N/A

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

RDX

Cyclotrimethylene-trinitramine



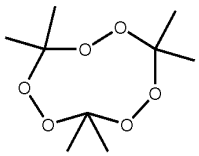
CAS 121-82-4 **MF** $C_3H_6N_6O_6$ **MW** 222.12
log Kow -4.70 **SG** 1.90 g/cm³ **MP** 245-246 °C

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

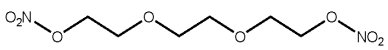


CAS 17088-37-8 **MF** $C_9H_{18}O_6$ **MW** 222.24
log Kow 4.63 **SG** 1.00 g/cm³ **MP** 64-65 °C

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

TEGDN

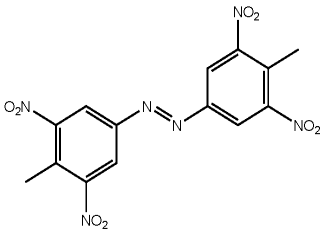
Triethyleneglycol dinitrate



CAS 111-22-8 **MF** $C_6H_{12}N_2O_8$ **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

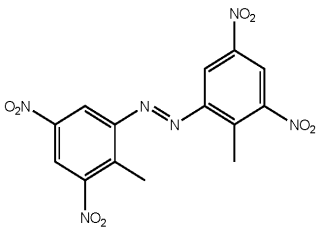
2,2',6,6'-Tetranitro-4,4'-azotoluene ♦



CAS N/A **MF** $C_{14}H_{10}N_6O_8$ **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 ♦

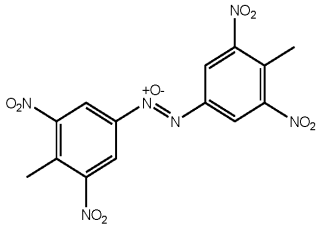


CAS N/A **MF** $C_{14}H_{10}N_6O_8$ **MW** 390.26
log Kow N/A **SG** N/A **MP** N/A

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 ♦

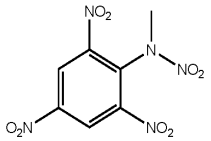


CAS N/A **MF** $C_{14}H_{10}N_6O_9$ **MW** 406.26
log Kow N/A **SG** N/A **MP** N/A

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

Tetryl

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

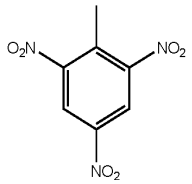


CAS 479-45-8 **MF** $C_7H_5N_5O_8$ **MW** 287.14
log Kow -0.56 **SG** 1.80 g/cm³ **MP** 255 °C

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

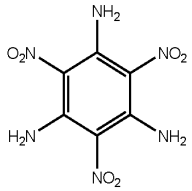
Trinitrotoluene



CAS 118-96-7 **MF** $C_7H_5N_3O_6$ **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

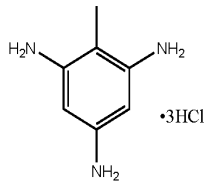
1,3,5-Triamino-2,4,6-trinitrobenzene



CAS 3058-38-6 **MF** $C_6H_6N_6O_6$ **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

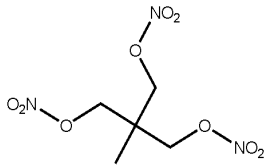
2,4,6-Triaminotoluene trihydrochloride (TNT free)



CAS 634-87-7 **MF** $C_7H_{11}N_3 \bullet 3HCl$ **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

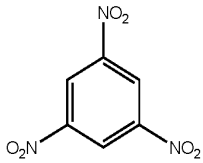
Trimethylolethane trinitrate



CAS 3032-55-1 **MF** $C_5H_9N_3O_9$ **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

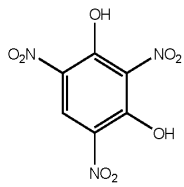
1,3,5-Trinitrobenzene ♦



CAS 99-35-4 **MF** $C_6H_3N_3O_6$ **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** $C_6H_3N_3O_8$ **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 (50:50) 7 comps.
M-8330A-10X ❄ **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (50:50) 7 comps.

