| 1-(2-**Amino Ethyl**) **Piperazine**<br>**CAS No 140-31-8** | **MATERIAL SAFETY DATA SHEET**<br>**SDS/MSDS** |
|---|---|

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

### 1.1 Product identifiers

Product name : 1-(2-**Amino Ethyl**) **Piperazine**

CAS-No. : 140-31-8

### 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
DGL 128-129, DLF The Galleria,
Mayur Vihar Phase 1 Extension,
New Delhi-110091
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**
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Dermal (Category 3), H311
Skin corrosion (Category 1B), H314
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.

### 2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008**
Pictogram




Signal word Danger

Hazard statement(s)
H302 Harmful if swallowed.
H311 Toxic in contact with skin.

| | |
|---|---|
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H412 | Harmful to aquatic life with long lasting effects. |
| Precautionary statement(s) | |
| 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/doctor. |
| Supplemental Hazard Statements | none |

**2.3 Other hazards** - none

## SECTION 3: Composition/information on ingredients

**3.1 Substances**

| | | |
|---|---|---|
| Formula | : | $C_6H_{15}N_3$ |
| Molecular weight | : | 129.21 g/mol |
| CAS-No. | : | 140-31-8 |
| EC-No. | : | 205-411-0 |
| Index-No. | : | 612-105-00-4 |

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

| Component | | Classification | Concentration |
|---|---|---|---|
| **2-Piperazin-1-ylethylamine** | | | |
| CAS-No. | 140-31-8 | Acute Tox. 4; Acute Tox. 3; | <= 100 % |
| EC-No. | 205-411-0 | Skin Corr. 1B; Skin Sens. 1; | |
| Index-No. | 612-105-00-4 | Aquatic Chronic 3; H302, H311, H314, H317, H412 | |

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. 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). Keep in suitable, closed containers for disposal.

### 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.
Storage class (TRGS 510): Combustible liquids, corrosive

### 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, 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. 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: clear, viscous, liquid<br>Colour: colourless |
| b) Odour | ammoniacal |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | Melting point/range: -19 °C at 1013.0 hPa |
| f) Initial boiling point and boiling range | 218 - 222 °C |
| g) Flash point | 92 °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: 9.4 %(V)<br>Lower explosion limit: 1.1 %(V) |
| k) Vapour pressure | 5.15 Pa at 20 °C |
| l) Vapour density | 5.18 |
| m) Relative density | 0.985 g/mL at 25 °C |
| n) Water solubility | 100 g/l at 20 °C - soluble |
| o) Partition coefficient: n-octanol/water | log Pow: -1.48 at 20 °C |
| p) Auto-ignition temperature | > 300 °C<br>at 1,013 hPa |
| 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**

Dissociation constant 9.63 at 20.2 °C

Relative vapour density 5.18

## 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 - male - 2,097 mg/kg(2-Piperazin-1-ylethylamine)
LD50 Dermal - Rabbit - male - 866 mg/kg(2-Piperazin-1-ylethylamine)

**Skin corrosion/irritation**
Skin - Rabbit(2-Piperazin-1-ylethylamine)
Result: Corrosive - 4 h

**Serious eye damage/eye irritation**
Eyes - Rabbit(2-Piperazin-1-ylethylamine)
Result: Risk of serious damage to eyes.

**Respiratory or skin sensitisation**
Maximisation Test - Guinea pig(2-Piperazin-1-ylethylamine)
Result: May cause sensitisation by skin contact.
(OECD Test Guideline 406)

**Germ cell mutagenicity**

Hamster(2-Piperazin-1-ylethylamine)
ovary
Result: negative
(2-Piperazin-1-ylethylamine)
Mouse - male and female
Result: negative

**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(2-Piperazin-1-ylethylamine)

**Specific target organ toxicity - single exposure**
No data available(2-Piperazin-1-ylethylamine)

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available(2-Piperazin-1-ylethylamine)

**Additional Information**
RTECS: TK8050000

## SECTION 12: Ecological information

### 12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | static test LC50 - Pimephales promelas (fathead minnow) - ca. 2,190 mg/l - 96 h(2-Piperazin-1-ylethylamine) |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - 58 mg/l - 48 h(2-Piperazin-1-ylethylamine)<br>(OECD Test Guideline 202) |
| Toxicity to algae | EC50 - Pseudokirchneriella subcapitata (algae) - 495 mg/l - 72 h(2-Piperazin-1-ylethylamine)<br>(OECD Test Guideline 201) |
| Toxicity to bacteria | Respiration inhibition EC50 - Bacteria - 511 mg/l - 2 h(2-Piperazin-1-ylethylamine) |

### 12.2 Persistence and degradability

| | |
|---|---|
| Biodegradability | aerobic - Exposure time 28 d(2-Piperazin-1-ylethylamine)<br>Result: 0 % - Not readily biodegradable.<br>(OECD Test Guideline 301F) |

### 12.3 Bioaccumulative potential
No data available

### 12.4 Mobility in soil
No data available(2-Piperazin-1-ylethylamine)

### 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
Harmful to aquatic life with long lasting effects.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. 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: 2815 IMDG: 2815 IATA: 2815

**14.2 UN proper shipping name**

ADR/RID: N-AMINOETHYLPIPERAZINE
IMDG: N-AMINOETHYLPIPERAZINE
IATA: N-Aminoethylpiperazine

**14.3 Transport hazard class(es)**

ADR/RID: 8 IMDG: 8 IATA: 8

**14.4 Packaging group**

ADR/RID: III IMDG: III IATA: III

**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.**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H412 | Harmful to aquatic life with long lasting effects. |

**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.