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.

EXCLUSIVELY from AccuStandard

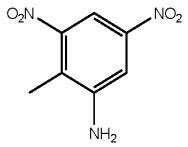
HMTD TATP HMDD & HNS

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.

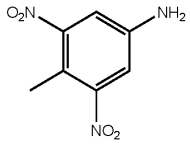
2-Amino-4,6-dinitrotoluene ♦



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

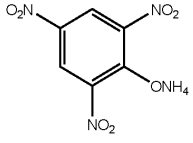
4-Amino-2,6-dinitrotoluene ♦



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

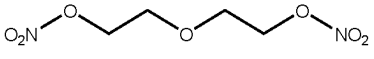


CAS 131-74-8 **MF** $C_6H_6N_4O_7$ **MW** 246.13
log Kow N/A **SG** N/A **MP** N/A

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

DEGDN

Diethyleneglycol dinitrate



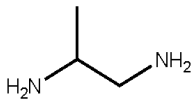
CAS 693-21-0 **MF** $C_4H_8N_2O_7$ **MW** 196.12
log Kow 0.98 **SG** 1.41 g/cm³ **MP** -11 °C

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)

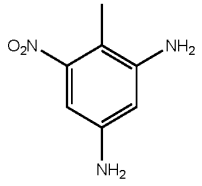
1,2-Diaminopropane



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

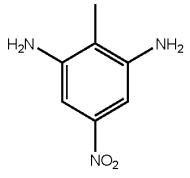
2,4-Diamino-6-nitrotoluene ♦



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

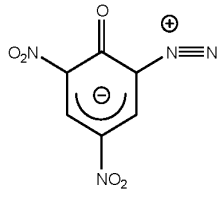
2,6-Diamino-4-nitrotoluene ♦



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

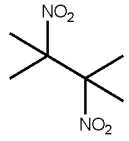
Diazodinitrophenol NEW



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

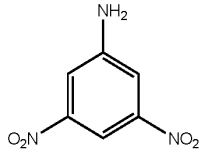
2,3-Dimethyl-2,3-dinitrobutane (DMNB)



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

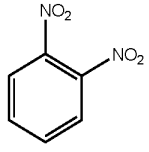
3,5-Dinitroaniline



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

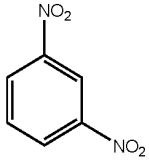
1,2-Dinitrobenzene



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

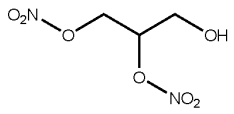
Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-01-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-01	1 mL

♦ TNT Metabolites

Continued on next page

Individual Explosive Standards

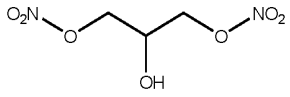
1,2-Dinitroglycerin



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

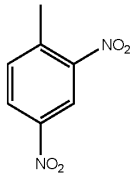
1,3-Dinitroglycerin



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

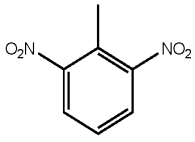
2,4-Dinitrotoluene ♦



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 ♦



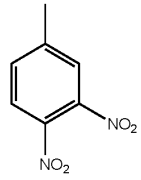
CAS 606-20-2 **MF** $C_7H_6N_2O_4$ **MW** 182.13
log Kow -0.02 **SG** 1.41 g/cm³ **MP** 197-198 °C

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)

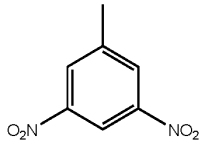
3,4-Dinitrotoluene



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

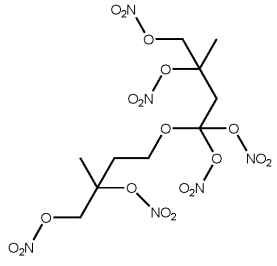
3,5-Dinitrotoluene ♦



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 NEW

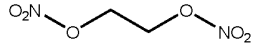


CAS 13184-80-0 **MF** $C_{10}H_{16}N_6O_{19}$ **MW** 524.26
log Kow 1.23 **SG** 1.66 g/cm³ **MP** N/A

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

EGDN

Dinitroethylene glycol

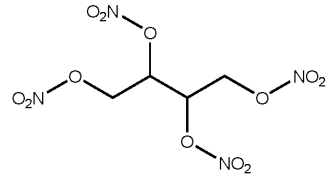


CAS 628-96-6 **MF** $C_2H_4N_2O_6$ **MW** 152.06
log Kow 1.16 **SG** 1.52 g/cm³ **MP** -10 °C