1,3-Dinitrobenzene
2,4-Dinitrotoluene
HMX
Nitrobenzene
RDX
1,3,5-Trinitrobenzene
TNT

M-8330A-R ❄ **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (50:50) 8 comps.
M-8330A-R-10X ❄ **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (50:50) 8 comps.

2-Amino-4,6-dinitrotoluene
1,3-Dinitrobenzene
2,4-Dinitrotoluene
HMX
Nitrobenzene
RDX
1,3,5-Trinitrobenzene
TNT

Composite Explosive Mixture

M-8330-R-0.1X **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (50:50)
M-8330-R-0.5X **1 x 1 mL**
0.5 mg/mL each in AcCN:MeOH (50:50)

1,3-Dinitrobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
HMX
RDX
Nitrobenzene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene
Tetryl
TNT
1,3,5-Trinitrobenzene
2-Amino-4,6-dinitrotoluene
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 (50:50)
M-8330-R-10X-SET ❄ **14 x 1 mL**
Each at 1000 µg/mL in AcCN:MeOH (50:50)

1,3-Dinitrobenzene (01)
2,4-Dinitrotoluene (02)
2,6-Dinitrotoluene (03)
HMX (04)
RDX (05)
Nitrobenzene (06)
2-Nitrotoluene (07)
3-Nitrotoluene (08)
4-Nitrotoluene (09)
Tetryl (10)
TNT (11)
1,3,5-Trinitrobenzene (12)
2-Amino-4,6-dinitrotoluene (13)
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 (50:50) 5 comps.
M-8330B-10X ❄ **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (50:50) 5 comps.

Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

M-8330B-R ❄ **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (50:50) 7 comps.
M-8330B-R-10X ❄ **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (50:50) 7 comps.

2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene
Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene

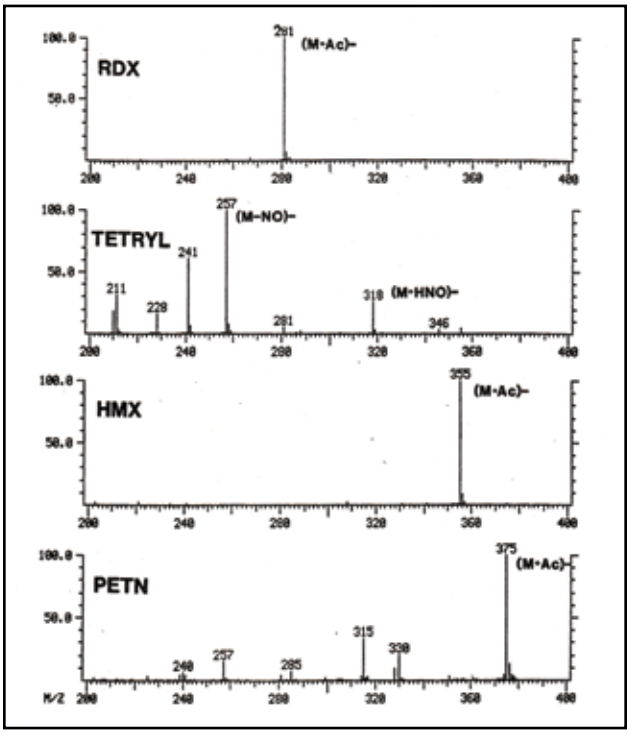
M-8330B-R2 ❄ **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (50:50) 6 comps.
M-8330B-R2-10X ❄ **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (50:50) 6 comps.

