

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name : PUMA[®] 2131
Common Chemical Name : triethylenediamine (TEDA)
(diethylene glycol)
Supplier : ExpoMix Corporation
1099 Brown Street, Unit 203
Wauconda, IL 60084
USA
Ph: (847) 487-0730
Fx: (847) 487-0217
Emergency Telephone : 800-424-9300 - CHEMTREC

SECTION 2 - INGREDIENTS

Chemical Name	CAS	EINECS	Amount
triethylenediamine	280-57-9	205-999-9	~33%
diethylene glycol	111-46-6	246-770-3	~67%

Chemical Family : Tertiary amine in solvent
Empirical Formula : Mixture
Intended Use : Catalyst

Occupational Exposure Limit(s), if available, are listed in section 8.

SECTION 3 - HEALTH HAZARDS

HMIS HEALTH **2** **FLAMMABILITY** **1** **REACTIVITY** **0**

Hazards : Severe eye irritant. Mild respiratory tract irritant.
Moderate skin irritant.
Routes of Exposure : Eye and Skin contact. Ingestion. Skin absorption.
Exposure Standards : Exposure limits not established by OSHA (ACGIH).
Maintain air contaminant concentrations in the
workplace at the lowest possible levels.

SECTION 3 - HEALTH HAZARDS (CONT.)

Human Health Hazards	: Contact with eyes causes severe irritation and pain. Contact with the skin may cause dryness (deffating), itching and/or rash. Contact with skin causes irritation, redness and discomfort which is transient. Inhalation of vapor and mists may cause irritation in the respiratory tract. Coughing and chest pain may result. Risk of exposure to hazardous concentrations of vapor under normal working conditions in a well ventilated space is minimal. However, conditions such as spraying, or sudden release of hot liquid, which generate an aerosol, mists or fog should be avoided. Repeated and/or prolonged exposures may result in: kidney disorders (such as edema, or proteinuria), adverse eye effects (such as conjunctivitis or corneal damage), and adverse skin effects (such as deffating, rash or irritation). Dryness of nasal passages may be experienced when material is inhaled over a long period of time.
Medical Conditions Generally Aggravated by Exposure	: Kidney disorders, eye disease, skin disorders and allergies.
Carcinogens Under OSHA ACGIH, NTP, IARC, Other	: This product contains no carcinogens in concentrations of 0.1 percent or greater.

SECTION 4 - FIRST AID

Effects and Symptoms	
Ingestion	: If swallowed call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by medical personnel. Never give anything by mouth to an unconscious person. Do NOT apply mouth-to-mouth respiration.
Inhalation	: Move patient to fresh air. If breathing has stopped or is labored give assisted respiration. Supplemental oxygen may be indicated. Seek medical advice. Prevent aspiration of vomit. Turn victim's head to the side.
Skin Contact	: Remove contaminated clothing and shoes. Remove product and immediately flush affected area with water for at least 15 minutes. Destroy contaminated leather apparel. Cover the affected area with a sterile dressing or clean sheeting and transport victim for medical care. Do not apply greases and ointments. Control shock, if present. Launder contaminated clothing prior to use.

SECTION 4 - FIRST AID (CONT.)

Eye Contact : Hold eye lids apart and immediately flush eyes with plenty of water for at least 15 minutes. Seek medical advice.

SECTION 5 - FIRE AND EXPLOSION DATA

Extinguishing Media : Ignition will give rise to a Class B fire. In case of large fire use: alcohol foam, water spray. In case of small fire use: carbon dioxide (CO₂), dry chemical, dry sand or limestone.

Protection of Fire-Fighters : Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. May generate toxic or irritating combustion products. Vapor may form explosive mixtures with air. Contact of liquid with skin must be prevented. May spread on the surface of water. Sudden reaction and fire may result if product is mixed with an oxidizing agent. May generate carbon monoxide gas, nitrogen oxide gases and ammonia gas. Retain expended liquids from fire fighting for later disposal.

Fire Hazard Classification (OSHA/NFPA) : Class III B

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Containment Techniques : Stop the leak, if possible. Reduce vapor spreading with water spray. Shut off and remove all ignition sources. Construct a dike to prevent spreading. Protect workers with water spray.

Personal Precautions : Evacuate all personnel downwind from the spill. Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Evacuate the area.

Environmental Precautions : Do NOT release product to drain. Observe all Federal, State and local environmental regulations for appropriate product disposal.

SECTION 6 - ACCIDENTAL RELEASE MEASURES (CONT.)

- Methods for Cleaning up** : If recovery is not feasible, absorb product with dry soil, sand or non-reactive absorbent and place it in an appropriate waste chemical container for disposal. Flush area with water spray. Transfer to containers by suction. Place in metal containers for recovery and disposal.
- Ventilate area and wash spill site after material pickup is complete. Clean-up personnel must be equipped with self contained breathing apparatus and butyl rubber protective clothing. For large spills, recover spilled material with a vacuum truck.

SECTION 7 - HANDLING AND STORAGE

- Handling** : Avoid contact with skin or eyes. Avoid breathing of vapors. Handle product in a well ventilated work space and do not eat or drink. Keep containers closed when empty. Empty containers may contain explosive vapors. Flush empty containers with water to remove residual combustible or flammable liquid and vapors. Smoking in area is prohibited.
- Storage** : Keep product away from acids, oxidants, heat, flames and sparks. Keep in cool, dry ventilated storage and in closed containers. Ground all containers during transfer. Store in steel containers. Do not store in reactive metal containers. Recommended suitable container materials include plastic, stainless and carbon steels.
- Other Precautions** : Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations (OSHA).

