

# Dimethylaminoethanol (DMAE)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/08/2017

Revision date: 05/08/2017

Version: 1.0

### SECTION 1: Identification

#### 1.1. Identification

Product form	: Substance
Trade name	: Dimethylaminoethanol (DMAE)
CAS-No.	: 108-01-0
Product code	: 01458
Formula	: C <sub>4</sub> H <sub>11</sub> NO
Synonyms	: Deanol / Dimethylaminoethanol / N,N-Dimethylethanolamine / Dimethylethanolamine / Ethanol, 2-(dimethylamino)- / Ethanol, 2-dimethylamino- / Ethanolamine, N,N-dimethyl- / N,N-Dimethylamino-2-ethanol / 2-Dimethylaminoethanol / DIMETHYL MEA / Dimethylaminoethanol, 2- / N,N-Dimethylaminoethanol

#### 1.2. Recommended use and restrictions on use

Recommended use	: Manufacture of substances, Use as laboratory reagent, Scientific research and development
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#### 1.3. Supplier

##### Supplier

Polysciences Inc  
400 Valley Road  
Warrington, PA 18976 - United States  
T (215)-343-6484 - F (215)-343-0214  
[info@polysciences.com](mailto:info@polysciences.com) - [www.polysciences.com](http://www.polysciences.com)

#### 1.4. Emergency telephone number

Emergency number	: (215)-378-4526
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### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable liquids, Category 3	H226	Flammable liquid and vapour
Acute toxicity (oral), Category 4	H302	Harmful if swallowed
Acute toxicity (dermal), Category 4	H312	Harmful in contact with skin
Acute toxicity (inhalation: vapour), Category 4	H332	Harmful if inhaled
Skin corrosion/irritation, Category 1A	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H226 - Flammable liquid and vapour  
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled  
H314 - Causes severe skin burns and eye damage  
H318 - Causes serious eye damage

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
P233 - Keep container tightly closed

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P240 - Ground/Bond container and receiving equipment  
P241 - Use explosion-proof ventilating equipment  
P242 - Use only non-sparking tools  
P243 - Take precautionary measures against static discharge  
P260 - Do not breathe fume, gas, mist, spray, vapours  
P264 - Wash clothing, hands, forearms and face thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear eye protection, protective clothing, protective gloves, face protection  
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P302+P352 - If on skin: Wash with plenty of Wash skin with mild soap and water  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
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 doctor, a POISON CENTER  
P312 - Call a doctor, a POISON CENTER if you feel unwell  
P330 - Rinse mouth  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P363 - Wash contaminated clothing before reuse  
P370+P378 - In case of fire: Use dry sand, dry extinguishing powder, alcohol resistant foam to extinguish  
P403+P235 - Store in a well-ventilated place. Keep cool  
P405 - Store locked up  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Substance

Name	Product identifier	%	GHS-US classification
Dimethylaminoethanol (DMAE) (Main constituent)	(CAS-No.) 108-01-0	<= 100	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapour), H332 Skin Corr. 1A, H314 Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell. Move the affected person away from the contaminated area and into the fresh air.

First-aid measures after skin contact : After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Get immediate medical advice/attention. Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.

First-aid measures after eye contact : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth out with water. Do NOT induce vomiting. Get immediate medical advice/attention. Rinse mouth. Do not induce vomiting. Call a physician immediately.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact : Burns.

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Symptoms/effects after eye contact : Serious damage to eyes.  
Symptoms/effects after ingestion : Burns.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>). Sand/earth. Water spray. Dry powder. Foam. Carbon dioxide.  
Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapour.  
Reactivity : Flammable liquid and vapour.

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Eliminate every possible source of ignition. Notify authorities if product enters sewers or public waters. Avoid contact with skin and eyes. Do not handle until all safety precautions have been read and understood. Clean up any spills as soon as possible, using an absorbent material to collect it.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust, fume, gas, mist, spray, vapours. Do not get in eyes, on skin, or on clothing. No open flames, no sparks, and no smoking.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Prevent liquid from entering sewers, watercourses, underground or low areas. Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Do not breathe dust, fume, gas, mist, spray, vapours.  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.  
Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Protective gloves