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

♦ TNT Metabolites

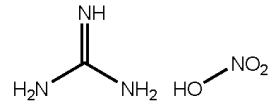
Erythritol tetranitrate (ETN) NEW



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

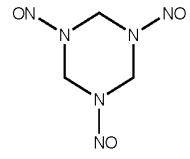
Guanidine nitrate



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

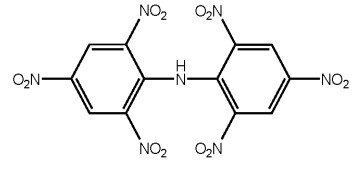
Hexahydro-1,3,5-trinitroso-1,3,5-triazine (R-Salt) NEW



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

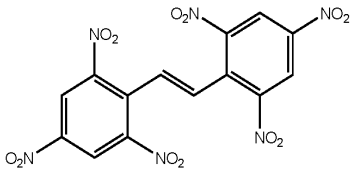
Hexanitrodiphenylamine



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

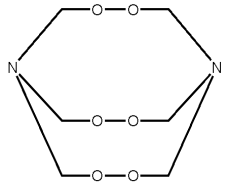
Hexanitrostilbene (HNS) ♦



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

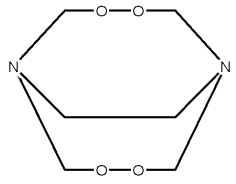
Hexamethylene triperoxide diamine (HMTD)



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

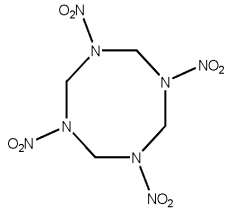


CAS 112204-35-0 **MF** $C_6H_{12}N_2O_4$ **MW** 176.17
SG 1.50 g/cm³ **MP** N/A

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

HMX

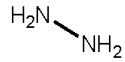
Cyclotetramethylene-tetranitramine



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

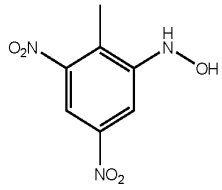
Hydrazine



CAS 302-01-2 **MF** H_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 ♦

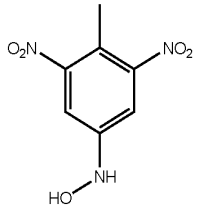


(3 months stability)

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 ♦

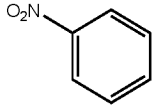


(3 months stability)

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 ♦

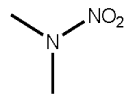


CAS 98-95-3 **MF** $C_6H_5NO_2$ **MW** 123.11
log Kow -0.39 **SG** 1.22 g/cm³ **MP** 5-6 °C

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

♦ TNT Metabolites

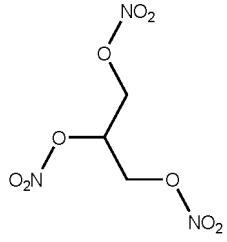
N-Nitrodimethylamine



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

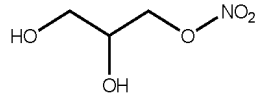
Nitroglycerin



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

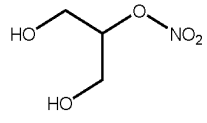
1-Nitroglycerin



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

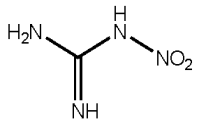
Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-ADD-32	1 mL

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

Continued on next page

Individual Explosive Standards

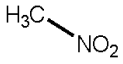
Nitroguanidine



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

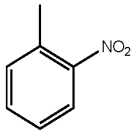
Nitromethane



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

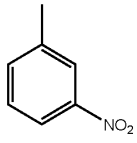
2-Nitrotoluene ♦



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

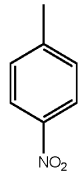
Matrix	Cat. No.	Unit
100 µg/mL in AcCN:MeOH	M-8330-08-0.1X	1 mL
1000 µg/mL in AcCN:MeOH	M-8330-08	1 mL

