

**1. PRODUCT AND COMPANY IDENTIFICATION**

<b>Product Name:</b> Cyanoacrylate Remover 14	<b>Product Type:</b> Solvent
<b>Company :</b> Hernon Manufacturing, Inc. 121 Tech Drive Sanford, FL 32771	<b>Contact Information:</b> Telephone: 407-322-4000 Emergency Telephone: 800-255-3924 Web Site: www.hernon.com

**2. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

Physical state: Liquid  
 Color: Colorless  
 Odor: Characteristic

**HMIS:**  
 HEALTH: 2  
 FLAMMABILITY: 3  
 PHYSICAL HAZARD: 1  
 Personal Protection: See Section 8

**WARNING:** FLAMMABLE LIQUID AND VAPOR  
 MAY BE HARMFUL IF INHALED OR INGESTED.

**Primary Routes of Entry:** Skin, Inhalation, Eyes

**Signs and Symptoms of Exposure:**

**Inhalation:** Vapor concentrations are attainable which could be hazardous on single exposure. Excessive exposure may cause irritation to upper respiratory tract (nose and throat). May cause central nervous system effects. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness.

**Skin contact:** Prolonged exposure not likely to cause significant skin irritation.

**Eye contact:** May cause slight eye irritation. Corneal injury is unlikely. Vapor may cause eye irritation experienced as mild discomfort and redness.

**Ingestion:** Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen.

**Existing Conditions Aggravated by Exposure:** Methemoglobinemia may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemia.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Ingredients</u>	<u>%</u>	<u>ACGIH TLV</u>	<u>OSHA PEL</u>	<u>OTHER</u>
Nitroethane	60-100	100 ppm TWA	310 mg/m <sup>3</sup> 100 ppm	None

**4. FIRST AID MEASURES**

<b>Ingestion:</b>	If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
<b>Inhalation:</b>	Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.
<b>Skin Contact:</b>	Wash skin with plenty of water.
<b>Eye Contact:</b>	Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
<b>Notes to Physician:</b>	Maintain adequate ventilation and oxygenation of the patient. Administer 100% oxygen to relieve headache and a general sense of weakness. Determine methemoglobin concentration of blood every 3 to 6 hours for first 24 hours. It should return to normal within 24 hours. The treatment of toxic methemoglobinemia may include the intravenous administration of methylene blue. If methemoglobin >10-20% consider methylene blue 1-2 mg/kg body weight as 1% solution intravenously over 5 minutes followed by 15-30 cc flush (Price D, Methemoglobinemia, Goldfrank Toxicologic Emergencies, 5th ed., 1994). Also provide 100% oxygen. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

**5. FIRE FIGHTING MEASURES**

<b>Flash Point (TCC):</b>	≥ 30.5°C (≥ 86.9°F)
<b>Recommended Extinguishing Agents:</b>	Water fog or fine spray. Dry chemical fire extinguishers rated tri-class ABC (containing monoammonium phosphate). Do not use bicarbonate based dry chemical extinguishers (Class BC). Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. Straight or direct water streams may not be effective to extinguish fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
<b>Special Firefighting Procedures:</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance. Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water may not be effective in extinguishing fire. Do not use direct water stream. May spread fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Hand held ABC type dry chemical, carbon dioxide or water extinguishers may be used for small fires. Do not use bicarbonate based dry chemical extinguishers (Class BC). Reaction with alkaline bicarbonates or other strong alkalis can form salts that may reignite when dry. If bicarbonate extinguishers are used and salts are formed, keep residues wet with water and dispose of in accordance with local regulations. Eliminate ignition sources. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.
<b>Hazardous Combustion Products:</b>	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

**Unusual Fire or Explosion Hazards:**

Container may rupture from gas generation in a fire situation. Contamination with sensitizing compounds (amines, alkalis, acids, heavy metal salts) can cause formation of shock sensitive or highly reactive materials. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Flammable mixtures may exist within the vapor space of containers at room temperature. Flammable concentrations of vapor can accumulate at temperatures above flash point.

**Flammable/Explosive Limits – lower %:**

> 3.4 (V) Literature

**Flammable/Explosive Limits – upper %:**

No test data available.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:**

Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. For large spills, warn public of downwind explosion hazard. Refer to Section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Measures for Environmental Protection:**

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**Clean-up Measures:**

Contain spilled material if possible. Vapor explosion hazard. Keep out of sewers. Use non-sparking tools in cleanup operations. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Check area with combustible gas detector before reentering area. Ground and bond all containers and handling equipment. Pump with explosion-proof equipment. If available, use foam to smother or suppress. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

**7. HANDLING AND STORAGE**

**Handling:**

Keep away from heat, sparks and flame. Avoid contact with strong alkalis, amines or acids. Avoid contact with eyes. Avoid breathing vapor. Do not swallow. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. No smoking, open flames or sources of ignition in handling and storage area. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur. Never use air pressure for transferring product. Electrically bond and ground all containers and equipment. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Use of non-sparking or explosion-proof equipment may be necessary, depending upon the type of operation.

**Other Precautions:** Do not use positive displacement pumps with this material.

**Storage:**

Minimize sources of ignition, such as static build-up, heat, spark or flame. Keep container closed. Do not store in: Brass. Copper. Copper alloys. Lead and its alloys. Corrosive when wet (greater than 0.2 weight percent). Store in stainless steel or aluminum if wet. See Section 10 for more specific information.

