



N-ETHYL MORPHOLINE
CAS No 100-74-3

MATERIAL SAFETY DATA SHEET
SDS/MSDS

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

1.1 Product identifiers

Product name : N-Ethyl Morpholine

CAS-No. : 100-74-3

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

For the full text of the H-Statements 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

H302 + H332

Flammable liquid and vapour.

Harmful if swallowed or if inhaled

| | |
|--------------------------------|--|
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| Precautionary statement(s) | |
| 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/doctor. |
| Supplemental Hazard Statements | none |

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|------------------|-------------------------------------|
| Formula | : C ₆ H ₁₃ NO |
| Molecular weight | : 115.17 g/mol |
| CAS-No. | : 100-74-3 |
| EC-No. | : 202-885-0 |

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

| Component | | Classification | Concentration |
|--------------------------|-----------|---|---------------|
| 4-Ethylmorpholine | | | |
| CAS-No. | 100-74-3 | Flam. Liq. 3; Acute Tox. 4; | <= 100 % |
| EC-No. | 202-885-0 | Acute Tox. 3; Skin Corr. 1B; H226, H302, H332, H311, H314 | |

For the full text of the H-Statements 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. Take victim immediately to hospital. 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 (NOx)

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting 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

Wear respiratory protection. 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.

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.

Light sensitive. Air sensitive.

Storage class (TRGS 510): Flammable liquids

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

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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 (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|---|
| a) Appearance | Form: clear, liquid Colour: colourless |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | 10.1 at 10 g/l at 20 °C |
| e) Melting point/freezing point | Melting point/range: -63 °C - lit. |
| f) Initial boiling point and boiling range | 137-139 °C - lit. |
| g) Flash point | 30 °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: 11.8 %(V) Lower explosion limit: 1.9 %(V) |
| k) Vapour pressure | 6 mmHg at 20 °C l) |
| Vapour density | No data available m) |
| Relative density | 0.91 g/mL at 20 °C |
| n) Water solubility | No data available |
| o) Partition coefficient: n-octanol/water | log Pow: 0.055 |

- | | | |
|----|---------------------------|---------------------------------|
| p) | Auto-ignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity | 1 mm ² /s at 20 °C - |
| s) | Explosive properties | No data available |
| t) | Oxidizing properties | No data available |

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOx)

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 - 1,780 mg/kg(4-Ethylmorpholine)

LC50 Inhalation - Mouse - 2 h - 18,000 mg/m³(4-Ethylmorpholine)

LD50 Dermal - Rabbit - 900 mg/kg(4-Ethylmorpholine)

Skin corrosion/irritation

Skin - Rabbit(4-Ethylmorpholine)

Result: Severe skin irritation

Serious eye damage/eye irritation

No data available(4-Ethylmorpholine)

Respiratory or skin sensitisation

No data available(4-Ethylmorpholine)

Germ cell mutagenicity

No data available(4-Ethylmorpholine)

Carcinogenicity

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(4-Ethylmorpholine)

Specific target organ toxicity - single exposure

No data available(4-Ethylmorpholine)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available(4-Ethylmorpholine)

Additional Information

RTECS: QE4025000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea(4-Ethylmorpholine)

SECTION 12: Ecological information**12.1 Toxicity**

Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 220 - 460 mg/l - 96 h(4-Ethylmorpholine)

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 580 mg/l - 48 h(4-Ethylmorpholine)

Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - 270 mg/l - 72 h(4-Ethylmorpholine)

12.2 Persistence and degradability

Biodegradability

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available(4-Ethylmorpholine)

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber b 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: 2920

IMDG: 2920

IATA: 2920

14.2 UN proper shipping name

ADR/RID: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (4-Ethylmorpholine)

IMDG: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (4-Ethylmorpholine)

IATA: Corrosive liquid, flammable, n.o.s. (4-Ethylmorpholine)

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

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

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.**

| | |
|-------------|--|
| 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. |
| H332 | Harmful if inhaled. |

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.