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

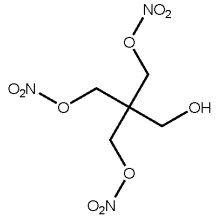
4-Nitrotoluene ♦



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

Pentaerithrityl trinitrate NEW

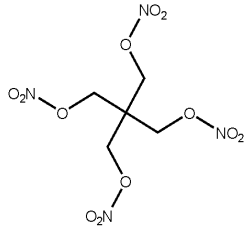


CAS N/A **MF** $C_5H_9N_3O_{10}$ **MW** 271.14

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

PETN

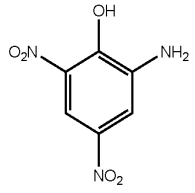
Pentaerythritol tetranitrate



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

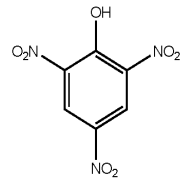
Picramic acid



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

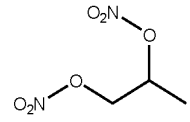
Picric acid



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

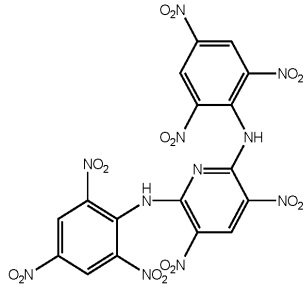


CAS 6423-43-4 **MF** $C_3H_6N_2O_6$ **MW** 166.09
log Kow 1.59 **SG** 1.42 g/cm³ **MP** -9 °C

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

PYX

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

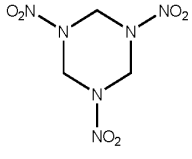


CAS 38082-89-2 **MF** $C_{17}H_7N_{11}O_{16}$ **MW** 621.30
log Kow N/A **SG** 2.01 g/cm³ **MP** N/A

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

RDX

Cyclotrimethylene-trinitramine



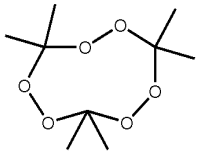
CAS 121-82-4 **MF** $C_3H_6N_6O_6$ **MW** 222.12
log Kow -4.70 **SG** 1.90 g/cm³ **MP** 245-246 °C

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

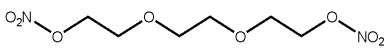


CAS 17088-37-8 **MF** $C_9H_{18}O_6$ **MW** 222.24
log Kow 4.63 **SG** 1.00 g/cm³ **MP** 64-65 °C

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

TEGDN

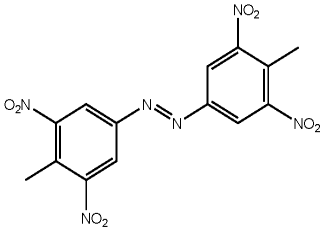
Triethyleneglycol dinitrate



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

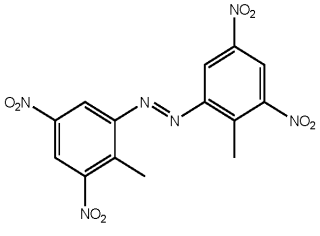
2,2',6,6'-Tetranitro-4,4'-azotoluene ♦



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 ♦

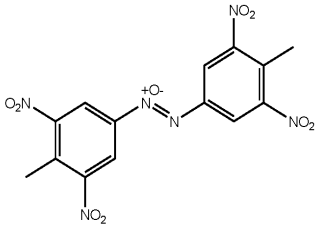


CAS N/A **MF** $C_{14}H_{10}N_6O_8$ **MW** 390.26
log Kow N/A **SG** N/A **MP** N/A

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 ♦

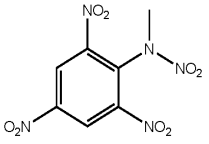


CAS N/A **MF** $C_{14}H_{10}N_6O_9$ **MW** 406.26
log Kow N/A **SG** N/A **MP** N/A

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

Tetryl

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

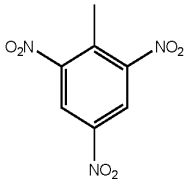


CAS 479-45-8 **MF** $C_7H_5N_5O_8$ **MW** 287.14
log Kow -0.56 **SG** 1.80 g/cm³ **MP** 255 °C

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

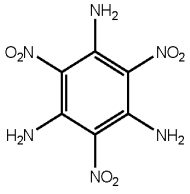
Trinitrotoluene



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

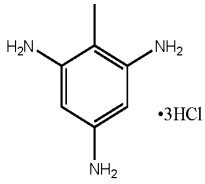
1,3,5-Triamino-2,4,6-trinitrobenzene



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

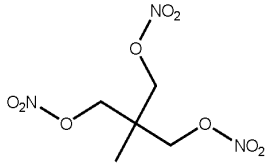
2,4,6-Triaminotoluene trihydrochloride (TNT free)