**8. EXPOSURE CONTROLS, PERSONAL PROTECTION**

<b>Eye/Face Protection:</b>	Use safety glasses. If exposure causes eye discomfort, use a full-face respirator.
<b>Skin Protection:</b>	Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.
<b>Respiratory Protection:</b>	Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.
<b>Engineering Controls:</b>	Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odor:</b>	Characteristic
<b>Vapor Pressure:</b>	15.6 mm Hg at 20°C
<b>Vapor Density:</b>	2.58
<b>Solubility in Water:</b>	4.5% at 20°C
<b>Specific Gravity:</b>	1.045 at 25°C
<b>Boiling Point:</b>	114°C
<b>Evaporation Rate (Ether = 1)</b>	1.2
<b>pH:</b>	6.0

**10. STABILITY AND REACTIVITY**

<b>Stability:</b>	Unstable at elevated temperatures. Avoid temperatures above 80 °C (176 °F). Product may decompose and possibly detonate if exposed to extreme shock under heavy confinement at high temperature. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid.
<b>Hazardous Polymerization:</b>	Will not occur
<b>Hazardous Decomposition Products:</b>	May include and are not limited to: Ethylene. Nitrogen oxides.
<b>Incompatibility:</b>	Avoid unintended contact with sensitizing chemicals such as: Alkali metal hydroxides. Amines. Acids. Heavy metal oxides. Carbonates. Sensitizing chemicals greatly decrease the stability of the material. Salts formed by the reaction of these materials may self ignite when dry. If product reacts with sensitizing materials to form salts, keep salts wet with water and dispose of in accordance with local regulations. Avoid unintended contact with: Aldehydes. Alkenes. Reducing agents. Strong oxidizers. Avoid contact with metals such as: Brass. Copper. Copper alloys. Lead. Avoid contact with absorbent materials such as: Clay-based absorbents. Activated carbon.

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity:** **Ingestion:** LD50, Rat, male 1,428 mg/kg LD50, Rat, female 1,083 mg/kg  
**Skin Absorption:** LD50, Rabbit > 2,000 mg/kg  
**Inhalation:** LC50, 6 h, Rat > 2,200 - < 13,000 ppm

**Sensitization:** **Skin:** Did not cause allergic skin reactions when tested in guinea pigs.

**Repeated Dose Toxicity:** May cause methemoglobinemia, thereby impairing the blood's ability to transport oxygen. In animals, effects have been reported on the following organs: Spleen. Kidney. Liver. Nasal tissue.

**Chronic Toxicity and Carcinogenicity:** Did not cause cancer in laboratory animals.

**Developmental Toxicity:** Limited data did not indicate an effect on fetal development in laboratory animals.

**Reproductive Toxicity:** Limited data in laboratory animals suggest that the material does not affect reproduction.

**Genetic Toxicology:** In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

**12. ECOLOGICAL INFORMATION**

**Chemical Fate:**

**Movement & Partitioning:** Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).  
**Henry's Law Constant (H):** 4.76E-5 atm\*m3/mole; 25 °C Measured  
**Partition coefficient, n-octanol/water (log Pow):** 0.18 Measured  
**Partition coefficient, soil organic carbon/water (Koc):** 16 Estimated  
**Bioconcentration Factor (BCF):** 1.0; fish; Measured

**Persistence and Degradability:** Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

**Indirect Photodegradation with OH Radicals**

Rate Constant	Atmospheric Half-Life	Method
0.15E-12 cm3/s	72 d	Estimated

**OECD Biodegradation Tests:**

Biodegradation	Exposure Time	Method
< 0.1%	28 d	OECD 301D
24%	5 d	GSF Activated Sludge

**Theoretical Oxygen Demand:** 1.49 mg/mg

**Ecotoxicity:** Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in most sensitive species tested).

**Fish Acute & Prolonged Toxicity:** LC50, fathead minnow (Pimephales promelas), 96 h: 596 mg/l  
 LC50, zebra fish (Brachydanio rerio), 48 h: 880 mg/l

**Aquatic Invertebrate Acute Toxicity:** LC50, water flea Daphnia magna, 48 h: 839 mg/l  
 LC50, saltwater mysid Mysidopsis bahia, 96 h: 433 mg/l

**Aquatic Plant Toxicity:** EC50, alga Scenedesmus sp., biomass growth inhibition, 72 h: 6 mg/l

**13. DISPOSAL CONSIDERATIONS**

**Recommended methods of disposal:** Dispose of according to Federal, State and Local regulations.  
**EPA Hazardous Waste Number:** D001: Ignitable

**14. TRANSPORTATION INFORMATION**

**U.S. Dept. of Transportation Ground (49 CFR):**

**Proper Shipping Name** Nitroethane (Consumer Commodity, ORM-D, no more than 5 liters)  
**Hazard Class or Division:** 3  
**Identification Number** UN2842  
**Packing group:** III

**International Air Transportation (ICAO/IATA):**

**Proper Shipping Name:** Nitroethane  
**Hazard Class or Division:** 3  
**Identification Number** UN2842  
**Packing group:** III

**WaterTransportation (IMO/IMDG):**

**Proper Shipping Name:** Nitroethane  
**Hazard Class or Division:** 3  
**Identification Number** UN2842  
**Packing group:** III  
**Marine pollutant:** No

**15. REGULATORY INFORMATION**

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory  
**CERCLA/SARA 313:** This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372): None  
**California Proposition 65:** This product contains a chemical(s) known to the state of California to cause cancer

**16. OTHER INFORMATION**

**Prepared By:** Jerry Litteral  
**Title:** Director - Quality & Development

**DISCLAIMER:** Some of the information presented is from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.