1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Ethylamine

Product Number : 243191
Brand : Aldrich
Index-No. : 612-002-00-4
CAS-No. : 75-04-7

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

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable gases (Category 1), H220
Gases under pressure (Liquefied gas), H280
Acute toxicity, Inhalation (Category 4), H332
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

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

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word : Danger

Hazard statement(s)

H220 : Extremely flammable gas.
H280 : Contains gas under pressure; may explode if heated.
H319 : Causes serious eye irritation.
H332 : Harmful if inhaled.
H335 : May cause respiratory irritation.

Precautionary statement(s)

P210 : Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261 : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Lachrymator.
Lachrymator, Rapidly absorbed through skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms: Monoethylamine
            Aminoethane

Formula: C₂H₇N
Molecular weight: 45.08 g/mol
CAS-No.: 75-04-7
EC-No.: 200-834-7
Index-No.: 612-002-00-4

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylamine</td>
<td>Flam. Gas 1; Press. Gas Liquefied gas; Acute Tox. 4; Eye Irrit. 2A; STOT SE 3; H220, H280, H319, H332, H335</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

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

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. Move out of dangerous area.

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

In case of skin contact
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

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
No data available

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.

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.

6.3 Methods and materials for containment and cleaning up
Clean up promptly by sweeping or vacuum.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment. 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
Keep container tightly closed in a dry and well-ventilated place.
Moisture sensitive. Cool to 0°C before opening. Contents under pressure. Storage class (TRGS 510): Gases

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylamine</td>
<td>75-04-7</td>
<td>TWA</td>
<td>10.000000 ppm 18.000000 mg/m3</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
</tr>
</tbody>
</table>

Remarks  The value in mg/m3 is approximate.
<table>
<thead>
<tr>
<th></th>
<th>TWA</th>
<th>USA. ACGIH Threshold Limit Values (TLV)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 ppm</td>
<td>Upper Respiratory Tract irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Danger of cutaneous absorption</td>
</tr>
<tr>
<td></td>
<td>5.000000 ppm</td>
<td>Eye irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye damage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Danger of cutaneous absorption</td>
</tr>
<tr>
<td></td>
<td>15 ppm</td>
<td>STEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper Respiratory Tract irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Danger of cutaneous absorption</td>
</tr>
<tr>
<td></td>
<td>15.000000 ppm</td>
<td>Eye irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye damage</td>
</tr>
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<td></td>
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<td>Skin irritation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Danger of cutaneous absorption</td>
</tr>
<tr>
<td></td>
<td>10.000000 ppm</td>
<td>TWA</td>
</tr>
<tr>
<td></td>
<td>18.000000 mg/m3</td>
<td>USA. NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>5 ppm</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
</tr>
<tr>
<td></td>
<td>9.2 mg/m3</td>
<td>Skin</td>
</tr>
</tbody>
</table>

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**
Face shield and safety glasses. 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.

#### Full contact
- Material: butyl-rubber
- Minimum layer thickness: 0.3 mm
- Break through time: 480 min
- Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

#### Splash contact
- Material: butyl-rubber
- Minimum layer thickness: 0.3 mm
- Break through time: 480 min
- Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
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 AXBEK (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 environmental exposure if safe to do so. Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES
9.1 Information on basic physical and chemical properties

a) Appearance
   Form: Liquefied gas
   Colour: colourless

b) Odour
   No data available

c) Odour Threshold
   No data available

d) pH
   No data available

e) Melting point/freezing point
   Melting point/range: -81 °C (-114 °F) - lit.

f) Initial boiling point and boiling range
   16.6 °C (61.9 °F) - lit.

g) Flash point
   -37 °C (-35 °F) - 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: 14 %(V)
   Lower explosion limit: 3.5 %(V)

k) Vapour pressure
   1,165 hPa (874 mmHg) at 20 °C (68 °F)

l) Vapour density
   1.56 - (Air = 1.0)

m) Relative density
   0.68 g/cm3 at 20 °C (68 °F)0.689 g/cm3 at 25 °C (77 °F)

n) Water solubility
   No data available

o) Partition coefficient: n-octanol/water
   No data available

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
   1.56 - (Air = 1.0)
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
Strong oxidizing agents, Nickel, Copper, Strong acids, Zinc, Ethylamine, anhydrous is packaged in steel cylinders. Cool to 0°C before opening. Incompatible with silver, mercury and brass.

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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male - 400 mg/kg
LC50 Inhalation - Rat - female - 4 h - 4390 ppm
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male - 265 mg/kg
No data available

Skin corrosion/irritation
Skin - Rabbit
Result: Mild skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Severe eye irritation

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

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.
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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
May cause respiratory irritation.

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

**Aspiration hazard**
No data available

**Additional Information**
RTECS: KH2100000
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea
Stomach - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence

---

12. **ECOLOGICAL INFORMATION**

12.1 **Toxicity**
- Toxicity to fish
  LC50 - Oryzias latipes - 1,000 mg/l - 48 h
- Toxicity to daphnia and other aquatic invertebrates
  LC50 - Daphnia magna (Water flea) - 110 mg/l - 24 h

12.2 **Persistence and degradability**
No data available

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**
No data available

---

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. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**
Dispose of as unused product.

---

14. **TRANSPORT INFORMATION**

**DOT (US)**
- UN number: 1036
- Class: 2.1
- Proper shipping name: Ethylamine
- Reportable Quantity (RQ): 100 lbs
Poison Inhalation Hazard: No

**IMDG**
- UN number: 1036
- Class: 2.1
- EMS-No: F-D, S-U
- Proper shipping name: ETHYLAMINE

**IATA**
- UN number: 1036
- Class: 2.1
- Proper shipping name: Ethylamine
- IATA Passenger: Not permitted for transport

**15. REGULATORY INFORMATION**

**SARA 302 Components**
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**
Fire Hazard, Sudden Release of Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylamine</td>
<td>75-04-7</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**Pennsylvania Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylamine</td>
<td>75-04-7</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**New Jersey Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylamine</td>
<td>75-04-7</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**California Prop. 65 Components**
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION**

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

- Acute Tox.  
  Acute toxicity
- Eye Irrit.  
  Eye irritation
- Flam. Gas  
  Flammable gases
- H220      
  Extremely flammable gas.
- H280      
  Contains gas under pressure; may explode if heated.
- H319      
  Causes serious eye irritation.
- H332      
  Harmful if inhaled.
- H335      
  May cause respiratory irritation.
- Press. Gas  
  Gases under pressure
- STOT SE   
  Specific target organ toxicity - single exposure

**HMIS Rating**

- Health hazard: 2
- Chronic Health Hazard: *
- Flammability: 4
- Physical Hazard 3
**NFPA Rating**
- Health hazard: 2
- Fire Hazard: 4
- Reactivity Hazard: 0

**Further information**
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**Preparation Information**
Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 3.8  Revision Date: 05/24/2016  Print Date: 07/27/2016