

Material Safety Data Sheet

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1. Identification of the substance/mixture and of the company/undertaking

Product name: ETHYLENEDIAMINE DIHYDROCHLORIDE

Product code: 10001241

Supplier: Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608; Carestream Health Canada Company, 6 Monogram Place, Suite 200, Toronto, Ontario, M9R 0A1

For Emergency Health Information call, (800) 424-9300

For other information contact 800-328-2910.

Synonyms: None.

2. Hazards identification

WARNING!

CAUSES SKIN AND EYE IRRITATION

MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS

POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

HMIS II Hazard Ratings:

Health - 2, Flammability - 1, Reactivity (Stability) - 0

NFPA Hazard Ratings:

Health - 2, Flammability - 1, Instability - 0

NOTE: HMIS II and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. An asterisk (*), in the HMIS II health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components (CAS-No.)
100	1,2-Ethanediamine, dihydrochloride (333-18-6)

4. First aid measures

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Eyes: Rinse immediately with plenty of water for at least 15 minutes. Get medical attention.

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Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: Drink 1-2 glasses of water. Seek medical attention. Never give anything by mouth to an unconscious person.

5. Fire-fighting measures

Extinguishing Media: water spray, carbon dioxide (CO₂), dry chemical.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Hazardous Combustion Products: Carbon oxides, nitrogen oxides (NO_x) (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: Dust may form explosive mixture in air.

6. Accidental release measures

Methods for cleaning up: Shovel into suitable container for disposal. Avoid dust formation. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Personal precautions: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Dust may form explosive mixture in air. Minimize dust generation and accumulation. Ensure adequate ventilation. Keep away from sources of ignition - No smoking. Refer to NFPA Pamphlet No. 654, "Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries." Keep from contact with oxidizing materials.

Storage: Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls / personal protection

Occupational exposure controls: Not established

Ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels to an acceptable level. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory protection: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. Respirator type: N95 Particulate Filter. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

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Eye protection: Wear safety glasses with side shields (or goggles).

Skin and body protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and Chemical Properties

Physical form: solid (crystalline)

Colour: white

Odour: No data available

Specific gravity: No data available

Vapour pressure: No data available

Vapor density (air = 1): No data available

Volatile fraction by weight: No data available

Melting point/range: No data available

Water solubility: No data available

pH: not applicable

Flash point: not applicable, combustible solid

10. Stability and reactivity

Stability: Stable.

Incompatibility: Strong oxidizing agents.

Hazardous decomposition products: hydrogen chloride.

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

Inhalation: May cause allergic respiratory reaction.

Eyes: Causes eye irritation.

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Skin: Causes skin irritation. May cause allergic skin reaction.

Ingestion: Expected to be a low hazard for recommended handling.

Acute Toxicity Data:

- Oral LD50 (rat): 2,264 mg/kg
- Skin irritation: slight to moderate
- Skin irritation: moderate (repeated skin application)
- Skin Sensitization: none
- Eye irritation: moderate

Definitions for the following section(s): LOEL =lowest-observed-effect level, LOAEL = lowest-observed-adverse-effect, NOAEL = no observed-adverse-effect level, NOEL =no-observed-effect level.

Repeated dose toxicity:

- Oral (12-day, rat): NOEL; 80 mg/kg/day (target organ effects: none)

12. Ecological information

Data for this substance have been used to estimate its environmental impact.

Potential Toxicity:

Fish LC50:	> 100 mg/l
Daphnid EC50:	1 - 10 mg/l
Waste treatment organisms EC50:	> 100 mg/l
Organics Readily Degradable:	Readily biodegradable
Potential Bioaccumulation:	log Pow -3.39 estimated
COD (approximate):	0.55 g/g
BOD (approximate):	0.01 g/g

13. Disposal considerations

Discharge, treatment, or disposal is subject to national, state, provincial, or municipal laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

Not regulated for all modes of transportation.

For more transportation information, go to: <http://ship.carestreamhealth.com>.

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15. Regulatory information

U.S. California Prop. 65: none

Carcinogenicity Classification (components present at 0.1% or more):

International Agency for Research on Cancer (IARC): none
American Conference of Governmental Industrial Hygienists (ACGIH): none
U.S. National Toxicology Program (NTP): none
U.S. Occupational Safety and Health Administration (OSHA): none

Chemical(s) subject to the reporting requirements of U.S. Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372:
none

16. Other information

US/Canadian Label Statements:

WARNING!

CAUSES SKIN AND EYE IRRITATION

MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS

POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

Do not breathe dust.
Avoid contact with eyes, skin, and clothing.
Minimize dust generation and accumulation.
Use only with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. In case of contact, immediately flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Keep out of reach of children.

Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood.

Additional hazard precautions for containers greater than 1 gallon of liquid or 5 pounds of solid:

Since emptied containers retain product residue, follow label warnings even after container is emptied.

IN CASE OF FIRE: Use water spray, carbon dioxide (CO₂), dry chemical

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The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.

R-2, S-2, F-1, C-0