

Safety data sheet

Monoethanolamine pure

Revision date : 2006/04/20
Version: 2.1

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(30036866/MDS_GEN_US/EN)

1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

Molecular formula: C(2)H(7)NO
Chemical family: alkanolamine
Synonyms: 2-Aminoethanol

2. Composition/information on ingredients

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
141-43-5	80.0 - 100.0 %	2-aminoethanol

3. Hazard identification

Emergency overview

DANGER: COMBUSTIBLE. CORROSIVE LIQUID. Corrosive to the skin, eyes and respiratory system.
RISK OF SERIOUS DAMAGE TO EYES.

Skin contact may result in dermatitis and deep burns.

MAY BE HARMFUL IF SWALLOWED.

MAY BE HARMFUL IF ABSORBED THROUGH SKIN.

INGESTION MAY CAUSE GASTRIC DISTURBANCES.

Avoid contact with the skin, eyes and clothing.

Avoid inhalation of mists/vapours.

Use with local exhaust ventilation.

Wear NIOSH-certified chemical goggles.

Wear chemical resistant protective gloves.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

Potential health effects

Primary routes of exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

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.

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Potential environmental effects

Aquatic toxicity:

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

4. First-aid measures

General advice:

Remove contaminated clothing.

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. Remove contaminated clothing. Immediate medical attention required. Wash soiled clothing immediately.

If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:

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

5. Fire-fighting measures

Flash point:	92.5 °C	(DIN/EN 22719; ISO 2719)
Autoignition:	410 °C	(DIN 51794)
Lower explosion limit:	3.4 %(V)	(88.3 °C)
Upper explosion limit:	27.0 %(V)	(133.8 °C)

Suitable extinguishing media:

water, dry extinguishing media, carbon dioxide, foam

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

NFPA Hazard codes:

Health : 3 Fire: 2 Reactivity: 0 Special:

6. Accidental release measures

Personal precautions:

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

Environmental precautions:

This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund').

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Cleanup:

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

7. Handling and storage

Handling

General advice:

See MSDS section 10 - Stability and reactivity. See MSDS section 5 - Fire fighting measures.

Protection against fire and explosion:

Moderate explosion hazard when exposed to heat or flames. See MSDS section 5 - Fire fighting measures.

Storage

General advice:

Avoid extreme heat. Keep away from sources of ignition - No smoking.

Storage incompatibility:

General: Segregate from acids and acid forming substances.

Storage stability:

Storage temperature: 20 °C

Storage duration: 5 - 12 Months

The storage stability is conditional on the used material of the storage container.

May discolour after lengthy storage.

8. Exposure controls and personal protection

Components with workplace control parameters

2-aminoethanol	OSHA	PEL 3 ppm 6 mg/m ³ ;
	ACGIH	TWA value 3 ppm ; STEL value 6 ppm ;

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. 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. Observe OSHA regulations for respirator use (29 CFR 1910.134).

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 DIN-EN 465).

General safety and hygiene measures:

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

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9. Physical and chemical properties

Form:	liquid	
Odour:	amine-like	
Colour:	colourless	
pH value:	12.1	(100 g/l, 20 °C)
Melting point:	approx. 10 °C	
Boiling point:	approx. 170 °C	
Vapour pressure:	0.5 mbar	(20 °C)
Density:	1.016 g/cm ³	(20 °C)
Partitioning coefficient n-octanol/water (log Pow):	-1.91	(25 °C) (OECD Guideline 107)
Viscosity, kinematic:	20 mm ² /s	(23 °C)
Solubility in water:		(20 °C) miscible

10. Stability and reactivity

Substances to avoid:
acids

Hazardous reactions:
The product is chemically stable.
Reacts with oxidizing agents.

Corrosion to metals:
No data available.

11. Toxicological information

Acute toxicity

Oral:
LD50/rat: 1,510 mg/kg
Moderately toxic.

Inhalation:
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:
LD50/rabbit: 1,025 mg/kg
Literature data.

Skin irritation:
rabbit: Corrosive. (BASF-Test)

Eye irritation :
rabbit: Corrosive.

Chronic toxicity

Other information:
No experimental evidence available for genotoxicity in vitro (Ames test negative).
No experimental evidence available for genotoxicity in vivo (micro-nucleus test negativ).

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12. Ecological information

Environmental fate and transport

Biodegradation:

Test method: OECD 301F; ISO 9408; 92/69/EEC, C.4-D (aerobic), activated sludge, domestic
Degree of elimination: 90 - 100 % (28 d)
Evaluation: Readily biodegradable (according to OECD criteria).

Bioaccumulation:

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

Biochemical oxygen demand (BOD):

Incubation period 5 d: 800 mg/g

Environmental toxicity

Acute and prolonged toxicity to fish:

APHA 1971 static
Goldfish/LC50 (96 h): 170 mg/l
The statement of the toxic effect relates to the analytically determined concentration. Literature data.

Acute toxicity to aquatic invertebrates:

Directive 84/449/EEC, C.2 Daphnia magna/EC50 (48 h): 65 mg/l
The statement of the toxic effect relates to the analytically determined concentration. Literature data.

Toxicity to aquatic plants:

Guideline 92/69/EEC, C.3 green algae/EC50 (72 h): 22 mg/l
The statement of the toxic effect relates to the analytically determined concentration. Literature data.

Toxicity to microorganisms:

DIN/EN/ISO 8192-OECD 209-88/302/EEC,P. C aquatic activated sludge, domestic/EC20 (0.5 h): > 1,000 mg/l
DIN 38412 Part 8 aquatic bacterium/EC50 (17 h): 110 mg/l
Literature data.

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:

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

Container disposal:

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

14. Transport information

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Land transport

USDOT

Proper shipping name: ETHANOLAMINE
Hazard class: 8
ID-number: UN 2491
Packing group: III

Sea transport

IMDG

Proper shipping name: ETHANOLAMINE
Hazard class: 8
ID-number: UN 2491
Packing group: III
Marine pollutant: NO

Air transport

IATA/ICAO

Proper shipping name: ETHANOLAMINE
Hazard class: 8
ID-number: UN 2491
Packing group: III

15. Regulatory information

Federal Regulations

Registration status:

TSCA, US released / listed

OSHA hazard category: OSHA PEL established, ACGIH TLV established, Corrosive to skin and/or eyes, Combustible Liquid, Toxic - oral, Toxic - dermal

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
100 LBS	111-42-2	2,2'-iminodiethanol

SARA hazard categories (EPCRA 311/312): Acute, Fire

SARA 313:

<u>CAS Number</u>	<u>Chemical name</u>
111-42-2	2,2'-iminodiethanol

State regulations

State RTK

<u>CAS Number</u>	<u>Chemical name</u>	<u>State RTK</u>
141-43-5	2-aminoethanol	MA, NJ, PA

16. Other information

HMIS III rating

Health: 3 Flammability: 2 Physical hazard: 0

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HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

Local contact information

prod_reg@basf.com

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