

Safety Data Sheet

Butylethanolamine

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(30036910/SDS GEN US/EN)

1. Identification

Product identifier used on the label

Butylethanolamine

Recommended use of the chemical and restriction on use

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

Recommended use*: Chemical

* 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

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula:	C(6)H(15)NO
Chemical family:	amine
Synonyms:	2-(Butylamino)ethanol

2. Hazards Identification

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

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Skin Irrit.	2	Skin irritation
Eye Dam.	1	Serious eye damage

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STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H302	Harmful if swallowed.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing mist or vapour or spray.
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
P264	Wash contaminated body parts 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 physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P330	Rinse mouth.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

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

Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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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

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butylamine

CAS Number: 109-73-9
Content (W/W): ≥ 0.01 - $\leq 0.1\%$
Synonym: 1-Bulanamine; n-Butylamine

2-butylaminoethanol

CAS Number: 111-75-1
Content (W/W): ≥ 99.5 - $\leq 99.9\%$
Synonym: 2-(Butylamino)ethanol

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. Immediate medical attention required.

If on skin:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing. Immediate medical attention required.

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:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., Further symptoms are possible

Information on: 2-butylaminoethanol

Symptoms: Overexposure may cause:; corneal injury, skin corrosion, severe pain, coughing, respiratory disorders, dyspnea, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps, Inhalation may provoke the following symptoms:; irritation of respiratory tract

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. Pulmonary odema prophylaxis. Medical monitoring for at least 24 hours.

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5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
No particular hazards known.

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.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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').

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:

The product is combustible. 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. Keep away from sources of ignition - No smoking.

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8. Exposure Controls/Personal Protection

Components with occupational exposure limits

butylamine	ACGIH, US:	CLV 5 ppm ;
	OSHA Z1:	Skin Designation ; The substance can be absorbed through the skin.
	OSHA Z1:	CLV 5 ppm 15 mg/m3 ;
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption

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 should be worn to prevent all skin contact., Consult with glove manufacturer for testing data., Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Tightly fitting safety goggles (chemical goggles) and face shield.

Body protection:

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. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Form:	liquid	
Odour:	amine-like	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Colour:	colourless to yellow	
pH value:	11.9 (100 g/l, 20 °C)	
Melting point:	-2.5 °C (1,013 hPa)	(OECD Guideline 102)

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Freezing point:	No data available.	
Boiling point:	197.7 °C (1,004 hPa)	(OECD Guideline 103)
Flash point:	97.5 °C	(Regulation 440/2008/EC, A.9, closed cup)
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:	300 °C	(Regulation 440/2008/EC, A.15)
Vapour pressure:	13.94 Pa (20 °C)	(OECD Guideline 104)
Density:	0.8917 g/cm3 (20 °C)	(other)
Relative density:	0.89 (20 °C, 1,013 hPa)	(calculated)
Vapour density:	> 1 (20 °C)	(estimated)
Partitioning coefficient n-octanol/water (log Pow):	0.64 (25 °C)	(OECD Guideline 107)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	No data available. No decomposition if used as directed.	
Viscosity, dynamic:	19.7 mPa.s (20 °C)	(internal method)
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	1,000 g/l (20 °C)	
Miscibility with water:	miscible	
Solubility (qualitative):	miscible in all proportions soluble solvent(s): organic solvents,	
Molar mass:	117.19 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

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.

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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.

Conditions to avoid

Avoid extreme temperatures.

Incompatible materials

acids, isocyanates, oxidizing agents

Hazardous decomposition products

Decomposition products:

Thermal decomposition products: carbon oxides, nitrogen oxides

Thermal decomposition:

No data available. 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 moderate toxicity after single ingestion. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard. Virtually nontoxic after a single skin contact.

Oral

Type of value: LD50

Species: rat

Value: approx. 892 mg/kg (ca. 1000 µl/kg) (similar to OECD guideline 401)

Inhalation

Species: rat

Value: (IRT)

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: > 2,000 mg/kg (Limit test)

No mortality was observed.

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Assessment other acute effects

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

Irritation / corrosion

Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes.

Skin

Species: rabbit

Result: Irritant.

Method: OECD Guideline 404

Eye

Species: rabbit

Result: irreversible damage

Method: similar to OECD guideline 405

Sensitization

Assessment of sensitization: Study scientifically not justified.

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation.

Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture.

Carcinogenicity

Assessment of carcinogenicity: No data available concerning carcinogenic effects.

Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

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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) approx. 100 mg/l, *Leuciscus idus* (DIN 38412 Part 15, static)

The details of the toxic effect relate to the nominal concentration. After neutralization, it is no longer toxic.

Aquatic invertebrates

EC50 (48 h) 180 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants

EC50 (72 h) 30 mg/l (growth rate), *Desmodesmus subspicatus* (OECD Guideline 201, static)

The statement of the toxic effect relates to the analytically determined concentration.

EC10 (72 h) 2.4 mg/l (growth rate), *Desmodesmus subspicatus* (OECD Guideline 201, static)

The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to fish

Study not necessary due to exposure considerations.

Chronic toxicity to aquatic invertebrates

Study not necessary due to exposure considerations.

Assessment of terrestrial toxicity

No data available concerning terrestrial toxicity.

Study not necessary due to exposure considerations.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 activated sludge, domestic/EC20 (3 h): > 1,000 mg/l

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

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Readily biodegradable (according to OECD criteria).

Elimination information

61 % BOD of the ThOD (28 d) (OECD 301D; 92/69/EWG, C.4-E) (aerobic, activated sludge, domestic)

75 % CO₂ formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EWG, C.4-C) (aerobic, activated sludge, domestic, non-adapted)

Assessment of stability in water

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

Information on Stability in Water (Hydrolysis)

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

Bioaccumulative potential

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Assessment bioaccumulation potential

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

Bioaccumulation potential

Bioconcentration factor: 3.16 (calculated)

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

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.

The data refer to the uncharged form of the substance.

Adsorption to solid soil phase is not expected.

The data refer to the uncharged form of the substance.

Additional information

Adsorbable organically-bound halogen(AOX):

This product contains no organically-bound halogen.

Other ecotoxicological advice:

The local regulations on waste-water treatment must be followed.

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

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

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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.

NFPA Hazard codes:

Health: 3 Fire: 1 Reactivity: 0 Special:

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

Skin Corr./Irrit.	2	Skin corrosion/irritation
Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
Aquatic Acute	3	Hazardous to the aquatic environment - acute

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2024/11/20

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