



Carolina International Sales Co., Inc

MATERIAL SAFETY DATA SHEET

2522 Plantation Center Drive
Matthews, NC 28105
(704) 845 9440

www.ciscochem.com

1. PRODUCT NAME: Ethylenediamine
2. CHEMICAL NAME: Ethylenediamine
3. SYNONYMS:
4. CAS NUMBER: 107-15-3
5. COMPOSITION: Ethylenediamine (107-15-3) 100%

**IN CASE OF
TRANSPORT EMERGENCY
CONTACT CHEMTREC
USA: 1-800-424-9300
INTERNATIONAL: 1-703-527-3887**

6. PROPERTIES: APPEARANCE: Colorless liquid.
ODOR: Amine-like odor.
SOLUBILITY: Soluble in water.
SPECIFIC GRAVITY: 0.89 @ 25 C/4 C
PH: 11.9 25 C (25% solution).
% VOLATILE BY VOLUME @ 21 C (70 F): 100
BOILING POINT: 117 C (243 F)
MELTING POINT: 8.5 C (46 F)
VAPOR DENSITY (AIR=1): 2.07
VAPOR PRESSURE (mm Hg): 10.7 @ 20 C (68 F)
EVAPORATION RATE (BuAc=1): 0.91

7. HAZARDS: EMERGENCY OVERVIEW: DANGER! Corrosive causes Burns to any area of contact. Harmful if swallowed, inhaled or absorbed through skin. Vapor is irritating to eyes and respiratory tract. May cause allergic skin and respirator tract reaction. May affect liver and kidneys. Flammable liquid and vapor. SAF-DATA™ Ratings (Provided here for your convenience)
Health Rating: 3 – Severe (Poison)
Flammability Rating: 2 – Moderate
Reactivity Rating: 2 – Moderate
Contact Rating: 4 – Extreme (Corrosive)
Lab Protective Equip: Goggles & Shield; Lab Coat Apron; Vent Hood; Proper Gloves; Class B Extinguisher
Storage Color Code: Red (Flammable)
POTENTIAL HEALTH EFFECTS
Depending on the intensity and duration of exposure, health effects may vary from mild irritation to severe destruction of tissue.
INHALATION: Corrosive. Inhalation causes irritation of the nose, throat, and respiratory system. Symptoms may include coughing, sore throat, labored breathing. Serious cases may be fatal. May cause allergic reaction in sensitive individuals.
INGESTION: Corrosive. Harmful if swallowed. Sore throat, abdominal pain, vomiting, and diarrhea may occur.
SKIN CONTACT: Corrosive. Toxic. Causes severe irritation with redness, pain, possible burns. May be absorbed through the skin. May cause allergic reaction in sensitive individuals.
EYE CONTACT: Corrosive. Vapor irritate the eyes. Liquid causes burns.
CHRONIC EXPOSURE: exposure may cause an allergic skin and respiratory reaction in some individuals. Liver, kidneys and lungs may be damaged from repeated exposure.
AGGRAVATION OF PRE-EXISTING CONDITIONS: Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.



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8. FIRE FIGHTING INFORMATION: FLASH POINT: 40 C (104 F) CC
AUTOIGNITION TEMPERATURE: 385 C (725 F)
FLAMMABLE LIMITS IN AIR % BY VOLUME: lel: 2.5; uel: 12.0
FLAMMABLE LIQUID: (uel @ 100 C)
EXPLOSION: Above flash point, vapor-air mixture are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition sources and flash back. Sensitive to static discharge.
FIRE EXTINGUISHING MEDIA: Dry chemical, alcohol foam or carbon dioxide. Use water spray to cool fire-exposed containers, to dilute liquid, and control vapor.
SPECIAL INFORMATION: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face-piece operated in the pressure demand or other positive pressure mode.
9. PERSONAL PROTECTION MEASURES: ACGIH Threshold Limit Value (TLV): 10 ppm (TWA) skin, A4 – Not classifiable as a human carcinogen.
VENTILATION SYSTEM: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminated at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.
PERSONAL RESPIRATORS (NIOSH APPROVED): If the exposure limit is exceeded and engineering controls are not feasible, a full face-piece respirator with organic vapor cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face-piece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.
SKIN PROTECTION: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
EYE PROTECTION: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.
10. FIRST AID PROCEDURES: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.
INGESTION: Do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.
SKIN CONTACT: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.
EYE CONTACT: immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.
11. EXPOSURE LIMITS: AIRBORNE EXPOSURE LIMITS: OSHA Permissible Exposure Limit (PEL): 10 ppm (TWA)
12. TOXICOLOGICAL INFORMATION: Oral rat LD50: 1200 mg/Kg. Skin rabbit LD50: 730 uL/kg. Irritation skin rabbit: 10 mg/24H severe; eye rabbit: 750 ug/24H severe; Investigated as a mutagen, reproductive effector.
13. ECOLOGICAL INFORMATION: ENVIRONMENTAL FATE: When released into soil, this material biodegrade to a moderate extent. When released into the soil, this material may leach into groundwater. When released into the soil, this material may evaporate to a moderate extent. When released into water, this material may be biodegrade to a moderate extent. When released into water, this material is not expected to evaporate significantly. This material is not expected to significantly bio-accumulate. When released into the air, this material is expected to be readily degraded by reaction with photo-chemically produced hydroxyl radicals. When released into the air, this material is expected to be readily removed from the atmosphere by wet deposition.



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ENVIRONMENTAL TOXICITY: The LC50/96-hour values for fish are over 100 mg/l.

14. DISPOSAL CONSIDERATIONS: Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

15. CARCINOGENIC PROPERTIES & NOTIFICATIONS: Ethylenediamine (107-15-3)
NTP Carcinogen : Known: No, Anticipated: No, IARC Category: None

16. TRANSPORT INFORMATION: D.O.T.
PROPER SHIPPING NAME: Ethylenediamine
HAZARD CLASS: 8,3
UN/NA: UN1604
PACKING GROUP: II
INFORMATION REPORTED FOR PRODUCT/SIZE: 3kg
INTERNATIONAL (WATER, I.M.O.)
PROPER SHIPPING NAME: Ethylenediamine
HAZARD CLASS: 8,3
UN/NA: UN1604
PACKING GROUP: II
INFORMATION REPORTED FOR PRODUCT/SIZE: 3kg

17. HANDLING & STORAGE: Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bounded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

18. ACCIDENTAL RELEASE MEASURES: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-smoking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculate, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust, Do not flush to sewer! Use water spray to reduce vapors.

19. REGULATORY INFORMATION: CANADA – KOREA: Yes, DSL: Yes, NDSL: No, Phil.: Yes
FEDERAL STATE & INTERNATIONAL REGULATIONS
Ethylenediamine (107-15-3)
SARA 302 – RQ: 5000, TPQ: 10000,
SARA 313 – List: No, Chemical Catg.: No
FEDERAL STATE & INTERNATIONAL REGULATIONS
Ethylenediamine (107-15-3)
CERCLA: 5000, RCRA 261.33: No, TSCA 8 (d): No
TSCA 12 (b): No
CDTA: No
SARA 311/312: Acute: Yes Chronic: Yes Fire: Yes Pressure: No Reactivity: No (pure/liquid)