

Safety Data Sheet

Polyetheramine D 2000

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Version: 4.0

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(30057549/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

Polyetheramine D 2000

Recommended use of the chemical and restriction on use

Recommended use*: Chemical used in synthesis and/or formulation of industrial products

* The "Recommended use" identified for this product is provided solely to comply with a 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(3)H(8)N-{C(3)H(6)O}N-C(3)H(7)O
Chemical family: aliphatic, diamines
Synonyms: Polyetheramine D 2000
Polyoxypropylenediamine

2. Hazards Identification

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

Classification of the product

Skin Corr./Irrit.	1C	Skin corrosion/irritation
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic

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Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

H314 Causes severe skin burns and eye damage.
H402 Harmful to aquatic life.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.
P260 Do not breathe dust or mist.
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.
P310 Immediately call a POISON CENTER or doctor/physician.
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.
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P363 Wash contaminated clothing before reuse.

Precautionary Statements (Storage):

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.

3. Composition / Information on Ingredients

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

<u>CAS Number</u>	<u>Weight %</u>	<u>Chemical name</u>
9046-10-0	>= 96.0 - <= 100.0%	alpha-(2-Aminomethylethyl)-omega-(2-aminomethylethoxy)- poly(oxy(methyl-1,2-ethanediyl))

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4. First-Aid Measures

Description of 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. Seek medical attention.

If on skin:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:

Do not induce vomiting. 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:

toxic gases/vapours

Depolymerisation and liberation of the mentioned substances/groups of substances.

Advice for fire-fighters

Protective equipment for fire-fighting:

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

Further information:

If exposed to fire, keep containers cool by spraying with water. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

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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.

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. Remove contaminated clothing and protective equipment before entering eating areas. Hands and/or face should be washed before breaks and at the end of the shift. When using do not eat, drink or smoke. Keep away from sources of ignition - No smoking. Keep container tightly sealed.

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.

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place.

8. Exposure Controls/Personal Protection

No occupational exposure limits known.

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.

Hand protection:

Chemical resistant protective gloves

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Eye protection:

Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

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

Form:	liquid	
Odour:	amine-like	
Colour:	yellowish	
pH value:	10 - 11 (5 g/l, 20 °C)	
Melting point:	-29 °C	
Boiling point:	> 250 °C	
Flash point:	234 °C	(DIN ISO 2592)
Flammability:	hardly combustible	(derived from flash point)
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:	230 °C	(DIN EN 14522)
SADT:	Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
Vapour pressure:	0.9 hPa (20 °C) static, Extrapolated value	(OECD Guideline 104)
Density:	0.9943 g/cm ³ (20 °C) 0.9720 g/cm ³ (50 °C)	(ISO 2811-1) (ISO 2811-1)
Partitioning coefficient n-octanol/water (log Pow):	1.34 (25 °C)	(OECD Guideline 117)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	290 °C, > 350 kJ/kg (DSC (DIN 51007)) Thermal decomposition above the indicated temperature is possible. self-accelerating reaction	
Viscosity, dynamic:	313.1 mPa.s (20 °C) 75.8 mPa.s (50 °C)	
Viscosity, kinematic:	314.9 mm ² /s (20 °C) 78.0 mm ² /s (50 °C)	(DIN 51562) (DIN 51562)
Particle size:	The substance / product is marketed or used in a non solid or granular form.	

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Solubility in water:	(20 °C) miscible
Miscibility with water:	partly miscible
Molar mass:	approx. 2,000 g/mol
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

10. Stability and Reactivity

Reactivity

Corrosion to metals:
Corrosive effects to metal are not anticipated.

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

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

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Evolution of heat under influence of acids.

Conditions to avoid

No special precautions other than good housekeeping of chemicals.

Incompatible materials

acids, isocyanates, oxidizing agents

Hazardous decomposition products

Decomposition products:
Possible thermal decomposition products: toxic gases/vapours

Thermal decomposition:
290 °C (DSC (DIN 51007))
Thermal decomposition above the indicated temperature is possible. self-accelerating reaction

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

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

Oral

Type of value: LD50

Species: rat (male/female)

Value: 2,885 mg/kg (similar to OECD guideline 401)

Inhalation

Type of value: LC0

Species: rat (male/female)

Value: > 0.74 mg/l (IRT)

Exposure time: 8 h

No mortality was observed.