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

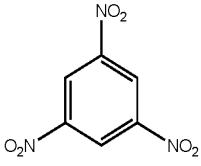
Trimethylolethane trinitrate



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

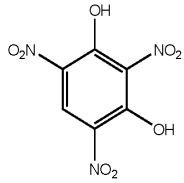
1,3,5-Trinitrobenzene ♦



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 (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
- 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 (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
- 1,3-Dinitrobenzene
- 2,4-Dinitrotoluene
- HMX
- Nitrobenzene
- RDX
- 1,3,5-Trinitrobenzene
- 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
- 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 (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)
- 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 (1:1) — 5 comps.
M-8330B-10X ❄ — **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 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 (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
- 4-Amino-2,6-dinitrotoluene
- Tetryl
- 2,6-Dinitrotoluene
- 2-Nitrotoluene
- 3-Nitrotoluene
- 4-Nitrotoluene

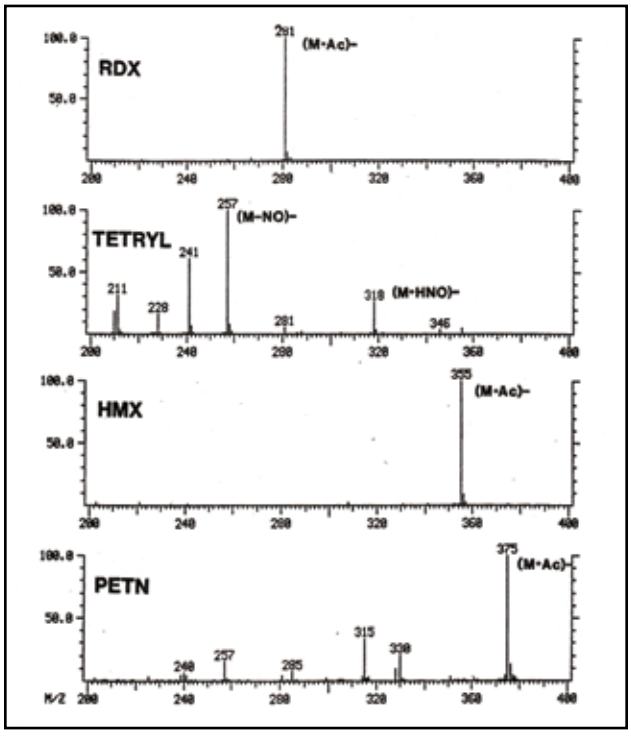
M-8330B-R2 ❄ — **1 x 1 mL**
0.1 mg/mL each in AcCN:MeOH (1:1) — 6 comps.
M-8330B-R2-10X ❄ — **1 x 1 mL**
1.0 mg/mL each in AcCN:MeOH (1:1) — 6 comps.

- 4-Amino-2,6-dinitrotoluene
- 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.

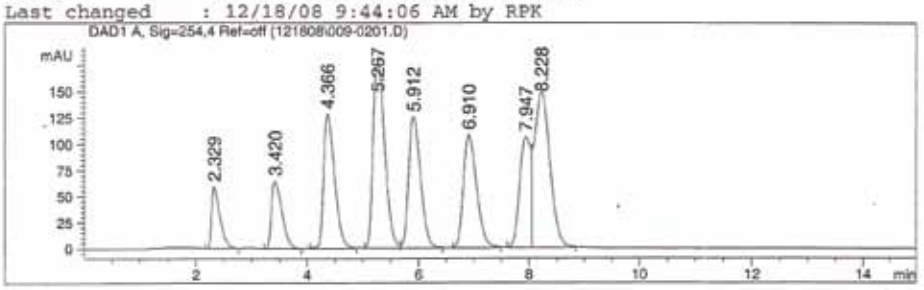
Method 8330 Chromatogram with Certificate of Analysis

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



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-10X
DESCRIPTION: Method 8330 - Explosives by HPLC
LOT: B8120182-1A
SOLVENT: Acetonitrile 50
Methanol 50
Refer to the MSDS for additional safety information

EXPIRATION: Jun 21 , 2012
DATE CERTIFIED: Jun 21, 2010
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Refrig (0-5° C)
HAZARDS: HIGHLY FLAMMABLE

