



Ethylene Diamine
CAS No 107-15-3

MATERIAL SAFETY DATA SHEET
SDS/MSDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : **Ethylene Diamine**

CAS-No. : 107-15-3

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet

Company : Central Drug House (P) Ltd
7/28 Vardaan House
Ansari Road Daryaganj
New Delhi-110002
INDIA

Telephone : +91 11 49404040
Email : care@cdhfinechemical.com

1.4 Emergency telephone number

Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 4), H332
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Category 1B), H314
Respiratory sensitisation (Category 1), H334
Skin sensitisation (Category 1), H317
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

| | | |
|----|-----------|--------|
| | | R10 |
| C | Corrosive | R34 |
| Xn | Harmful | R21/22 |
| | | R42/43 |

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



| | |
|--------------------------------|--|
| Signal word | Danger |
| Hazard statement(s) | |
| H226 | Flammable liquid and vapour. |
| H302 + H332 | Harmful if swallowed or if inhaled |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H412 | Harmful to aquatic life with long lasting effects. |
| Precautionary statement(s) | |
| P261 | Avoid breathing vapours. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ 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. |
| P310 | Immediately call a POISON CENTER or doctor/ physician. |
| Supplemental Hazard Statements | none |

2.3 Other hazards

Rapidly absorbed through skin.
Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances

| | | |
|------------------|---|--|
| Synonyms | : | 1,2-Diaminoethane |
| Formula | : | C ₂ H ₈ N ₂ |
| Molecular Weight | : | 60,10 g/mol |
| CAS-No. | : | 107-15-3 |
| EC-No. | : | 203-468-6 |
| Index-No. | : | 612-006-00-6 |

Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component | | Classification | Concentration |
|------------------------|--------------|--|---------------|
| Ethylenediamine | | | |
| CAS-No. | 107-15-3 | Flam. Liq. 3; Acute Tox. 4; | <= 100 % |
| EC-No. | 203-468-6 | Acute Tox. 3; Skin Corr. 1B; | |
| Index-No. | 612-006-00-6 | Resp. Sens. 1; Skin Sens. 1; | |
| | | Aquatic Chronic 3; H226, H311, H302 + H332, H314, H317, H334, H412 | |

Hazardous ingredients according to Directive 1999/45/EC

| Component | | Classification | Concentration |
|------------------------|--------------|-------------------------|---------------|
| Ethylenediamine | | | |
| CAS-No. | 107-15-3 | C, R10 - R21/22 - R34 - | <= 100 % |
| EC-No. | 203-468-6 | R42/43 | |
| Index-No. | 612-006-00-6 | | |

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

Flash back possible over considerable distance., Container explosion may occur under fire conditions., Vapours may form explosive mixture with air.

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. 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.

Air and moisture sensitive. Handle and store under inert gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin 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.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---------------------------------|-------------------------------|
| a) Appearance | Form: liquid |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | 12,2 at 110 g/l at 20 °C |
| e) Melting point/freezing point | Melting point/range: 10-12 °C |

- | | |
|---|---|
| f) Initial boiling point and boiling range | 118 °C |
| g) Flash point | 38 °C - closed cup |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 16 %(V) Lower explosion limit: 2,7 %(V) |
| k) Vapour pressure | 13 hPa at 20 °C |
| l) Vapour density | 2,07 - (Air = 1.0) |
| m) Relative density | 0.897-0.902 g/mL at 20 °C |
| n) Water solubility | soluble |
| o) Partition coefficient: n-octanol/water | log Pow: -2,04 |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | no data available |

9.2 Other safety information

Relative vapour density 2,07 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Absorbs carbon dioxide (CO₂) from air.
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Air Exposure to moisture.
Heat, flames and sparks.

10.5 Incompatible materials

Oxidizing agents, Phosphorus halides, Aldehydes, Organic halides

10.6 Hazardous decomposition products

Other decomposition products - no data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 1.200 mg/kg

Remarks: Behavioral:Ataxia.

LC50 Inhalation - rat - 4 h - 14,7 mg/l

LD50 Dermal Dermal - rabbit - 560 mg/kg

Skin corrosion/irritation

Skin - rabbit

Result: Causes burns.

Serious eye damage/eye irritation

Eyes - rabbit

Result: Corrosive

Respiratory or skin sensitisation

Maximisation Test - guinea pig

Result: Causes sensitisation.

May cause allergic respiratory and skin reactions

Germ cell mutagenicity

no data available

Carcinogenicity

Carcinogenicity - This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS: KH8575000

Vomiting, Diarrhoea, Abdominal pain

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 115,7 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 3 mg/l - 48 h

Toxicity to algae EC50 - Pseudokirchneriella subcapitata (green algae) - 151 mg/l - 96 h

12.2 Persistence and degradability

Biodegradability Biotic/Aerobic - Exposure time 28 d
Result: 94 % - Readily biodegradable.

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Toxic to aquatic life.

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1604

IMDG: 1604

IATA: 1604

14.2 UN proper shipping name

ADR/RID: ETHYLENEDIAMINE

IMDG: ETHYLENEDIAMINE

IATA: Ethylenediamine

14.3 Transport hazard class(es)

ADR/RID: 8 (3)

IMDG: 8 (3)

IATA: 8 (3)

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

no data available

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

| | |
|-----------------|--|
| Acute Tox. | Acute toxicity |
| Aquatic Chronic | Chronic aquatic toxicity |
| Flam. Liq. | Flammable liquids |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H302 + H332 | Harmful if swallowed or if inhaled |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H412 | Harmful to aquatic life with long lasting effects. |
| Resp. Sens. | Respiratory sensitisation |

Full text of R-phrases referred to under sections 2 and 3

| | |
|--------|---|
| C | Corrosive |
| R10 | Flammable. |
| R21/22 | Harmful in contact with skin and if swallowed. |
| R34 | Causes burns. |
| R42/43 | May cause sensitisation by inhalation and skin contact. |

Further information

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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.