

1. Identification

Product identifier	EPA Method 8330 Explosives Mixture - 6	
Other means of identification		
Item	M-EPA8330EXP6AH4	
Recommended use	For Laboratory Use Only	
Recommended restrictions	None known.	
Manufacturer/Importer/Supplier/Distributor information		
Manufacturer		
Company name	Chem Service, Inc.	
Address	660 Tower Lane West Chester, PA 19380 United States	
Telephone	Toll Free	800-452-9994
	Direct	610-692-3026
Website	www.chemservice.com	
E-mail	info@chemservice.com	
Emergency phone number	Chemtrec US	800-424-9300
	Chemtrec outside US	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 3
	Acute toxicity, dermal	Category 3
	Acute toxicity, inhalation	Category 3
	Serious eye damage/eye irritation	Category 2A
	Sensitization, skin	Category 1A
	Germ cell mutagenicity	Category 1
	Carcinogenicity	Category 1
	Reproductive toxicity	Category 1
	Specific target organ toxicity, single exposure	Category 1
	Specific target organ toxicity, repeated exposure	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. May cause an allergic skin reaction. Causes serious eye irritation. Toxic if inhaled. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed: Immediately call a poison center/doctor. Rinse mouth. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.

Storage

Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information

98.6% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 98.6% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Acetonitrile		75-05-8	49.3
Methanol		67-56-1	49.3
1,3,5-Trinitrobenzene		99-35-4	0.1
2,4,6-Trinitrotoluene		118-96-7	0.1
2,4-Dinitrotoluene		121-14-2	0.1
2,6-Dinitrotoluene		606-20-2	0.1
2-Amino-4,6-dinitrotoluene		35572-78-2	0.1
4-Amino-2,6-dinitrotoluene		19406-51-0	0.1
Hexahydro-1,3,5-trinitro-1,3,5-triazine		121-82-4	0.1
m-Dinitrobenzene		99-65-0	0.1
m-Nitrotoluene		99-08-1	0.1
Nitrobenzene		98-95-3	0.1
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine		2691-41-0	0.1
o-Nitrotoluene		88-72-2	0.1
p-Nitrotoluene		99-99-0	0.1
Tetryl		479-45-8	0.1

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion	Call a physician or poison control center immediately. Rinse mouth. If swallowed, induce vomiting immediately as directed by medical personnel. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms/effects, acute and delayed	Convulsions. Headache. Dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off immediately all contaminated clothing. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Alcohol resistant foam. Carbon dioxide (CO ₂). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
2,4,6-Trinitrotoluene (CAS 118-96-7)	PEL	1.5 mg/m3
2,4-Dinitrotoluene (CAS 121-14-2)	PEL	1.5 mg/m3
2,6-Dinitrotoluene (CAS 606-20-2)	PEL	1.5 mg/m3
Acetonitrile (CAS 75-05-8)	PEL	70 mg/m3 40 ppm
m-Dinitrobenzene (CAS 99-65-0)	PEL	1 mg/m3
Methanol (CAS 67-56-1)	PEL	260 mg/m3 200 ppm
m-Nitrotoluene (CAS 99-08-1)	PEL	30 mg/m3 5 ppm
Nitrobenzene (CAS 98-95-3)	PEL	5 mg/m3 1 ppm
o-Nitrotoluene (CAS 88-72-2)	PEL	30 mg/m3 5 ppm
p-Nitrotoluene (CAS 99-99-0)	PEL	30 mg/m3 5 ppm
Tetryl (CAS 479-45-8)	PEL	1.5 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
2,4,6-Trinitrotoluene (CAS 118-96-7)	TWA	0.1 mg/m3
2,4-Dinitrotoluene (CAS 121-14-2)	TWA	0.2 mg/m3
2,6-Dinitrotoluene (CAS 606-20-2)	TWA	0.2 mg/m3
Acetonitrile (CAS 75-05-8)	TWA	20 ppm
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)	TWA	0.5 mg/m3
m-Dinitrobenzene (CAS 99-65-0)	TWA	0.15 ppm
Methanol (CAS 67-56-1)	STEL	250 ppm
	TWA	200 ppm
m-Nitrotoluene (CAS 99-08-1)	TWA	2 ppm
Nitrobenzene (CAS 98-95-3)	TWA	1 ppm
o-Nitrotoluene (CAS 88-72-2)	TWA	2 ppm
p-Nitrotoluene (CAS 99-99-0)	TWA	2 ppm
Tetryl (CAS 479-45-8)	TWA	1.5 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2,4,6-Trinitrotoluene (CAS 118-96-7)	TWA	0.5 mg/m3
2,4-Dinitrotoluene (CAS 121-14-2)	TWA	1.5 mg/m3
2,6-Dinitrotoluene (CAS 606-20-2)	TWA	1.5 mg/m3
Acetonitrile (CAS 75-05-8)	TWA	34 mg/m3 20 ppm
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)	STEL	3 mg/m3
	TWA	1.5 mg/m3
m-Dinitrobenzene (CAS 99-65-0)	TWA	1 mg/m3
Methanol (CAS 67-56-1)	STEL	325 mg/m3 250 ppm
	TWA	260 mg/m3 200 ppm
m-Nitrotoluene (CAS 99-08-1)	TWA	11 mg/m3
		2 ppm
Nitrobenzene (CAS 98-95-3)	TWA	5 mg/m3
		1 ppm
o-Nitrotoluene (CAS 88-72-2)	TWA	11 mg/m3
		2 ppm
p-Nitrotoluene (CAS 99-99-0)	TWA	11 mg/m3
		2 ppm
Tetryl (CAS 479-45-8)	TWA	1.5 mg/m3