4-Amino-2,6-dinitrotoluene
Tetryl
2,6-Dinitrotoluene
2-Nitrotoluene
3-Nitrotoluene
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 Fetterholf, 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\EXPTEST.M
    Last changed    : 12/18/08 9:44:06 AM by RPK
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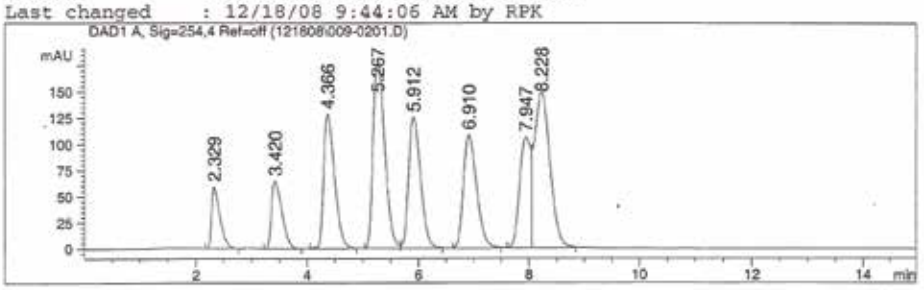



```
    ========================================================================
                              Area Percent Report
    ========================================================================

    Sorted By             :      Retention Time
    Multiplier            :      1.0000
    Dilution              :      1.0000

    Signal 1: DAD1 A, Sig=254,4 Ref=off

    Peak RetTime Sig Type    Area       Height      Area
      #   [min]              [mAU*s]     [mAU]       %
    ----|-------|---|----|----------|----------|--------|
       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-10X
DESCRIPTION: Method 8330 - Explosives by HPLC
LOT: B8120182-1A
SOLVENT: Acetonitrile 50, Methanol 50
EXPIRATION: Jun 21, 2012
DATE CERTIFIED: Jun 21, 2010
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Refrig (0-5° C)
HAZARDS: HIGHLY FLAMMABLE

Refer to the MSDS for additional safety information

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

Component	Cas Number	Purity % (GC/FID)	Prepared Concentration* (µg/mL)	Certified Analyte Concentration* (µg/mL)

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

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
4-Amino-2,6-dinitrotoluene
3,5-Dinitroaniline
1,3-Dinitrobenzene
2,4-Dinitrotoluene
2,6-Dinitrotoluene
RDX
Nitrobenzene
2-Nitrotoluene
3-Nitrotoluene
4-Nitrotoluene
1,3,5-Trinitrobenzene
Tetryl
TNT

Surrogate Analyte Stock Solutions

M-529-SS1 **1 x 1 mL**
M-529-SS1-PAK ***SAVE*** **5 x 1 mL**
1000 µg/mL each in MeOH 2 comps.

1,3,5-Trimethyl-2-nitrobenzene
1,2,4-Trimethyl-5-nitrobenzene

M-529-SS2 **1 x 1 mL**
M-529-SS2-PAK ***SAVE*** **5 x 1 mL**
1000 µg/mL each in CH_2Cl_2

Nitrobenzene-d_5

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
1,2,4-Trimethyl-5-nitrobenzene
Nitrobenzene-d_5

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 ***SAVE*** **5 x 1 mL**
100 µg/mL each in AcCN:MeOH (1:1) 10 comps.

2-Amino-4,6-dinitrotoluene
4-Amino-2,6-dinitrotoluene
1,3-Dinitrobenzene
2,6-Dinitrotoluene
2,4-Dinitrotoluene
1,3,5-Trinitrobenzene
TNT
RDX
Tetryl
HMX

Explosive Stock Solution B

M-8095-SSB-100X **1 x 1 mL**
M-8095-SSB-100X-PAK ***SAVE*** **5 x 1 mL**
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 ***SAVE*** **5 x 1 mL**
100 µg/mL in AcCN

3,4-Dinitrotoluene

M-8095-SS-02 **1 x 1 mL**
M-8095-SS-02-PAK ***SAVE*** **5 x 1 mL**
100 µg/mL in AcCN

2-Methyl-4-nitroaniline

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

2,5-Dinitrotoluene

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 **1 x 1 mL**

At stated conc. (µg/mL) in AcCN 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 Matrix	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.
2,4-Dinitrotoluene $C_7H_6N_2O_4$	100 µg/mL	AcCN:MeOH	M-8330-02-0.1X
	1000 µg/mL	AcCN:MeOH	M-8330-02
2,6-Dinitrotoluene $C_7H_6N_2O_4$	100 µg/mL	AcCN:MeOH	M-8330-03-0.1X
	1000 µg/mL	AcCN:MeOH	M-8330-03
3,4-Dinitrotoluene $C_7H_6N_2O_4$	100 µg/mL	AcCN:MeOH	M-8330-04-0.1X
	1000 µg/mL	AcCN:MeOH	M-8330-04
Diphenylamine $C_{12}H_{11}N$	100 µg/mL	DCM	APP-9-097
Ethylcentralite $C_{17}H_{20}N_2O$	100 µg/mL	AcCN:MeOH	M-8330-ADD-50
Methylcentralite $C_{15}H_{16}N_2O$	100 µg/mL	AcCN:MeOH	M-8330-ADD-49