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

NEW

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

NEW

Compound	Conc.	Matrix	Cat. No.
2,4-Dinitrotoluene $C_7H_6N_2O_4$	1000 µg/mL	AcCN:MeOH	M-8330-02
	100 µg/mL	AcCN:MeOH	M-8330-02-0.1X
2,6-Dinitrotoluene $C_7H_6N_2O_4$	1000 µg/mL	AcCN:MeOH	M-8330-03
	100 µg/mL	AcCN:MeOH	M-8330-03-0.1X
3,4-Dinitrotoluene $C_7H_6N_2O_4$	1000 µg/mL	AcCN:MeOH	M-8330-04
	100 µg/mL	AcCN:MeOH	M-8330-04-0.1X
Diphenylamine $C_{12}H_{11}N$	100 µg/mL	DCM	APP-9-007
Ethylcentralite NEW $C_{17}H_{20}N_2O$	100 µg/mL	AcCN:MeOH	M-8330-ADD-50
Methylcentralite NEW $C_{15}H_{16}N_2O$	100 µg/mL	AcCN:MeOH	M-8330-ADD-49
2-Nitrodiphenylamine NEW $C_{12}H_{10}N_2O_2$	100 µg/mL	AcCN:MeOH	M-8330-ADD-51
4-Nitrodiphenylamine NEW $C_{12}H_{10}N_2O_2$	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

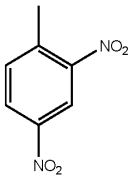
See next page for structure and physical data

Any compound without ◗ could contain possible isomers

Continued on next page

Organic Compounds for Firearm Discharge Analysis - Smokeless Powder Constituents

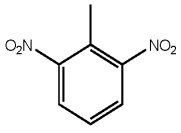
2,4-Dinitrotoluene ♦



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

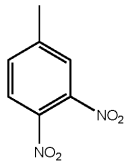
2,6-Dinitrotoluene ♦



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

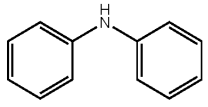
3,4-Dinitrotoluene



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 NEW

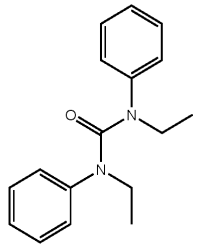


CAS 122-39-4 **MF** $C_{12}H_{11}N$ **MW** 169.22
log Kow 3.50 **SG** 1.09 g/cm³ **MP** 52-54 °C

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

♦ TNT Metabolites

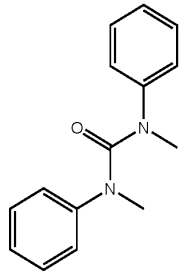
Ethylcentralite NEW



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 NEW

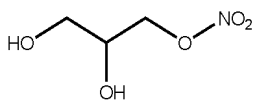


CAS 611-92-7 **MF** $C_{15}H_{16}N_2O$ **MW** 240.30
log Kow 3.22 **SG** 1.16 g/cm³ **MP** 116-117 °C

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

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

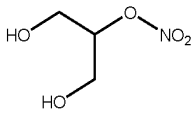
1-Nitroglycerin ◗



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

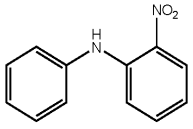
2-Nitroglycerin ◗



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

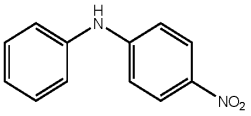
2-Nitrodiphenylamine



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:MeOH	M-8330-ADD-51	1 mL

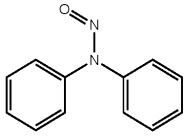
4-Nitrodiphenylamine



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:MeOH	M-8330-ADD-52	1 mL

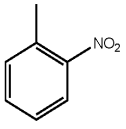
N-Nitrosodiphenylamine



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

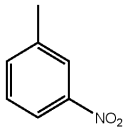
2-Nitrotoluene ♦



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

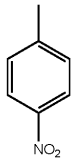
3-Nitrotoluene ♦



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

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

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.