##### Eye protection:

Safety glasses

##### Skin and body protection:

Wear suitable protective clothing

##### Respiratory protection:

Wear respiratory protection

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colorless liquid.
Colour	: Colourless
Odour	: ammonia-like
Odour threshold	: No data available
pH	: 11 - 12 (conc: 10 % (solution))
Melting point	: -59 °C
Freezing point	: No data available
Boiling point	: 135 °C (at 758 mmHg)
Flash point	: 41 °C (open cup)
Relative evaporation rate (butylacetate=1)	: 0.48
Flammability (solid, gas)	: Not applicable.
Vapour pressure	: 4 mm Hg (at 20 °C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.886 g/cm <sup>3</sup> (at 20 °C)
Solubility	: No data available
Log Pow	: -0.55 (at 23 °C)
Auto-ignition temperature	: 295 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

#### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Flammable liquid and vapour.

#### 10.2. Chemical stability

Stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

#### 10.5. Incompatible materials

No additional information available

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation:vapour: Harmful if inhaled.

Dimethylaminoethanol (DMAE) (108-01-0)	
LD50 oral rat	1803 mg/kg
LD50 dermal rabbit	1220 mg/kg
LC50 inhalation rat (ppm)	1641 ppm/4h
ATE US (oral)	1803.000 mg/kg bodyweight
ATE US (dermal)	1220.000 mg/kg bodyweight
ATE US (gases)	1641.000 ppmv/4h
ATE US (vapours)	11.000 mg/l/4h

Skin corrosion/irritation : Causes severe skin burns and eye damage.  
pH: 11 - 12 (conc: 10 % (solution))

Serious eye damage/irritation : Causes serious eye damage.  
pH: 11 - 12 (conc: 10 % (solution))

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Serious damage to eyes.

Symptoms/effects after ingestion : Burns.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Dimethylaminoethanol (DMAE) (108-01-0)	
LC50 fish 1	81 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 Daphnia 1	98.77 mg/l (Exposure time: 48 h - Species: Daphnia magna)

#### 12.2. Persistence and degradability

No additional information available

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### 12.3. Bioaccumulative potential

#### Dimethylaminoethanol (DMAE) (108-01-0)

Log Pow	-0.55 (at 23 °C)
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Flammable vapours may accumulate in the container.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN2051 2-Dimethylaminoethanol, 8 (3), II
UN-No.(DOT)	: UN2051
Proper Shipping Name (DOT)	: 2-Dimethylaminoethanol
Class (DOT)	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT)	: II - Medium Danger
Subsidiary risk (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 8 - Corrosive 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 243
DOT Special Provisions (49 CFR 172.102)	: B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 30 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number	: 132
Other information	: No supplementary information available.

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### Transportation of Dangerous Goods

Not applicable

### Transport by sea

Transport document description (IMDG)	: UN 2051 2-DIMETHYLAMINOETHANOL, 8 (3), II (31°C o.c.)
UN-No. (IMDG)	: 2051
Proper Shipping Name (IMDG)	: 2-DIMETHYLAMINOETHANOL
Class (IMDG)	: 8 - Corrosive substances
Packing group (IMDG)	: II - substances presenting medium danger
Subsidiary risk (IMDG)	: 3 - Flammable liquids
Limited quantities (IMDG)	: 1 L

### Air transport

Transport document description (IATA)	: UN 2051 2-Dimethylaminoethanol, 8 (3) (3), II
UN-No. (IATA)	: 2051
Proper Shipping Name (IATA)	: 2-Dimethylaminoethanol
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: II - Medium Danger
Subsidiary risks (IATA)	: 3 - Flammable liquids

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Dimethylaminoethanol (DMAE) (108-01-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. International regulations

#### CANADA

#### Dimethylaminoethanol (DMAE) (108-01-0)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

#### Dimethylaminoethanol (DMAE) (108-01-0)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

### National regulations

#### Dimethylaminoethanol (DMAE) (108-01-0)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on Turkish inventory of chemical  
Taiwan Chemical Substance Inventory

### 15.3. US State regulations

#### Dimethylaminoethanol (DMAE) (108-01-0)

State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
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## SECTION 16: Other information

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Full text of H-statements:

H226	Flammable liquid and vapour
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H332	Harmful if inhaled

NFPA health hazard

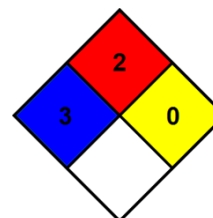
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*