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

1.1 Product identifiers

<table>
<thead>
<tr>
<th>Product name</th>
<th>1-Amino-2-propanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>110248</td>
</tr>
<tr>
<td>Brand</td>
<td>Aldrich</td>
</tr>
<tr>
<td>Index-No.</td>
<td>603-082-00-1</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>78-96-6</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Identified uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory chemicals, Synthesis of substances</td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sigma-Aldrich Inc.</td>
</tr>
<tr>
<td>3050 SPRUCE ST</td>
</tr>
<tr>
<td>ST. LOUIS MO 63103</td>
</tr>
<tr>
<td>UNITED STATES</td>
</tr>
<tr>
<td>Telephone</td>
</tr>
<tr>
<td>+1 314 771-5765</td>
</tr>
<tr>
<td>Fax</td>
</tr>
<tr>
<td>+1 800 325-5052</td>
</tr>
</tbody>
</table>

1.4 Emergency telephone

<table>
<thead>
<tr>
<th>Emergency Phone #</th>
</tr>
</thead>
<tbody>
<tr>
<td>800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week</td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

- Flammable liquids (Category 4), H227
- Acute toxicity, Dermal (Category 4), H312
- Skin corrosion (Category 1B), H314
- Serious eye damage (Category 1), H318
- Short-term (acute) aquatic hazard (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
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada. 

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-aminopropan-2-ol</td>
<td>Flam. Liq. 4; Acute Tox. 4; &lt;= 100 %</td>
<td></td>
</tr>
</tbody>
</table>

Synonyms: (±)-1-Amino-2-propanol (±)-Isopropanolamine

Formula: C₃H₉NO
Molecular weight: 75.11 g/mol
CAS-No.: 78-96-6
EC-No.: 201-162-7
Index-No.: 603-082-00-1
SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed
After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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
Carbon dioxide (CO2) Foam Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Carbon oxides
Nitrogen oxides (NOx)
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air on intense heating.
Development of hazardous combustion gases or vapours possible in the event of fire.
5.3 **Advice for firefighters**
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 **Further information**
Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

**SECTION 6: Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 **Environmental precautions**
Do not let product enter drains.

6.3 **Methods and materials for containment and cleaning up**
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 **Reference to other sections**
For disposal see section 13.

---

**SECTION 7: Handling and storage**

7.1 **Precautions for safe handling**

*Advice on protection against fire and explosion*
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

*Hygiene measures*
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 **Conditions for safe storage, including any incompatibilities**

*Storage conditions*
Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons.

*Storage class*
Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

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

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

8.2 Exposure controls

Appropriate engineering controls
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: butyl-rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested:Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 120 min
Material tested:KCL 741 Dermatril® L

Body Protection
protective clothing

Respiratory protection
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: liquid
   Color: colorless

b) Odor
   ammoniacal

c) Odor Threshold
   No data available

d) pH
   No data available

e) Melting point/freezing point
   Melting point/range: -2 °C (28 °F) - lit.

f) Initial boiling point and boiling range
   160 °C 320 °F - lit.

g) Flash point
   71 °C (160 °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: 10.4 % (V)
   Lower explosion limit: 1.9 % (V)

k) Vapor pressure
   0.63 hPa at 25 °C (77 °F)

l) Vapor density
   2.59 - (Air = 1.0)

m) Density
   0.973 g/cm3 at 25 °C (77 °F) - lit.
   Relative density
   0.9620 °C

n) Water solubility
   soluble

o) Partition coefficient: n-octanol/water
   log Pow: -0.93 at 23 °C (73 °F) - Bioaccumulation is not expected.

p) Autoignition temperature
   No data available

q) Decomposition temperature
   No data available

r) Viscosity
   11.2 mm2/s at 40 °C (104 °F)

s) Explosive properties
   No data available

t) Oxidizing properties
   none

9.2 Other safety information

Dissociation constant
   9.62 at 20 °C (68 °F)

Relative vapor density
   2.59 - (Air = 1.0)
SECTION 10: Stability and reactivity

10.1 Reactivity
Forms explosive mixtures with air on intense heating.
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
Caution! In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines!
Violent reactions possible with:
Strong oxidizing agents
Exothermic reaction with:
acids

10.4 Conditions to avoid
Strong heating.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male and female - 2,813 mg/kg
(OECD Test Guideline 401)
Remarks: (ECHA)
LC50 Inhalation - Rat - male - 4 h - > 3,960.71 mg/l - aerosol

(OECD Test Guideline 403)
LD50 Dermal - Rabbit - 1,600 mg/kg
Remarks: (External MSDS)
(Regulation (EC) No 1272/2008, Annex VI)
Intraperitoneal: (ECHA)

Skin corrosion/irritation
Skin - Rabbit
Result: Causes burns.
Remarks: (ECHA)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage.
Remarks: (ECHA)
**Respiratory or skin sensitization**
No data available

**Germ cell mutagenicity**
Test Type: In vitro mammalian cell gene mutation test  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative  
Test Type: Mutagenicity (mammal cell test): chromosome aberration.  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
Test Type: Ames test  
Test system: Escherichia coli  
Metabolic activation: with and without metabolic activation  
Result: negative  
Remarks: (ECHA)

**Carcinogenicity**
IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
NTP: No ingredient 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 on OSHA’s list of regulated carcinogens.

**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

**11.2 Additional Information**
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, Shortness of breath, Headache, Nausea  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  
Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments.  
Other dangerous properties can not be excluded.  
Handle in accordance with good industrial hygiene and safety practice.
SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish   LC50 - Leuciscus idus (Golden orfe) - 220 - 460 mg/l - 96 h
   Remarks: (IUCLID)

Toxicity to daphnia and other aquatic invertebrates   static test EC50 - Daphnia - 108.82 mg/l - 48 h
   Remarks: (ECHA)

Toxicity to algae   static test ErC50 - Desmodesmus subspicatus (green algae) - 32.7 mg/l - 72 h
   Remarks: (ECHA)

Toxicity to bacteria   EC50 - activated sludge - > 261 mg/l - 30 min
   Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability   aerobic - Exposure time 28 d
   Result: >= 78 % - Readily biodegradable.
   (OECD Test Guideline 301F)

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 Endocrine disrupting properties
   No data available

12.7 Other adverse effects
   Neutralise before sewage disposal.
   No interference with wastewater treatment plants are to be expected when used properly.
   Discharge into the environment must be avoided.
SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

DOT (US)
UN number: 2735  Class: 8  Packing group: II
Proper shipping name: Amines, liquid, corrosive, n.o.s. (1-aminopropan-2-ol)
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

IMDG
UN number: 2735  Class: 8  Packing group: II  EMS-No: F-A, S-B
Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (1-aminopropan-2-ol)

IATA
UN number: 2735  Class: 8  Packing group: II
Proper shipping name: Amines, liquid, corrosive, n.o.s. (1-aminopropan-2-ol)

SECTION 15: Regulatory information

SARA 302 Components
This material does not contain any components with a section 302 EHS TPQ.

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

Massachusetts Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-aminopropan-2-ol</td>
<td>78-96-6</td>
<td>1993-04-24</td>
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</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>1-aminopropan-2-ol</td>
<td>78-96-6</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>
SECTION 16: Other information

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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.7  Revision Date: 10/27/2023  Print Date: 12/02/2023