Analytical Capabilities

- GC-MS, GC-FID, GC-ECD, GC-NPD
- HPLC, LC-MS
- ICP, ICP-MS
- access to more anlytical instrumentation if necessary

Synthesis and Purification

- Milligram to Kilogram Glassware
- Inert Conditions Equipment
- High Performance Flash Chromatography
- Distillation Equipment - High Vacuum, Molecular (Kugelrohr), and Spinning Band Columns Preparative TLC
- Parr Pressure and Hydrogenation Reactor

Custom Synthesized Products

- PCBs (all 209 congeners), & hydroxy, methoxy, and methylsulfonyl metabolites
- Halo-Dibenzodioxins and Furans
- 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
- Nonyl- and Octylphenol Ethoxylates
- Mono- and Diester Phthalates
- Organophosphates
- Other Rare Chemicals

AccuStandard is renowned for its quick response to the needs for new compounds. The company's especially strong Synthesis Department allows the synthesis of important and unique products. Featured in its history of firsts, are all of the 209 congeners of polychlorinated biphenyls (PCBs), all 209 congeners of polybrominated diphenyl ethers (PBDEs) as well as many halogenated dioxins and dibenzofurans, PAHs, pesticides and fluorinated surrogates substituting the expensive isotopically labelled compounds.

Among the more recent introductions are the hydroxy and methoxy PBDE congeners, mixed bromo/chloro hydroxy and methoxy diphenyl ethers, organophosphate flame retardants, biofuels, EPA Method 535 pesticide derivatives and the five previously unavailable explosive standards introduced in this guide.

Custom Formulations

With over 30,000+ custom and 10,000+ listed standards, there is a good chance that AccuStandard will have a standard to meet your needs. However, if your laboratory requires something specific, our Chemists will manufacture a Custom Standard to meet your unique requirements. Custom Standards are an economical and time saving way to have a Standard prepared for your individual needs.

Custom QC options

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).

Custom Packaging and Bulk Quantity Requirements

AccuStandard has the resources and equipment to meet your custom packaging requirements.

- Automated ampule filling & sealing 0.2 mL up to 20 mL and ampule sizes from 1 mL to 20 mL
- Quantities from 500 to over 500,000 ampules
- Homogeneity testing
- Amber ampules for added product stability
- Private labeling and packaging (OEM)

We can reduce your costs using the Cozzoli Auto Filling/Sealing Machine to package just the right size product for your application. OEM Standards - Privately labeled standards manufactured and tested to your specifications. Cold and under Nitrogen sealing available.

CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board/ACLASS
500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

AccuStandard Inc.
125 Market Street
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

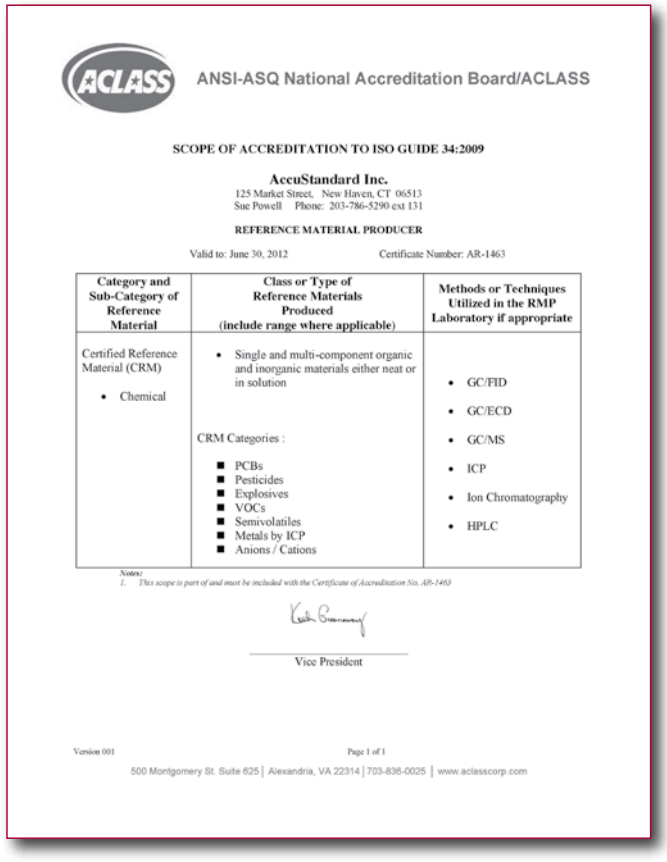
Reference Material Producer

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	• Single and multi-component organic and inorganic materials either neat or in solution CRM Categories : ■ PCBs ■ Pesticides ■ Explosives ■ VOCs ■ Semivolatiles ■ Metals by ICP ■ Anions / Cations	• 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

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