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ISO 9001: 2015

MATERIAL SAFETY DATA SHEET

Section 1 - Chemical Product and Company Identification

Nitro ethane, 99.5%

Code N 1830

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
79-24-3	Nitroethane	98+	201-188-9

Section 3 - Hazards Identification

Appearance: Clear liquid. Flash Point: 28 deg C.

Warning! Flammable liquid and vapor. Harmful if inhaled or swallowed. May cause eye, skin, and respiratory tract irritation. May cause central nervous system depression. Hygroscopic (absorbs moisture from the air).

Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

Eye: May cause eye irritation.

Skin: Causes skin irritation. May cause dermatitis. May be harmful if absorbed through the skin.

Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood.

Ingestion of large amounts may cause CNS depression. May form methemoglobin which in sufficient concentration causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

Inhalation: May cause respiratory tract irritation. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. Harmful if inhaled.

Chronic: Effects may be delayed.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen.

If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Do not use mouth-to-mouth resuscitation if victim ingested or 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.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire.

Flammable liquid and vapor. May explode when heated.

Extinguishing Media: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material. Use water spray to cool fire-exposed containers. Water may be ineffective.

Do NOT use dry chemical. Do NOT use straight streams of water.

Flash Point: 28 deg C (82.40 deg F)

Autoignition Temperature: 414 deg C (777.20 deg F)

Explosion Limits, Lower:3.40 vol %

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 3

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Cover with sand, dry lime or soda ash and place in a closed container for disposal.

Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment.
Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Avoid ingestion and inhalation.
Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam.
Storage: Keep away from heat, sparks, and flame. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Store protected from moisture.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Nitroethane	100 ppm TWA	100 ppm TWA; 310 mg/m ³ TWA	1000 ppm IDLH 100 ppm TWA; 310 mg/m ³ TWA

OSHA Vacated PELs: Nitroethane: 100 ppm TWA; 310 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Clear

Odor: None reported.

pH: Not available.

Vapor Pressure: 21 mbar @ 20 C

Vapor Density: 2.59

Evaporation Rate: Not available.

Viscosity: 0.677 cP @20 deg C

Boiling Point: 112.0 - 116.0 deg C @ 760.00m

Freezing/Melting Point: -90 deg C

Decomposition Temperature: 335 - 382 deg C

Solubility: 4.6 G/100 ML (20°C)

Specific Gravity/Density: 1.0450g/cm³

Molecular Formula: C₂H₅NO₂

Molecular Weight: 75.06

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

May explode when heated. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat, strong oxidants, exposure to moist air or water.

Incompatibilities with Other Materials: Moisture, water, amines, bases, strong acids, strong alkalies, strong oxidizing agents,

hydrocarbons, combustible materials,

metal oxides, hydroxides, plastics, calcium hydroxide, sodium hydroxide, potassium hydroxide, brass, copper, activated carbon, clay-based absorbents.

Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen gas.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 79-24-3: KI5600000

LD50/LC50:

CAS# 79-24-3:

Oral, mouse: LD50 = 860 mg/kg;

Oral, rat: LD50 = 1100 mg/kg;

Carcinogenicity:

CAS# 79-24-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Expected to have very high mobility in soil. May adsorb to organic material present in soil reducing mobility. Expected to biodegrade under aerobic conditions but not under anaerobic conditions in soil and water. Volatilization may be important from moist soil surfaces.
Not expected to adsorb to suspended solids and sediment in water. However, may adsorb to organic sediments present in water. May volatilize from water surfaces.
Bioconcentration is expected to be low. Expected to exist solely as a vapor in atmosphere. Degraded in the atm by rxn with photochemically-produced hydroxyl radicals.
Physical: No information available.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.
Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

Shipping Name:	US DOT NITROETHANE	Canada TDG NITROETHANE
Hazard Class:	3	3
UN Number:	UN2842	UN2842
Packing Group:	III	III
Additional Info:		FLASHPOINT 28 C

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 79-24-3 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 79-24-3: Effective 4/13/89, Sunset 12/19/95

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 79-24-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

- R 10 Flammable.
- R 20/22 Harmful by inhalation and if swallowed.

Safety Phrases:

- S 25 Avoid contact with eyes.
- S 41 In case of fire and/or explosion do not breathe fumes.
- S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 79-24-3: 2

Canada - DSL/NDSL

CAS# 79-24-3 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 79-24-3 is listed on the Canadian Ingredient Disclosure List.

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

