1. Identification

Product identifier used on the label

N,N-Dimethylethanolamine S

Recommended use of the chemical and restriction on use

* The “Recommended use” identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller’s published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller’s sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula: C(4)H(11)NO
Chemical family: aliphatic, amine
Synonyms: 2-(Dimethylamino)ethanol

2. Hazards Identification


Classification of the product

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3 (Inhalation - vapour)</td>
<td>4 (oral)</td>
<td>4 (dermal)</td>
<td>1B</td>
<td>1</td>
<td>3 (irritating to respiratory system)</td>
</tr>
</tbody>
</table>

Flammable liquids
Acute toxicity
Acute toxicity
Acute toxicity
Skin corrosion/irritation
Specific target organ toxicity — single exposure

Specific eye damage/eye irritation
Aquatic Acute 3 Hazardous to the aquatic environment - acute

**Label elements**

**Pictogram:**

- Symbol for flammable liquid
- Symbol for harmful in contact with skin
- Symbol for respiratory irritation

**Signal Word:**

Danger

**Hazard Statement:**

- H226: Flammable liquid and vapour.
- H312: Harmful in contact with skin.
- H331: Toxic if inhaled.
- H302: Harmful if swallowed.
- H335: May cause respiratory irritation.
- H314: Causes severe skin burns and eye damage.
- H402: Harmful to aquatic life.

**Precautionary Statements (Prevention):**

- P271: Use only outdoors or in a well-ventilated area.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260: Do not breathe dust/gas/mist/vapours.
- P243: Take precautionary measures against static discharge.
- P273: Avoid release to the environment.
- P241: Use explosion-proof electrical/ventilating/lighting/equipment.
- P264: Wash with plenty of water and soap thoroughly after handling.
- P242: Use only non-sparking tools.
- P240: Ground/bond container and receiving equipment.

**Precautionary Statements (Response):**

- P310: Immediately call a POISON CENTER or doctor/physician.
- P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P303 + P361 + P352: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water.
- P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P370 + P378: In case of fire: Use... to extinguish.

**Precautionary Statements (Storage):**

- P403 + P235: Store in a well-ventilated place. Keep cool.
- P233: Keep container tightly closed.
- P405: Store locked up.

**Precautionary Statements (Disposal):**

- P501: Dispose of contents/container to hazardous or special waste collection point.
Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.


Emergency overview

DANGER:
CORROSIVE.
COMBUSTIBLE LIQUID.
Corrosive to skin and/or eyes.
Corrosive, causes burns.
RISK OF SERIOUS DAMAGE TO EYES.
INGESTION MAY CAUSE GASTRIC DISTURBANCES.
Use with local exhaust ventilation.
Wear NIOSH-certified chemical goggles.
Wear protective clothing.
Eye wash fountains and safety showers must be easily accessible.
Wear full face shield if splashing hazard exists.
Ground conductive equipment properly to prevent electrostatic discharge.
Wear a NIOSH-certified (or equivalent) organic vapour respirator.

3. Composition / Information on Ingredients


<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-01-0</td>
<td>&gt;= 99.9 - &lt;= 99.96 %</td>
<td>2-dimethylaminoethanol</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>CAS Number</th>
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<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>108-01-0</td>
<td>&gt;= 99.0 %</td>
<td>2-dimethylaminoethanol</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>&lt;= 0.2 %</td>
<td>Water</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

Description of first aid measures

General advice:
Immediately remove contaminated clothing. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. First aid personnel should pay attention to their own safety.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:
Wash affected areas with water while removing contaminated clothing. Immediate medical attention required.
If in eyes:
Immediate medical attention required. Wash affected eyes for at least 15 minutes under running water with eyelids held open.

If swallowed:
Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed
Symptoms: Overexposure may cause: shortness of breath, restlessness, coughing, headache.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media
Suitable extinguishing media:
dry powder, alcohol-resistant foam, water spray

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
nitrogen oxides, carbon oxides
The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Do not allow to enter drains or waterways. Contain contaminated water/firefighting water. Keep people away and stay on the upwind side.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Breathing protection required. Avoid contact with the skin, eyes and clothing.

Environmental precautions
Substance/product is RCRA hazardous due to its properties. Do not discharge into drains/surface waters/groundwater. This product is not regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up
Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations. Pick up with inert absorbent material (if possible).

7. Handling and Storage

Precautions for safe handling
Ensure thorough ventilation of stores and work areas. Handle and open container with care. Closed containers should only be opened in well-ventilated areas. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Display 'No Smoking' or 'No Open Lights' signs.

Protection against fire and explosion:
Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. May be ignited by heat, sparks or flames.

Conditions for safe storage, including any incompatibilities
Segregate from acids and acid forming substances.

