

## SAFETY DATA SHEET

Version 6.0  
Revision Date 01/31/2017  
Print Date 11/12/2018

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1. PRODUCT AND COMPANY IDENTIFICATION

## 1.1 Product identifiers

Product name : 2-Dimethylaminoethanol

Product Number : 50632  
Brand : Sigma-Aldrich  
Index-No. : 603-047-00-0

CAS-No. : 108-01-0

## 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 Inc.  
3050 Spruce Street  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

## 1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

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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/doctor 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/doctor.
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 - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Formula	: C <sub>4</sub> H <sub>11</sub> NO
Molecular weight	: 89.14 g/mol
CAS-No.	: 108-01-0
EC-No.	: 203-542-8
Index-No.	: 603-047-00-0

#### Hazardous components

Component	Classification	Concentration
<b>2-Dimethylaminoethanol</b>		
	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	<= 100 %

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

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## 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

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## 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 (NO<sub>x</sub>)

### 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.

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## 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.

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## 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.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 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.

##### 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. Discharge into the environment must be avoided.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |  |   |
|--|---|
| a) Appearance                              | Form: clear, liquid<br>Colour: light yellow                         |
| 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: -69.99 °C (-93.98 °F)                          |
| f) Initial boiling point and boiling range | 134 - 136 °C (273 - 277 °F) at 1013 hPa                             |
| 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             | Upper explosion limit: 12.2 %(V)<br>Lower explosion limit: 1.4 %(V) |

explosive limits

- |   |                                  |
|---|----------------------------------|
| k) Vapour pressure                        | 8.16 hPa at 20 °C (68 °F)        |
| l) Vapour density                         | 3.08 - (Air = 1.0)               |
| m) Relative density                       | 0.886 g/cm <sup>3</sup>          |
| 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     |
| 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) |

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## 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

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

Other decomposition products - No data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male and female - 1,182.7 mg/kg(2-Dimethylaminoethanol)

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male - 4 h - 1641 ppm(2-Dimethylaminoethanol)

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male - 1,219 mg/kg(2-Dimethylaminoethanol)

(OECD Test Guideline 402)

No data available(2-Dimethylaminoethanol)

#### Skin corrosion/irritation

Skin - Rabbit(2-Dimethylaminoethanol)

Result: Corrosive - 1 h

(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - Rabbit(2-Dimethylaminoethanol)

Result: Corrosive

(OECD Test Guideline 405)

**Respiratory or skin sensitisation**

Buehler Test - Guinea pig(2-Dimethylaminoethanol)

Result: Does not cause skin sensitisation.

**Germ cell mutagenicity**

Hamster(2-Dimethylaminoethanol)

ovary

Result: negative

OECD Test Guideline 474(2-Dimethylaminoethanol)

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.

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(2-Dimethylaminoethanol)

No data available(2-Dimethylaminoethanol)

**Specific target organ toxicity - single exposure**

No data available(2-Dimethylaminoethanol)

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available(2-Dimethylaminoethanol)

**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(2-Dimethylaminoethanol)

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence(2-Dimethylaminoethanol)

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - > 100 - 220 mg/l - 96 h(2-Dimethylaminoethanol) static test LC50 - Leuciscus idus (Golden orfe) - 146.63 mg/l - 96 h(2-Dimethylaminoethanol) (DIN 38412)
Toxicity to daphnia and Sigma-Aldrich- 50632	static test EC50 - Daphnia magna (Water flea) - 98.37 mg/l - 48 h(2-

other aquatic invertebrates	Dimethylaminoethanol) (Directive 67/548/EEC, Annex V, C.2.)
Toxicity to algae	static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - 66.08 mg/l - 72 h(2-Dimethylaminoethanol)

## 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 14 d(2-Dimethylaminoethanol)  
Result: 60.5 % - Readily biodegradable.  
(OECD Test Guideline 301C)

## 12.3 Bioaccumulative potential

No data available

## 12.4 Mobility in soil

No data available(2-Dimethylaminoethanol)

## 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.

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

### Contaminated packaging

Dispose of as unused product.

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# 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

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# 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**

2-Dimethylaminoethanol

CAS-No.  
108-01-0Revision Date  
1993-04-24**Pennsylvania Right To Know Components**

2-Dimethylaminoethanol

CAS-No.  
108-01-0Revision Date  
1993-04-24**New Jersey Right To Know Components**

2-Dimethylaminoethanol

CAS-No.  
108-01-0Revision Date  
1993-04-24**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.

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**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 + 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.
H402	Harmful to aquatic life.

**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**

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**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
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