

Safety Data Sheet

Methyldiethanolamine

Revision date : 2014/11/20
Version: 4.0

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(30036978/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Methyldiethanolamine

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

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Eye Dam./Irrit. 2A Serious eye damage/eye irritation

Label elements

Pictogram:



Signal Word:

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Warning

Hazard Statement:
H319 Causes serious eye irritation.

Precautionary Statements (Prevention):
P280 Wear eye/face protection.
P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

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.

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

WARNING:
Causes eye irritation.
INGESTION MAY CAUSE GASTRIC DISTURBANCES.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of mists/vapours.
Wear a NIOSH-certified (or equivalent) organic vapour respirator.
Wear NIOSH-certified chemical goggles.
Wear chemical resistant protective gloves.
Wear protective clothing.
Eye wash fountains and safety showers must be easily accessible.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
105-59-9	>= 99.3 - <= 99.7 %	2,2'-methyliminodiethanol

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
105-59-9	> 99.0 %	2,2'-methyliminodiethanol

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

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If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Seek medical attention.

If on skin:

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible

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:
water spray, dry powder, alcohol-resistant foam, carbon dioxide

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:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:

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

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

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Environmental precautions

Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances.

Suitable materials for containers: Carbon steel (Iron), Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

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/particulate respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (chemical goggles).

General safety and hygiene measures:

Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to minimize contact.

9. Physical and Chemical Properties

Form: liquid
Odour: amine-like
Odour threshold:

Not determined due to potential health hazard by inhalation.

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Colour:	colourless to yellow	
pH value:	11.5	(100 g/l, 20 °C)
Melting point:	-21 °C	
Boiling point:	243 °C	
Flash point:	138 °C	(DIN 51758, closed cup)
Flammability:	not readily ignited	(other)
Lower explosion limit:		For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit:		For liquids not relevant for classification and labelling.
Autoignition:	280 °C	(DIN 51794)
Vapour pressure:	0.026 mbar	(40 °C)
Density:	1.04 g/cm ³	(20 °C, 1,013 hPa)
Relative density:	1.04	(20 °C, 1,013 hPa) (calculated)
Partitioning coefficient n-octanol/water (log Pow):	-1.08	(25 °C) (OECD Guideline 107)
Self-ignition temperature:	280 °C	(23 °C) (OECD Guideline 107)
		(other) not self-igniting
Thermal decomposition:	No decomposition if used as directed.	
Viscosity, dynamic:	34.78 mPa.s	(40 °C) Literature data.
Viscosity, kinematic:	99.05 mm ² /s	(20 °C) (DIN 51562)
Particle size:		(other)
Solubility in water:	> 1,000 g/l	(20 °C, 1,013 hPa) miscible
Molar mass:	119.16 g/mol	
Evaporation rate:		Value can be approximated from Henry's Law Constant or vapor pressure.
Other Information:	No data available.	

10. Stability and Reactivity

Reactivity

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing. (other)

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

Chemical stability

Possibility of hazardous reactions

The progress of reaction is exothermic. Reacts with halogenated compounds. Reacts with oxidizing agents. Reacts with acids. Reacts with acid chlorides. Incompatible with acid chlorides and acid anhydrides.

Conditions to avoid

Incompatible materials

acid chlorides, acid anhydrides, acid forming substances, acids, oxidizing agents, nitrosating agents

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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

Assessment of acute toxicity: Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.

Oral

Type of value: LD50

Species: rat

Value: 4,680 mg/kg (BASF-Test)

Inhalation

Species: rat

Value: (BASF-Test)

Exposure time: 8 h

Inhalation-risk test (IRT): No mortality within 8 hours as shown in animal studies. The inhalation of a highly saturated vapor-air mixture represents no acute hazard.

Dermal

Type of value: LD50

Species: rabbit

Value: 5,990 mg/kg (other)

Assessment other acute effects

Assessment of STOT single:

The available information is not sufficient for evaluation.

Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.

Skin

Species: rabbit

Result: non-irritant

Method: BASF-Test

Eye

Species: rabbit

Result: Irritant.

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Method: BASF-Test

Sensitization

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

Guinea pig maximization test

Species: guinea pig

Result: Non-sensitizing.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No adverse effects were observed after repeated dermal exposure in animal studies.

Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals. Literature data.

Carcinogenicity

Assessment of carcinogenicity: The whole of the information assessable provides no indication of a carcinogenic effect. Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.

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. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Teratogenicity

Assessment of teratogenicity: The substance did not cause malformations in animal studies. When given in high doses embryotoxicity was observed.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further symptoms are possible

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Toxicity to fish

LC50 (96 h) 1,466 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

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Nominal concentration. After neutralization no appreciable reduction in harmful effect can be observed.

Aquatic invertebrates

EC50 (48 h) 233 mg/l, Daphnia magna (Directive 79/831/EEC, static)

Nominal concentration.

Aquatic plants

EC50 (72 h) 176 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9)

Nominal concentration.

No observed effect concentration (72 h) 6.25 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9)

Nominal concentration.

Chronic toxicity to fish

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates

No observed effect concentration (96 h) > 100 mg/l, aquatic crustacea (other, static)

Assessment of terrestrial toxicity

Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

Directive 88/302/EEC, part C, p. 118 aerobic activated sludge, domestic/EC20 (30 min): > 1,000 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Readily biodegradable (according to OECD criteria).

Elimination information

96 % DOC reduction (18 d) (OECD 301 A (new version)) (aerobic, activated sludge, domestic)

15 % BOD of the ThOD (63 d) (OECD Guideline 306) (aerobic, Seawater)

Information on Stability in Water (Hydrolysis)

According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Bioaccumulation potential

Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

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

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Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations. Do not discharge substance/product into sewer system.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Not classified as a dangerous good under transport regulations

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories):

Acute; Chronic

NFPA Hazard codes:

Health : 2 Fire: 1 Reactivity: 0 Special:

HMIS III rating

Health: 2 Flammability: 1 Physical hazard: 0

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

Eye Dam./Irrit.

2A

Serious eye damage/eye irritation

Acute Tox.

5 (oral)

Acute toxicity

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16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2014/11/20

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