2-Nitrodiphenylamine $C_{12}H_{10}N_2O_2$	100 µg/mL	AcCN:MeOH	M-8330-ADD-51
4-Nitrodiphenylamine $C_{12}H_{10}N_2O_2$	100 µg/mL	AcCN:MeOH	M-8330-ADD-52

Compound	Conc.	Matrix	Cat. No.
1-Nitroglycerine ◗ $C_3H_5N_3O_9$	100 µg/mL	AcCN:MeOH	M-8330-ADD-31
2-Nitroglycerine ◗ $C_3H_5N_3O_9$	100 µg/mL	AcCN:MeOH	M-8330-ADD-32
N-Nitrosodiphenylamine $C_{12}H_{10}N_2O$	100 µg/mL	MeOH	APP-9-150
2-Nitrotoluene $C_7H_7NO_3$	1000 µg/mL	AcCN:MeOH	M-8330-07
3-Nitrotoluene $C_7H_7NO_3$	1000 µg/mL	AcCN:MeOH	M-8330-08
4-Nitrotoluene $C_7H_7NO_3$	1000 µg/mL	AcCN:MeOH	M-8330-09

See next page for structure and physical data

Any compound without ◗ could contain possible isomers

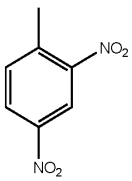
AcCN:MeOH Ratio 50:50

Continued on next page

Explosive Standards

Organic Compounds for Firearm Discharge Analysis - Smokeless Powder Constituents

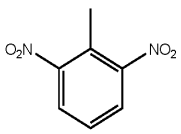
2,4-Dinitrotoluene ♦



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
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

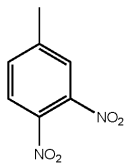
2,6-Dinitrotoluene ♦



CAS 606-20-2 **MF** $C_7H_6N_2O_4$ **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

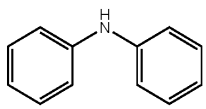
3,4-Dinitrotoluene



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

Diphenylamine

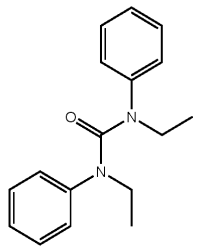


CAS 122-39-4 **MF** $C_{12}H_{11}N$ **MW** 169.22
log Kow 3.50 **SG** 1.09 g/cm³ **MP** 52-54 °C

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

♦ TNT Metabolites

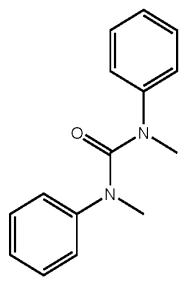
Ethylcentralite



CAS 85-98-3 **MF** $C_{17}H_{20}N_2O$ **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



CAS 611-92-7 **MF** $C_{15}H_{16}N_2O$ **MW** 240.30
log Kow 3.22 **SG** 1.16 g/cm³ **MP** 116-117 °C

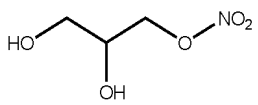
Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-49	1 mL

AcCN:MeOH Ratio 50:50

Explosive Standards

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

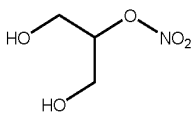
1-Nitroglycerin ◗



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

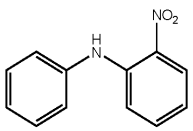
2-Nitroglycerin ◗



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

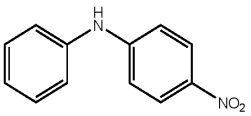
2-Nitrodiphenylamine NEW



CAS 119-75-5 **MF** $C_{12}H_{10}N_2O_2$ **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	M-8330-ADD-51	1 mL

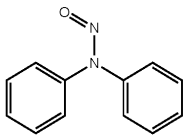
4-Nitrodiphenylamine



CAS 836-30-6 **MF** $C_{12}H_{10}N_2O_2$ **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	M-8330-ADD-52	1 mL

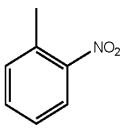
N-Nitrosodiphenylamine



CAS 86-30-6 **MF** $C_{12}H_{10}N_2O$ **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

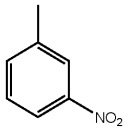
2-Nitrotoluene ♦



CAS 88-72-2 **MF** $C_7H_7NO_3$ **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

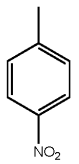
3-Nitrotoluene ♦



CAS 99-08-1 **MF** $C_7H_7NO_3$ **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

4-Nitrotoluene ♦



CAS 99-99-0 **MF** $C_7H_7NO_3$ **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

AcCN:MeOH Ratio 50:50

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/cm³)
MP	Melting Point (°C)

Custom Services

Custom Synthesis

AccuStandard has developed hundreds of pure chemical compounds for companies, research institutions and governmental agencies around the world. Custom synthesis capabilities range from milligram to kilogram scale. AccuStandard is renowned for its quick response to customer requests for new compounds and its partnership in developing new methods.