Biological limit values**ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Nitrobenzene (CAS 98-95-3)	1.5 %	Methemoglobin	Hemoglobin in blood	*

* - For sampling details, please see the source document.

Exposure guidelines**US - California OELs: Skin designation**

2,4,6-Trinitrotoluene (CAS 118-96-7)	Can be absorbed through the skin.
2,4-Dinitrotoluene (CAS 121-14-2)	Can be absorbed through the skin.
2,6-Dinitrotoluene (CAS 606-20-2)	Can be absorbed through the skin.
Acetonitrile (CAS 75-05-8)	Can be absorbed through the skin.
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)	Can be absorbed through the skin.
m-Dinitrobenzene (CAS 99-65-0)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
m-Nitrotoluene (CAS 99-08-1)	Can be absorbed through the skin.
Nitrobenzene (CAS 98-95-3)	Can be absorbed through the skin.
o-Nitrotoluene (CAS 88-72-2)	Can be absorbed through the skin.
p-Nitrotoluene (CAS 99-99-0)	Can be absorbed through the skin.
Tetryl (CAS 479-45-8)	Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2,4,6-Trinitrotoluene (CAS 118-96-7)	Skin designation applies.
2,4-Dinitrotoluene (CAS 121-14-2)	Skin designation applies.
2,6-Dinitrotoluene (CAS 606-20-2)	Skin designation applies.
Acetonitrile (CAS 75-05-8)	Skin designation applies.
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)	Skin designation applies.
m-Dinitrobenzene (CAS 99-65-0)	Skin designation applies.
Methanol (CAS 67-56-1)	Skin designation applies.
m-Nitrotoluene (CAS 99-08-1)	Skin designation applies.
Nitrobenzene (CAS 98-95-3)	Skin designation applies.
Tetryl (CAS 479-45-8)	Skin designation applies.

US - Tennessee OELs: Skin designation

2,4,6-Trinitrotoluene (CAS 118-96-7)	Can be absorbed through the skin.
2,4-Dinitrotoluene (CAS 121-14-2)	Can be absorbed through the skin.
2,6-Dinitrotoluene (CAS 606-20-2)	Can be absorbed through the skin.
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)	Can be absorbed through the skin.
m-Dinitrobenzene (CAS 99-65-0)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
m-Nitrotoluene (CAS 99-08-1)	Can be absorbed through the skin.
Nitrobenzene (CAS 98-95-3)	Can be absorbed through the skin.
o-Nitrotoluene (CAS 88-72-2)	Can be absorbed through the skin.
p-Nitrotoluene (CAS 99-99-0)	Can be absorbed through the skin.
Tetryl (CAS 479-45-8)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

