Section 1. Product and Company Identification

Product Name Diethanolamine
CAS Number 111-42-2

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
(914) 654-6800 **(914) 654-6899**
parchem.com **info@parchem.com**

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture
GHS Classification(s)
Acute aquatic toxicity (Category 2)
Acute toxicity, Oral (Category 4)
Chronic aquatic toxicity (Category 3)
Eye damage (Category 1)
Skin irritation (Category 2)
Specific target organ toxicity - repeated exposure (Category 2)

GHS Label Elements

Pictograms:

Signal word: DANGER!

Hazard and precautionary statements
Hazard Statement(s)
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.
H401 Toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.
Precautionary Statement(s)
P273 Avoid release to the environment.
P280 Wear protective gloves and eye and face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P501 Dispose of contents and container to an approved waste disposal plant.

OSHA Hazards: Carcinogen, Harmful by ingestion, Irritant, Target organ effect
Target Organs: Blood, Kidney, Liver

NFPA
Health: 3
Flammability: 1
Instability: 0

Section 3. Composition / Information on Ingredients

Common Name Diethanolamine
Synonym(s) Bis(2-hydroxyethyl)amine; 2,2?-Iminodiethanol; DEA
CAS Number 111-42-2

COMPONENT	CAS NUMBER	CONCENTRATION
Diethanolamine	111-42-2	100%

Section 4. First Aid Measures

General Advice: Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Skin: Wash skin with soap and copious amounts of water. Seek medical attention.
Inhalation: Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.
Eyes: Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.
Ingestion: Do NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

Section 5. Firefighting Measures

Suitable (and Unsuitable) Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific Hazards arising from the Chemical: Carbon oxides and nitrogen oxides expected to be the primary hazardous combustion products.
Special Protective Equipment and Precautions for Firefighters: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Flammable Properties
Flash Point: 176°C (349°F) - closed cup
Autoignition Temperature: 662°C (1224°F)

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Use personal protective equipment. Do not inhale vapors/mist/gas/dust. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental Precautions: Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.
Methods and Materials for Containment and Cleaning Up: Absorb with an inert dry material and place in an appropriate waste disposal container. Keep disposal containers closed when finished.

Section 7. Handling and Storage

Precautions for Safe Handling: Do not get on skin or in eyes. Do not inhale vapor or mist. Take normal fire prevention measures.
Conditions for Safe Storage, Including any Incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Product is air sensitive.

Section 8. Exposure Controls / Personal Protection

Control Parameters
Occupational Exposure Limits
US (ACGIH): TWA 0.46 ppm, 2 mg/m^3 ACGIH Threshold Limit Value
US (NIOSH): TWA 3 ppm, 15 mg/m^3 NIOSH Recommended Exposure Limit

Appropriate Engineering Controls: General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual Protection Measures, such as Personal Protective Equipment
Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.
Skin and Body Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9. Physical and Chemical Properties

Appearance: Liquid.
Odor: Specific data not available
Odor threshold: Specific data not available
pH: 11.0 - 12 at 105 g/l at 25°C (77°F)
Freezing Point: Melting Point: 28°C (82°F)
Initial Boiling Point and Boiling Range: 268°C (514°F)
Flash Point: 176°C (349°F) - closed cup
Evaporation Rate: Specific data not available
Flammability (Solid, Gas): Flammable
Upper/Lower Flammability or Explosive Limits: 9.8% (V) / 1.6% (V)
Vapor Pressure: Specific data not available
Vapor Density: 3.63
Relative Density: 1.097 g/mL at 25°C (77°F)
Solubility(ies): Soluble
Partition Coefficient n-Octanol/Water: Specific data not available
Auto-Ignition Temperature: 662°C (1224°F)
Decomposition Temperature: Specific data not available
Formula: $C_4H_{11}NO_2$
Molecular Weight: 105.14 g/mol

Section 10. Stability and Reactivity

Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: No data available
Conditions to Avoid: No data available
Incompatible Materials: Oxidizing agents, Copper, Zinc, Iron
Hazardous Decomposition Products: Carbon oxides and nitrogen oxides are expected to be, under fire conditions, the primary hazardous decomposition products.

Section 11. Toxicological Information

Product Summary: No data available for the mutagenic, teratogenic, or reproductive effects of the product. No data available to designate product as an aspiration hazard or to cause specific target organ toxicity through single exposure.

Acute Toxicity
LD50 (Dermal) Rabbit 12,200 mg/kg
LD50 (Intravenous) Rat 778 mg/kg
LD50 (Oral) Rat 710 mg/kg

Irritation
Eyes: Rabbit - severe eye irritation/damage - 6 hours
Respiratory or Skin Sensitization: No data available
Skin: Rabbit- mild skin irritation

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System): May cause damage to organs through prolonged or repeated exposure. Route: Oral. Organs: Liver, Blood, Kidneys.

Carcinogenicity
IARC: Not classifiable as a human carcinogen.
ACGIH: No data is available.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Other Hazards
Eyes: Irritating to the eyes.
Ingestion: Harmful if ingested.
Inhalation: Can be harmful if inhaled. Irritating to the respiratory tract.
Skin: Harmful if absorbed through skin. Irritating to skin.

Section 12. Ecological Information

Ecotoxicity
Acute Fish Toxicity: LC50 / 96 hours Fathead Minnow - 1460 mg/L
Toxicity to Daphnia: EC50 / 48 hours Water flea - 55 mg/L
Persistence and Degradability: Readily biodegradable.
Bioaccumulative Potential: No data available
Other Adverse Effects: Product is harmful to aquatic life and can be considered hazardous to the environment through improper use or improper disposal.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

UN Number: 3077
UN Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (Diethanolamine)
Transport Hazard Class(es): 9
Packing Group: III
Reportable Quantity: 100

IMDG
UN Number: Not a dangerous good.
Marine Pollutant: No

IATA
UN Number: Not a dangerous good.

Section 15. Regulatory Information

Safety, Health and Environmental Regulations specific for the Product in Question

OSHA Hazards: Carcinogen, Harmful by ingestion, Irritant, Target organ effect

All Ingredients are on the following Inventories or are exempted from Listing
Australia AICS
Canada DSL
China IECS
European Union EINECS
Japan ENCS/ISHL
Korea ECL
New Zealand NZIoC
Philippines PICCS
United States of America TSCA

SARA 302 Components: SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components: The following components are subject to reporting levels established by SARA Title III, Section 313: DIETHANOLAMINE CAS-No. 111-42-2 Revision Date 2007-07-01
SARA 311/312 Hazards: Acute Health Hazard; Chronic Health Hazard
CERCLA: Diethanolamine CAS-No. 111-42-2, RQ: 100 lbs
Massachusetts Right to Know Components: Diethanolamine CAS-No. 111-42-2 Revision Date 2007-07-01
Pennsylvania Right to Know Components: Diethanolamine CAS-No. 111-42-2 Revision Date 2007-07-01
New Jersey Right to Know Components: Diethanolamine CAS-No. 111-42-2 Revision Date 2007-07-01

California Prop 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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