002 01/18/93 TRIETHANOLAMINE 85 LOW FREEZING GRADE

Health: 1
Flammability: 1
Reactivity: 2

PRODUCT NAME:
TRIETHANOLAMINE 85 LOW FREEZING GRADE

MSDS #: DZ87722

1. INGREDIENTS: (% w/w, unless otherwise noted)

Triethanolamine	CAS# 000102-71-6	72%
Diethanolamine	CAS# 000111-42-2	13%
Water	CAS# 007732-18-5	15%

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). In addition, other substances not 'Hazardous' per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

2. PHYSICAL DATA:

BOILING POINT: 235F, 113C
VAP PRESS: < 0.1 mmHg @ 4C
VAP DENSITY: Not determined.
SOL. IN WATER: Completely miscible
SP. GRAVITY: 1.12 @ 25/4C
APPEARANCE: Colorless liquid.
ODOR: Slight ammoniacal odor.
FREEZE POINT: 14F, -10C

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: None
METHOD USED: Setaflash and COC

No flashpoint observed up to the boiling point. Flashpoint of Triethanolamine 85 is 354F, 179C by PMCC.

FLAMMABLE LIMITS
LFL: Not determined.
UFL: Not determined.

EXTINGUISHING MEDIA: Water fog, alcohol foam, CO2, dry chemical.

FIRE & EXPLOSION HAZARDS: Not available.

FIRE-FIGHTING EQUIPMENT: Wear positive-pressure, self-contained breathing apparatus.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) Stable under normal storage conditions.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Strong oxidizers, strong acids. Product may potentially react with various halogenated organic solvents, resulting in temperature and/or pressure increases.

HAZARDOUS DECOMPOSITION PRODUCTS: Possible nitrogen oxides. This product should not be heated above 60C in the presence of aluminum due to excessive corrosion and potential chemical reaction releasing flammable hydrogen gas.

HAZARDOUS POLYMERIZATION: Will not occur.

5. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: Soak up with absorbent material or sand. Scoop into waste container.

DISPOSAL METHOD: Burn in approved incinerator. Follow all local, state, and federal requirements for disposal.

6. HEALTH HAZARD DATA:

EYE: May cause moderate irritation with corneal injury.

SKIN CONTACT: Prolonged or repeated exposure may cause skin irritation, even a burn.

SKIN ABSORPTION: A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. The LD50 for skin absorption in rabbits is >2000 mg/kg.

INGESTION: Single dose oral toxicity is low. The oral LD50 for rats is >4000 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts amounts larger than that may cause injury.

INHALATION: At room temperature, exposures to vapors are unlikely due to physical properties; higher temperatures may generate vapor levels sufficient to cause irritation and other effects.

SYSTEMIC & OTHER EFFECTS: Observations in animals include liver and kidney effects. Results from repeated exposure tests on diethanolamine in laboratory animals include anemia (rats) and effects on kidney (rats and mice) and liver (mice). Heart and nervous system effects were also observed in these animals given exaggerated doses. Changes in other organs, causes of which are nonspecific, were judged secondary to the poor health of the animals due to the extremely high doses of diethanolamine given.

CANCER INFORMATION: Triethanolamine did not cause cancer in long-term animal studies.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Results of in vitro (test tube) mutagenicity tests have been negative on components.

7. FIRST AID:

EYES: Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel.

SKIN: Wash off in flowing water or shower.

INGESTION: Induce vomiting if large amounts are ingested. Consult medical personnel.

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINE(S): OSHA PEL and ACGIH TLV is 3 ppm for Diethanolamine. None established for Triethanolamine.

VENTILATION: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

RESPIRATORY PROTECTION: If respiratory irritation is experienced, use an approved air-purifying respirator.

SKIN PROTECTION: Use protective clothing impervious to this material. Selection of specific items such as gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

EYE PROTECTION: Use chemical goggles.

9. ADDITIONAL INFORMATION:

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid skin and eye contact. Avoid breathing vapors if generated. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed.

MSDS STATUS: Revised sections 6, 8 and 9.

REGULATORY INFORMATION: (Not meant to be all-inclusive--selected regulations represented).
NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See MSD Sheet for health and safety information.

U.S. REGULATIONS
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SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER	CONCENTRATION
DIETHANOLAMINE	000111-42-2	13 %

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard

CANADIAN REGULATIONS
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The Workplace Hazardous Materials Information System (W.H.M.I.S.) Classification for this product is:

D2B

The Transportation of Dangerous Goods Act (T.D.G.A.) classification for this product is:

Not regulated

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