2,4,6-Trinitrotoluene (CAS 118-96-7)	Can be absorbed through the skin.
2,4-Dinitrotoluene (CAS 121-14-2)	Can be absorbed through the skin.
2,6-Dinitrotoluene (CAS 606-20-2)	Can be absorbed through the skin.
Acetonitrile (CAS 75-05-8)	Can be absorbed through the skin.
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)	Can be absorbed through the skin.
m-Dinitrobenzene (CAS 99-65-0)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.
m-Nitrotoluene (CAS 99-08-1)	Can be absorbed through the skin.
Nitrobenzene (CAS 98-95-3)	Can be absorbed through the skin.
o-Nitrotoluene (CAS 88-72-2)	Can be absorbed through the skin.
p-Nitrotoluene (CAS 99-99-0)	Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2,4,6-Trinitrotoluene (CAS 118-96-7)	Can be absorbed through the skin.
2,4-Dinitrotoluene (CAS 121-14-2)	Can be absorbed through the skin.
2,6-Dinitrotoluene (CAS 606-20-2)	Can be absorbed through the skin.
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)	Can be absorbed through the skin.
m-Dinitrobenzene (CAS 99-65-0)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

m-Nitrotoluene (CAS 99-08-1)	Can be absorbed through the skin.
Nitrobenzene (CAS 98-95-3)	Can be absorbed through the skin.
o-Nitrotoluene (CAS 88-72-2)	Can be absorbed through the skin.
p-Nitrotoluene (CAS 99-99-0)	Can be absorbed through the skin.
Tetryl (CAS 479-45-8)	Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

2,4,6-Trinitrotoluene (CAS 118-96-7)	Can be absorbed through the skin.
2,4-Dinitrotoluene (CAS 121-14-2)	Can be absorbed through the skin.
2,6-Dinitrotoluene (CAS 606-20-2)	Can be absorbed through the skin.
m-Dinitrobenzene (CAS 99-65-0)	Can be absorbed through the skin.
m-Nitrotoluene (CAS 99-08-1)	Can be absorbed through the skin.
Nitrobenzene (CAS 98-95-3)	Can be absorbed through the skin.
o-Nitrotoluene (CAS 88-72-2)	Can be absorbed through the skin.
p-Nitrotoluene (CAS 99-99-0)	Can be absorbed through the skin.
Tetryl (CAS 479-45-8)	Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Eye wash fountain and emergency showers are recommended.

Individual protection measures, such as personal protective equipment

Eye/face protection	Chemical respirator with organic vapor cartridge and full facepiece.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	Chemical respirator with organic vapor cartridge and full facepiece.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Not available.

Odor Not available.

Odor threshold Not available.

pH Not available.

Melting point/freezing point -144.04 °F (-97.8 °C) estimated

Initial boiling point and boiling range 148.46 °F (64.7 °C) estimated

Flash point 42.0 °F (5.6 °C) estimated

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	3 % estimated
Flammability limit - upper (%)	36 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapor pressure 143.85 hPa estimated

Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	867.2 °F (464 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.79387 g/cm3 estimated
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidizing properties	Not oxidizing.
Percent volatile	98.9 % estimated
Specific gravity	0.79 estimated
VOC	99.05 % estimated

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Toxic if inhaled. May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation.
Skin contact	Toxic in contact with skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Convulsions. Headache. Dizziness. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Toxic in contact with skin. Toxic if swallowed.

Components	Species	Test Results
2,4-Dinitrotoluene (CAS 121-14-2)		
<u>Acute</u>		
Oral		
LD50	Rat	268 mg/kg
2,6-Dinitrotoluene (CAS 606-20-2)		
<u>Acute</u>		
Oral		
LD50	Rat	177 mg/kg

Components	Species	Test Results
Acetonitrile (CAS 75-05-8)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	390 mg/kg
Oral		
LD50	Rat	158 mg/kg
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)		
<u>Acute</u>		
Oral		
LD50	Rat	100 mg/kg
m-Nitrotoluene (CAS 99-08-1)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 1157 mg/kg, 24 Hours
Oral		
LD50	Rat	1784 mg/kg
Nitrobenzene (CAS 98-95-3)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	760 mg/kg, 24 Hours
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (CAS 2691-41-0)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	634.12 mg/kg, 24 Hours
o-Nitrotoluene (CAS 88-72-2)		
<u>Acute</u>		
Oral		
LD50	Rat	891 mg/kg
p-Nitrotoluene (CAS 99-99-0)		
<u>Acute</u>		
Dermal		
LD50	Rat	> 750 mg/kg, 24 Hours

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity May cause genetic defects.