Synthesis of many organic pollutants and their metabolites is an integral part of the department's efforts to provide the international community with previously unavailable standards. This is especially true for flame retardants, explosives and pesticides.

Custom Synthesized Products include:

- PCBs (all 209 congeners), hydroxy, methoxy and methylsulfonyl metabolites
- PBDEs (all 209 congeners), hydroxy, methoxy and chloro metabolites
- Chloro- and bromodibenzodioxins and furans
- Fluorinated PBDEs
- Brominated Flame Retardants, metabolites and isomers
- PBBs
- PAHs, nitro-PAHs and methyl-PAHs
- Pesticides and metabolites
- Explosives and metabolites
- Nonyl- and octylphenol ethoxylates
- Mono- and di-phthalate esters
- Organophosphate Flame Retardants

Custom Formulations

Custom QC options

1. Gravimetric/Volumetric Certification:

   Each compound is measured gravimetrically and QC verified instrumentally (where applicable).

   Every component in the Standard will 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 COA accompanies each Standard and documents the gravimetric values used.

2. Full Quantitative Certification:

   This QA/QC method includes extended GC, GC/MS or LC analysis using both internal calibration standards plus statistical analysis.

Custom Packaging and Bulk Quantity Requirements

Private Labeling / OEM

Manufactured and Tested to meet your specifications

Auto Filling/Sealing Machine:

Ampule sizes 0.2 mL - 20 mL / Quantites 500 to 500K

AccuStandard has a broad range of products including all 209 **PCBs**, all 209 **PBDEs** and **sulfurs** within the scope of accreditation for ISO Guide 34 and 17025. Since AccuStandard serves a diverse group of customers and industries with a broad-spectrum of quality standards, compliance with the QC requirements set by our accreditations ensures that AccuStandard products are manufactured and tested to the highest industry standards.

Our customers can be confident that our products are acceptable for use in multiple applications and across international borders. This emphasis on documented quality applies to both the organic and inorganic product lines (see below).


CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board/ACLASS

AccuStandard, Inc.
125 Market Street
New Haven, CT 06513

ISO Guide 34:2009

Reference Material Producer

SCOPE OF ACCREDITATION TO ISO GUIDE 34:2000
Certified Reference Material (CRM)
Class or Type of Reference Materials Produced

- PCBs
- Pesticides
- Explosives
- VOCs
- Semivolatiles
- Metals
- Anions / Cations
- Sulfur
- PBDEs


CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board/ACLASS

AccuStandard, Inc.
125 Market Street
New Haven, CT 06513

ISO/IEC 17025:2005

TESTING

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
Chemical Reference Standards (Neat or Solution Form)

- VOCs
- SVOCs
- PCBs
- Pesticides
- Explosives
- Sulfur
- PBDEs
- Anions and Cations
- Metals

Liability:

- Products listed in this catalog are for research use only.
- No warranty for any particular application is expressed or implied.
- Due to the products hazardous nature, they should be handled by trained personnel.
- AccuStandard's liability will be limited to, replacement of product or refund of purchase price.
- Notice of claims must be made within thirty (30) days from the date of delivery.

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