SECTION 8 - PERSONAL PROTECTION AND EXPOSURE CONTROLS

Engineering Measures	: Explosion proof and provide area with 12-30 air changes per hour.
Hygienic Measures	: Provide readily accessible eye wash stations and safety showers. Wash at the end of each work shift and before eating, smoking or using the bathroom. Promptly remove clothing that becomes contaminated. Discard contaminated leather articles. Launder or discard contaminated clothing.
Occupational Exposure Limits	: No Data.
Personal Protective Equipment Respiratory System	: Not required under normal conditions in a well-ventilated area. Use appropriate NIOSH/MSHA-approved respirator during repair and cleaning of equipment, and during transfer or discharge of the product.
Skin and Body	: Impervious clothing. Slicker suit. Rubber boots. Full rubber suit (rain gear). Butyl or latex.
Hands	: Neoprene rubber gloves. Impermeable gloves. Cuffed butyl rubber gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.
Eyes	: Full face shield with goggles underneath.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Guaranteed Values

triethylenediamine	: 33% min.
Water	: 0.25% max.

Typical Values

Physical State	: Liquid at processing temperature
Color	: Colorless at processing temperature
Odor	: Ammonia-like
pH	: 10.2
Boiling Point	: >149 °C (>300 °F)
Specific Gravity (Water = 1)	: 1.03
Solubility in Water	: Completely (100%)
Flash Point (Closed Cup)	: >100 °C (>230 °F)
Vapor Pressure	: 2.00 mmHg @ 21 °C (70 °F)

SECTION 10 - STABILITY AND REACTIVITY

Stability	: Stable
Conditions to Avoid (if instable)	: Not Applicable
Materials to Avoid	: Mineral acids (i.e. sulfuric, phosphoric, etc.). Organic acids (i.e. acetic, citric etc.). Oxidizing agents (i.e. perchlorates, nitrates etc.). Reactive metals (i.e. sodium, calcium, zinc etc.). Sodium or Calcium Hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Dehydrating agents. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Materials reactive with hydroxyl compounds. A reaction accompanied by large heat release occurs when the product is mixed with acids. Heat generated may be sufficient to cause vigorous boiling creating a hazard due to splashing or spattering of hot material.
Hazardous Decomposition	: Nitrogen Oxide can react with water vapor to form nitric acid (TLV = 2ppm). Carbon Monoxide, Carbon Dioxide, and Nitrogen Oxides in a fire. Ammonia when heated. Irritating and toxic fumes at elevated temperatures. Nitric acid in a fire. The decomposition of nitrogen gases (except nitrous oxide) is highly toxic.
Hazardous Polymerization	: Will not occur.

SECTION 11 - TOXICOLOGICAL PROPERTIES

Acute Toxicity

Oral (Rat)	LD50: 3200 mg/kg
Skin (Rabbit)	LD50: >2000 mg/kg
Inhalation (Rat)	LC50: 8.10 mg/l/1hr

Other Data

Industrial chemicals such as this material with acute toxicity values shown above and whose vapors or mists are not likely to be encountered by humans when used in any foreseeable manner would not require a toxic label according to U.S. domestic and international transport regulations. AMES TEST: Negative (activated and non-activated).

Target Organs

Eye
Skin
Kidneys

Irritation Effects Data

Severe irritant to the eyes of a rabbit. Moderate irritant to the skin of a rabbit.

SECTION 11 - TOXICOLOGICAL PROPERTIES (CONT.)

Chronic/Subchronic Data

No delayed, subchronic or chronic test data are shown.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity Effects

No Data.

Other Ecological Information

No Data.

SECTION 13 - DISPOSAL CONSIDERATIONS

Methods of Disposal : Comply with all federal, state and local environmental regulations.

Please refer to the relevant EU regulations, in particular the guidelines / decisions of the Council regarding handling of wastes (e.g. 75/442/EEC, 91/689/EEC, 94/67/EC, 94/904/EC) as implemented in National regulations.

Must be disposed of by special means, e.g. suitable incineration, in accordance with local regulations.

SECTION 14 - TRANSPORT INFORMATION

DOT Non-Bulk Shipping Name : Chemicals, N.O.I. - Not DOT Regulated

DOT Bulk Shipping : Refer to Bill of Lading

IMO Shipping Data : Refer to Bill of Lading

ICAO/IATA Shipping Data : Chemicals, N.O.I. - Not DOT Regulated

SECTION 15 - REGULATORY INFORMATION

US Federal Regulations**Toxic Substances Control Act (TSCA)**

All components are included in the EPA TSCA Chemical Substance Inventory.

Toxic Substances Control Act (TSCA) 12(b) Component(s)

None

OSHA Hazard Communication Standard (29 CFR1910.1200) hazard class(es)

Irritant. Kidney toxin.

EPA SARA Title III Section 312 (40CFR370) hazard class

Immediate Health Hazard.

EPA SARA Title III Section 313 (40CFR372) toxic chemicals above “de minimis” level

None

State Regulations

Proposition 65 Substances (component(s) known to the State of California to cause cancer and/or reproductive toxicity and subject to warning and discharge requirements under the “Safe Drinking Water and Toxic Enforcement Act of 1986”)

None

New Jersey Trade Secret Registry Number(s)

None

EC Regulations

SECTION 16 - OTHER INFORMATION

The environmental, health and safety information contained herein is given in compliance with statutory obligations and relates only to the substance/preparation described in this material safety data sheet. This data sheet and the information it contains are not intended to supersede any terms and conditions of sale and does not constitute a specification, promise, representation, or warranty, whether express or implied, except to the extent required by applicable law. The environmental, health and safety information contained herein is believed to be accurate based on our current knowledge. It remains the responsibility of the customer to provide a safe workplace and to comply with all applicable laws and regulations.

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