Carcinogenicity May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

2,4,6-Trinitrotoluene (CAS 118-96-7)	3 Not classifiable as to carcinogenicity to humans.
2,4-Dinitrotoluene (CAS 121-14-2)	2B Possibly carcinogenic to humans.
2,6-Dinitrotoluene (CAS 606-20-2)	2B Possibly carcinogenic to humans.
m-Nitrotoluene (CAS 99-08-1)	3 Not classifiable as to carcinogenicity to humans.
Nitrobenzene (CAS 98-95-3)	2B Possibly carcinogenic to humans.
o-Nitrotoluene (CAS 88-72-2)	2A Probably carcinogenic to humans.
p-Nitrotoluene (CAS 99-99-0)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Nitrobenzene (CAS 98-95-3)

Reasonably Anticipated to be a Human Carcinogen.

o-Nitrotoluene (CAS 88-72-2)

Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	Causes damage to organs.
Specific target organ toxicity - repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Causes damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components		Species	Test Results
1,3,5-Trinitrobenzene (CAS 99-35-4)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	2.63 - 3.38 mg/l, 48 hours
Fish	LC50	Channel catfish (Ictalurus punctatus)	0.34 - 0.43 mg/l, 96 hours
2,4,6-Trinitrotoluene (CAS 118-96-7)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	11.9 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	1.6 mg/l, 96 hours
2,4-Dinitrotoluene (CAS 121-14-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	22.5 - 30.5 mg/l, 48 hours
Fish	LC50	Zebra danio (Danio rerio)	10 - 60 mg/l, 96 hours
2,6-Dinitrotoluene (CAS 606-20-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	21.7 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	17.2 - 20.2 mg/l, 96 hours
2-Amino-4,6-dinitrotoluene (CAS 35572-78-2)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	4.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	5 - 15 mg/l, 96 hours
4-Amino-2,6-dinitrotoluene (CAS 19406-51-0)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	5.2 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	5 - 15 mg/l, 96 hours
Acetonitrile (CAS 75-05-8)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)			
Aquatic			
Crustacea	EC50	Scud (Gammarus fasciatus)	> 100 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	2 - 7.1 mg/l, 96 hours
m-Dinitrobenzene (CAS 99-65-0)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	24 - 31.4 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	1.2 - 2.3 mg/l, 96 hours

Components	Species	Test Results
Methanol (CAS 67-56-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) > 10000 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) > 100 mg/l, 96 hours
m-Nitrotoluene (CAS 99-08-1)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 7.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 19 - 50 mg/l, 96 hours
Nitrobenzene (CAS 98-95-3)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 25.6 - 42 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) 36 - 49 mg/l, 96 hours
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (CAS 2691-41-0)		
Aquatic		
Crustacea	EC50	Scud (Gammarus fasciatus) > 32 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 8.8 - 26 mg/l, 96 hours
o-Nitrotoluene (CAS 88-72-2)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 5.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 19 - 50 mg/l, 96 hours
p-Nitrotoluene (CAS 99-99-0)		
Aquatic		
Crustacea	EC50	Water flea (Daphnia magna) 7.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas) 19 - 50 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

1,3,5-Trinitrobenzene	1.1
2,4,6-Trinitrotoluene	1.6
2,4-Dinitrotoluene	1.98
2,6-Dinitrotoluene	2.1
Acetonitrile	-0.34
Hexahydro-1,3,5-trinitro-1,3,5-triazine	0.87
m-Dinitrobenzene	1.49
Methanol	-0.77
m-Nitrotoluene	2.45
Nitrobenzene	1.85
o-Nitrotoluene	2.3
p-Nitrotoluene	2.37