Suitable materials for containers: High density polyethylene (HDPE), glass, Low density polyethylene (LDPE), Stove-lacquer RDL 16, Carbon steel (Iron)

Further information on storage conditions: Avoid extreme heat. Keep away from sources of ignition - No smoking.

8. Exposure Controls/Personal Protection

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) organic vapour respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Consult with glove manufacturer for testing data.

Eye protection:
Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

**General safety and hygiene measures:**
Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to prevent contact. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form:</strong></td>
<td>liquid</td>
</tr>
<tr>
<td><strong>Odour:</strong></td>
<td>ammonia-like</td>
</tr>
<tr>
<td><strong>Odour threshold:</strong></td>
<td>Not determined since toxic by inhalation.</td>
</tr>
<tr>
<td><strong>Colour:</strong></td>
<td>colourless</td>
</tr>
<tr>
<td><strong>pH value:</strong></td>
<td>10.5 - 11 (100 g/l)</td>
</tr>
<tr>
<td><strong>Melting point:</strong></td>
<td>-59 °C (measured)</td>
</tr>
<tr>
<td><strong>Boiling point:</strong></td>
<td>134.1 °C (1,013.25 hPa) (measured)</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>39 °C (DIN 51755)</td>
</tr>
<tr>
<td><strong>Flamability:</strong></td>
<td>Flammable.</td>
</tr>
<tr>
<td><strong>Lower explosion limit:</strong></td>
<td>For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.</td>
</tr>
<tr>
<td><strong>Upper explosion limit:</strong></td>
<td>For liquids not relevant for classification and labelling.</td>
</tr>
<tr>
<td><strong>Autoignition:</strong></td>
<td>245 °C (DIN 51794)</td>
</tr>
<tr>
<td><strong>Vapour pressure:</strong></td>
<td>67 mbar (60 °C)</td>
</tr>
<tr>
<td><strong>Density:</strong></td>
<td>0.887 g/cm³ (20 °C)</td>
</tr>
<tr>
<td></td>
<td>0.89 g/cm³ (21.6 °C) (pyknometer)</td>
</tr>
<tr>
<td><strong>Relative density:</strong></td>
<td>0.89 (21.6 °C) (pyknometer)</td>
</tr>
<tr>
<td><strong>Partitioning coefficient n-octanol/water (log Pow):</strong></td>
<td>-0.55 (23 °C) (internal method)</td>
</tr>
<tr>
<td><strong>Self-ignition temperature:</strong></td>
<td>Based on its structural properties the product is not classified as self-igniting.</td>
</tr>
<tr>
<td><strong>Thermal decomposition:</strong></td>
<td>No decomposition if used as directed.</td>
</tr>
<tr>
<td><strong>Viscosity, dynamic:</strong></td>
<td>3.85 mPa.s (20 °C)</td>
</tr>
<tr>
<td><strong>Solubility in water:</strong></td>
<td>miscible</td>
</tr>
<tr>
<td><strong>Molar mass:</strong></td>
<td>89.14 g/mol</td>
</tr>
<tr>
<td><strong>Evaporation rate:</strong></td>
<td>Value can be approximated from Henry's Law Constant or vapor pressure.</td>
</tr>
</tbody>
</table>

### 10. Stability and Reactivity

**Reactivity**

**Corrosion to metals:**
No corrosive effect on metal.

**Oxidizing properties:**
not fire-propagating

**Formation of flammable gases:**
Remarks: Forms no flammable gases in the presence of water.

**Chemical stability**
Possibility of hazardous reactions
The product is chemically stable.
Reacts with oxidizing agents. Strong exothermic reaction with acids.

Conditions to avoid

Incompatible materials
acids, isocyanates

Hazardous decomposition products
Decomposition products:
Hazardous decomposition products: carbon oxides, nitrogen oxides, nitrous gases

Thermal decomposition:
No decomposition if used as directed.

11. Toxicological information

Primary routes of exposure
Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Oral
Type of value: LD50
Species: rat (male/female)
Value: 1,183 mg/kg (OECD Guideline 401)

Inhalation
Type of value: LC50
Species: rat (male/female)
Value: 6.1 mg/l (OECD Guideline 403)
Exposure time: 4 h
The vapour was tested.

Species: rat
Value: (IRT)
Exposure time: 10 min
No Mortality within the stated exposition time as shown in animal studies, however, deaths occurred after longer exposure.

Dermal
Type of value: LD50
Species: rabbit
Value: 1,219 mg/kg (OECD Guideline 402)

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

Irritation / corrosion
Assessment of irritating effects: Corrosive! Damages skin and eyes.

