1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
Product name : 2-Dimethylaminoethanol
Product Number : 21375

CAS-No. : 108-01-0

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the material on the safety data sheet
Company : Ladd Research
83 Holly Court
Williston, VT 05495
USA
Telephone : 802-658-4961
Fax : 802-660-8859

1.4 Emergency telephone number
Emergency Phone # : +1-703-741-5500 (Chemetrec)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3), H226
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Inhalation (Category 3), H331
Acute toxicity, Dermal (Category 4), H312
Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318
Acute aquatic toxicity (Category 3), H402

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)
H226 Flammable liquid and vapour.
H302 + H312 Harmful if swallowed or in contact with skin
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H402 Harmful to aquatic life.
Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Lachrymator.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms: N,N-Dimethyl-2-hydroxyethylamine
N,N-Dimethylethanolamine

<table>
<thead>
<tr>
<th>Formula</th>
<th>C₄H₁₁NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular weight</td>
<td>89.14 g/mol</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>108-01-0</td>
</tr>
<tr>
<td>EC-No.</td>
<td>203-542-8</td>
</tr>
<tr>
<td>Index-No.</td>
<td>603-047-00-0</td>
</tr>
</tbody>
</table>

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Dimethylaminoethanol</td>
<td>Flam. Liq. 3; Acute Tox. 4; Acute Tox. 3; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 3; H226, H302 + H312, H314, H318, H331; H402</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
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. Continue rinsing eyes during transport to hospital.

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
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.

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).

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.
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. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Handle and store under inert gas.
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

---

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1 **Control parameters**

**Components with workplace control parameters**
Contains no substances with occupational exposure limit values.

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.

**Splash contact**
Material: Nitrile rubber
Minimum layer thickness: 0.2 mm
Break through time: 47 min
Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, 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 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.

---

9. **PHYSICAL AND CHEMICAL PROPERTIES**

9.1 **Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>a) Appearance</th>
<th>Form: clear, liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour: light yellow</td>
<td></td>
</tr>
</tbody>
</table>
b) Odour amine-like
c) Odour Threshold No data available
d) pH 10.5 - 11.0 at 100 g/l at 20 °C (68 °F)
e) Melting point/freezing point Melting point/range: -70 °C (-94 °F) - lit.
f) Initial boiling point and boiling range 134 - 136 °C (273 - 277 °F) - lit.
g) Flash point 39 °C (102 °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: 12.2 %(V)
   Lower explosion limit: 1.4 %(V)
k) Vapour pressure 8.16 hPa (6.12 mmHg) at 20 °C (68 °F)
l) Vapour density 3.08 - (Air = 1.0)
m) Relative density 0.886 g/cm3 at 20 °C (68 °F)
n) Water solubility soluble
o) Partition coefficient: n-octanol/water log Pow: -0.549 at 23 °C (73 °F)
p) Auto-ignition temperature 230 °C (446 °F) at 1,013 hPa (760 mmHg)
q) Decomposition temperature No data available
r) Viscosity No data available
s) Explosive properties Not explosive
t) Oxidizing properties No data available

9.2 Other safety information
   Dissociation constant 9.3 at 1,000 mg/l
   Relative vapour density 3.08 - (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
   Oxidizing agents, Copper, Zinc, Iron, Do not store near acids.
10.6 Hazardous decomposition products
   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 and female - 1,182.7 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male - 4 h - 1641 ppm
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male - 1,219 mg/kg
(OECD Test Guideline 402)
No data available

Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive - 1 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Corrosive
(OECD Test Guideline 405)

Respiratory or skin sensitisation
Buehler Test - Guinea pig
Result: Does not cause skin sensitisation.

Germ cell mutagenicity
Hamster ovary
Result: negative
OECD Test Guideline 474

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.
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.
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
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information
RTECS: KK6125000
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 - Leuciscus idus (Golden orfe) - > 100 - 220 mg/l - 96 h
static test
LC50 - Leuciscus idus (Golden orfe) - 146.63 mg/l - 96 h
(DIN 38412)
Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - 98.37 mg/l - 48 h
Toxicity to algae
static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - 66.08 mg/l - 72 h

12.2 Persistence and degradability
Biodegradability
aerobic - Exposure time 14 d
Result: 60.5 % - Readily biodegradable.
(OECD Test Guideline 301C)

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
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

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: 2051 Class: 8 (3) Packing group: II
Proper shipping name: 2-Dimethylaminoethanol
Reportable Quantity (RQ): 100 lbs
Poison Inhalation Hazard: No

IMDG
UN number: 2051 Class: 8 (3) Packing group: II EMS-No: F-E, S-C
Proper shipping name: 2-DIMETHYLAMINOETHANOL

IATA
UN number: 2051 Class: 8 (3) Packing group: II
Proper shipping name: 2-Dimethylaminoethanol
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, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-01-0</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**Pennsylvania Right To Know Components**

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-01-0</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

**New Jersey Right To Know Components**

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-01-0</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.

16. OTHER INFORMATION

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

| Acute Tox. | Acute toxicity |
| Aquatic Acute | Acute aquatic toxicity |
| Eye Dam. | Serious eye damage |
| Flam. Liq. | Flammable liquids |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H302 + H312 | Harmful if swallowed or in contact with skin |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H331 | Toxic if inhaled. |

**HMIS Rating**

- Health hazard: 3
- Chronic Health Hazard: *
- Flammability: 2
- Physical Hazard: 0

**NFPA Rating**

- Health hazard: 3
- Fire Hazard: 2
- Reactivity Hazard: 0

**Further information**
The information presented is believed to be correct and is the most accurate information available to us at this time. However, Ladd Research makes no warranty, express or implied, and assumes no liability for this information and the product described herein.

Date Revised: 04-14-2020