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Acetonitrile RQ = 10142 LBS, Methanol RQ = 10142 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Acetonitrile, Methanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Acetonitrile, Methanol)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT





15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

1,3,5-Trinitrobenzene (CAS 99-35-4) 1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,3,5-Trinitrobenzene (CAS 99-35-4)	Listed.
2,4-Dinitrotoluene (CAS 121-14-2)	Listed.
2,6-Dinitrotoluene (CAS 606-20-2)	Listed.
Acetonitrile (CAS 75-05-8)	Listed.
m-Dinitrobenzene (CAS 99-65-0)	Listed.
Methanol (CAS 67-56-1)	Listed.
m-Nitrotoluene (CAS 99-08-1)	Listed.
Nitrobenzene (CAS 98-95-3)	Listed.
o-Nitrotoluene (CAS 88-72-2)	Listed.
p-Nitrotoluene (CAS 99-99-0)	Listed.

SARA 304 Emergency release notification

Nitrobenzene (CAS 98-95-3) 1000 LBS

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

- Immediate Hazard - Yes
- Delayed Hazard - Yes
- Fire Hazard - Yes
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
Nitrobenzene	98-95-3	1000	10000		

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
2,4-Dinitrotoluene	121-14-2	0.1
2,6-Dinitrotoluene	606-20-2	0.1
Acetonitrile	75-05-8	49.3
Methanol	67-56-1	49.3
Nitrobenzene	98-95-3	0.1
o-Nitrotoluene	88-72-2	0.1

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

- 2,4-Dinitrotoluene (CAS 121-14-2)
- Acetonitrile (CAS 75-05-8)
- Methanol (CAS 67-56-1)
- Nitrobenzene (CAS 98-95-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.**US state regulations** WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

2,4,6-Trinitrotoluene (CAS 118-96-7)	Listed: December 19, 2008
2,4-Dinitrotoluene (CAS 121-14-2)	Listed: July 1, 1988
2,6-Dinitrotoluene (CAS 606-20-2)	Listed: July 1, 1995
Nitrobenzene (CAS 98-95-3)	Listed: August 26, 1997
o-Nitrotoluene (CAS 88-72-2)	Listed: May 15, 1998

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1)	Listed: March 16, 2012
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US - California Proposition 65 - CRT: Listed date/Female reproductive toxin

2,4-Dinitrotoluene (CAS 121-14-2)	Listed: August 20, 1999
2,6-Dinitrotoluene (CAS 606-20-2)	Listed: August 20, 1999

US - California Proposition 65 - CRT: Listed date/Male reproductive toxin

2,4-Dinitrotoluene (CAS 121-14-2)	Listed: August 20, 1999
2,6-Dinitrotoluene (CAS 606-20-2)	Listed: August 20, 1999
m-Dinitrobenzene (CAS 99-65-0)	Listed: July 1, 1990
Nitrobenzene (CAS 98-95-3)	Listed: March 30, 2010

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

2,4,6-Trinitrotoluene (CAS 118-96-7)
2,4-Dinitrotoluene (CAS 121-14-2)
2,6-Dinitrotoluene (CAS 606-20-2)
Acetonitrile (CAS 75-05-8)
Hexahydro-1,3,5-trinitro-1,3,5-triazine (CAS 121-82-4)
m-Dinitrobenzene (CAS 99-65-0)
Methanol (CAS 67-56-1)
Nitrobenzene (CAS 98-95-3)
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (CAS 2691-41-0)
o-Nitrotoluene (CAS 88-72-2)
Tetryl (CAS 479-45-8)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	06-04-2018
Revision date	06-05-2018
Version #	02

NFPA ratings

Health: 4
Flammability: 3
Instability: 0

Disclaimer

The above information is believed to be correct on the date it was last revised and must not be considered all inclusive. The information has been obtained only by a search of available literature and is only a guide for handling the chemicals. OSHA regulations require that if other hazards become evident, an upgraded SDS must be made available to the employee within three months. RESPONSIBILITY for updates lies with the employer and not with CHEM SERVICE, Inc.

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