Dermal

Type of value: LD50

Species: rabbit (male/female)

Value: 2,980 mg/kg (similar to OECD guideline 402)

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion

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

Skin

Species: rabbit

Result: Corrosive.

Method: similar to OECD guideline 404

Eye

Species: rabbit

Result: Risk of serious damage to eyes.

Method: similar to OECD guideline 405

Sensitization

Assessment of sensitization: As the substance is corrosive, conducting sensitization studies is not feasible.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No substance-specific organotoxicity was observed after repeated administration to animals. After repeated exposure the prominent effect is local irritation.

Genetic toxicity

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

Carcinogenicity

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Assessment of carcinogenicity: No data available concerning carcinogenic effects.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The results were determined in a Screening test (OECD 421/422).

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. Mortality observed in rabbits following oral gavage exposure to this corrosive substance. However, the relevance of this result for humans is unclear.

Other Information

No experimental evidence available for genotoxicity in vitro (Ames test negative). Literature data.

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:

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) > 15 mg/l, *Oncorhynchus mykiss* (OECD Guideline 203, semistatic)

The details of the toxic effect relate to the nominal concentration. Limit concentration test only (LIMIT test).

LC50 (96 h) 772.14 mg/l, *Cyprinodon variegatus* (OECD Guideline 203, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic invertebrates

EC50 (48 h) 80 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

The details of the toxic effect relate to the nominal concentration.

EC50 (48 h) 418.34 mg/l, *Arcatia tonsa* (Daphnia test acute, static)

The details of the toxic effect relate to the nominal concentration.

Aquatic plants

EC50 (72 h) 15 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration.

EC10 (72 h) 1.4 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)

The details of the toxic effect relate to the nominal concentration.

No observed effect concentration (72 h) 100 mg/l, *Skeletonema costatum* (ISO/DIS 10253, static)

The details of the toxic effect relate to the nominal concentration.

EC50 (72 h) 141.72 mg/l, *Skeletonema costatum* (ISO/DIS 10253, static)

The details of the toxic effect relate to the nominal concentration.

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Chronic toxicity to fish

No data available regarding toxicity to fish.

Chronic toxicity to aquatic invertebrates

No data available regarding toxicity to daphnids.

Assessment of terrestrial toxicity

No data available concerning terrestrial toxicity.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 aerobic

activated sludge of a predominantly domestic sewage/EC20 (3 h): 380 mg/l

The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Not readily biodegradable (by OECD criteria).

Elimination information

0 % CO₂ formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic)

Assessment of stability in water

In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis)

t_{1/2} > 1 a (25 °C, pH value 7), (Directive 92/69/EEC, C.7)

In contact with water the substance will hydrolyse slowly.

Assessment photodegradation

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

Photodegradation

t_{1/2} (Indirect photolysis) 1.6 h; OH radical

After evaporation or exposure to the air, the product will be rapidly degraded by photochemical processes.

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

Adsorbable organically-bound halogen (AOX):

This product contains no organically-bound halogen.

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13. Disposal considerations

Waste disposal of substance:

Incinerate in a licensed facility. 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

Hazard class:	8
Packing group:	III
ID number:	UN 2735
Hazard label:	8
Proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)

Sea transport

IMDG

Hazard class:	8
Packing group:	III
ID number:	UN 2735
Hazard label:	8
Marine pollutant:	NO
Proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)

Air transport

IATA/ICAO

Hazard class:	8
Packing group:	III
ID number:	UN 2735
Hazard label:	8
Proper shipping name:	AMINES, LIQUID, CORROSIVE, N.O.S. (contains POLYETHERDIAMINE)

15. Regulatory Information

Federal Regulations**Registration status:**

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

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NFPA Hazard codes:

Health: 3 Fire: 0 Reactivity: 0 Special:

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

Acute Tox.	5 (oral)	Acute toxicity
Acute Tox.	5 (dermal)	Acute toxicity
Skin Corr./Irrit.	1C	Skin corrosion/irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2019/06/04

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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