Skin
Species: rabbit
Result: Corrosive.
Method: OECD Guideline 404

Eye
Species: rabbit
Result: Risk of serious damage to eyes.
Method: OECD Guideline 405

Sensitization
Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Buehler test
Species: guinea pig
Result: Non-sensitizing.
Method: OECD Guideline 406

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: The substance may cause damage to the upper respiratory tract after repeated inhalation, as shown in animal studies. After repeated exposure the prominent effect is local irritation.

Genetic toxicity
Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in a test with mammals.

Carcinogenicity
Assessment of carcinogenicity: Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies. In long-term animal studies in which the substance was given by inhalation in high concentrations, a carcinogenic effect was not observed.

Reproductive toxicity
Assessment of reproduction toxicity: The potential to impair fertility cannot be excluded when given at maternally toxic doses. The results were determined in a Screening test (OECD 421/422). Because the relevance of the results to human health is unclear, further tests will be initiated.

Teratogenicity
Assessment of teratogenicity: Causes developmental effects in animals at high, maternally toxic doses.

Development
OECD Guideline 414 rat (Wistar) (female) gavage 0, 300, 600 mg/kg
NOAEL Mat.: < 300 mg/kg
NOAEL Teratog.: < 300 mg/kg
similar to OECD guideline 414 rat (Fischer 344) (female) Inhalation 0, 10, 30, 100 ppm
NOAEL Mat.: > 100 ppm
NOAEL Teratog.: 10 ppm

**Symptoms of Exposure**

Overexposure may cause: shortness of breath, restlessness, coughing, headache

**Medical conditions aggravated by overexposure**

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See MSDS section 11 - Toxicological information.

### 12. Ecological Information

**Toxicity**

**Aquatic toxicity**

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

**Toxicity to fish**

LC50 (96 h) 146.6 mg/l, Leuciscus idus (DIN 38412 Part 15, static)

The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. The details of the toxic effect relate to the nominal concentration. After neutralization a reduction in harmful effect can be observed.

**Aquatic invertebrates**

EC50 (48 h) 98.4 mg/l, Daphnia magna (Directive 79/831/EEC, static)

The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. The details of the toxic effect relate to the nominal concentration.

**Aquatic plants**

EC50 (72 h) 66.1 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)

The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. After neutralization a reduction in harmful effect can be observed. The details of the toxic effect relate to the nominal concentration.

EC10 (72 h) 24.5 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)

The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. After neutralization a reduction in harmful effect can be observed. The details of the toxic effect relate to the nominal concentration.

**Chronic toxicity to fish**

Study scientifically not justified.

**Chronic toxicity to aquatic invertebrates**

Study scientifically not justified.

**Assessment of terrestrial toxicity**

Study scientifically not justified.

**Microorganisms/Effect on activated sludge**

**Toxicity to microorganisms**

OECD Guideline 209 static activated sludge, domestic/EC20 (30 min): > 1,000 mg/l
Limit concentration test only (LIMIT test). Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

**Persistence and degradability**

Assessment biodegradation and elimination (H2O)
Readily biodegradable (according to OECD criteria).

Elimination information

60.5 % BOD of the ThOD (14 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, Inoculum conforming to MITI requirements (OECD 301C))

**Bioaccumulative potential**

Assessment bioaccumulation potential
No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

**Mobility in soil**

Assessment transport between environmental compartments
The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

**Additional information**

Sum parameter

Biochemical oxygen demand (BOD): 1,050 mg/g

Other ecotoxicological advice:
Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

---

13. Disposal considerations

**Waste disposal of substance:**
Dispose of in accordance with national, state and local regulations. Do not discharge into waterways or sewer systems without proper authorization.

**Container disposal:**
Empty containers with less than 1 inch of residue may be landfilled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. If containers are not empty, they must be disposed of in a RCRA-licensed facility. WARNING: Empty containers may still contain hazardous residue.

**RCRA:** D001

---

14. Transport Information

**Land transport**
USDOT
15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories):
Fire; Chronic; Acute

State regulations

State RTK CAS Number Chemical name
MA, NJ, PA 108-01-0 2-dimethylaminoethanol

NFPA Hazard codes:
Health: 3 Fire: 2 Reactivity: 0 Special:

HMIS III rating
Health: 3 Flammability: 2 Physical hazard: 0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute 3 Hazardous to the aquatic environment - acute
Flam. Liq. 3 Flammable liquids
Skin Corr./Irrit. 1B Skin corrosion/irritation
Acute Tox. 4 (dermal) Acute toxicity
Acute Tox. 4 (oral) Acute toxicity
Acute Tox. 3 (Inhalation - vapour) Acute toxicity
STOT SE 3 (irritating to) Specific target organ toxicity — single exposure
16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2015/02/09

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