

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006 as amended from time to time.

Date / Revised: 02.01.2015

Version: 10.0

Product: **BUTYLDIGLYCOL**

(ID no. 30034744/SDS_GEN_EU/EN)

Date of print 03.01.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

BUTYLDIGLYCOL

Chemical name: Butyl diglycol

CAS Number: 112-34-5

REACH registration number: 01-2119475104-44-0006, 01-2119475104-44

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: process chemical, solvent(s)

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Petrochemicals

Telephone: +49 621 60-42151

E-mail address: sds-petrochemicals@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

Eye Dam./Irrit. 2

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:

Irritating to eyes.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:



Signal Word:

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.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: BUTYL DIGLYCOL

According to Directive 67/548/EEC or 1999/45/EC

Regulation 1272/2008/EC on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation 1907/2006/EC

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Hazard symbol(s)

Xi Irritant.



R-phrase(s)

R36 Irritating to eyes.

S-phrase(s)

S2 Keep out of the reach of children.

S24 Avoid contact with skin.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Hazard determining component(s) for labelling: BUTYL DIGLYCOL

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

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.

See section 12 - Results of PBT and vPvB assessment.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Chemical nature

2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether

CAS Number: 112-34-5

EC-Number: 203-961-6

INDEX-Number: 603-096-00-8

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

3.2. Mixtures

Not applicable

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

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

On ingestion:

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

4.2. 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.

Hazards: No hazard is expected under intended use and appropriate handling.

4.3. Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray, dry powder, foam, carbon dioxide

5.2. Special hazards arising from the substance or mixture

The product is combustible. Cool endangered containers with water-spray.

5.3. Advice for fire-fighters

Special protective equipment:

Wear a self-contained breathing apparatus.

Further information:

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

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Handle in accordance with good industrial hygiene and safety practice.

6.2. Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For large amounts: Pump off product.

For residues: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Prevent contact with air/oxygen (formation of peroxide). Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:

Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

112-34-5: 2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether

TWA value 67.5 mg/m³ ; 10 ppm (OEL (EU))

indicative

STEL value 101.2 mg/m³ ; 15 ppm (OEL (EU))

indicative

PNEC

freshwater: 1 mg/l

marine water: 0.1 mg/l

intermittent release: 3.9 mg/l

sediment (freshwater): 4 mg/kg

sediment (marine water): 0.4 mg/kg

STP: 200 mg/l

oral (secondary poisoning): 56 mg/kg

soil: 0.4 mg/kg

DNEL

worker:

Long-term exposure - systemic and local effects, Inhalation: 67.5 mg/m³, 10 ppm

worker:

Long-term exposure- systemic effects, dermal: 20 mg/kg

consumer:

Short-term exposure - local effects, Inhalation: 50.6 mg/m³, 7.5 ppm

consumer:

Long-term exposure - systemic and local effects, Inhalation: 34 mg/m³, 5 ppm

consumer:

Long-term exposure- systemic effects, dermal: 10 mg/kg

consumer:

Long-term exposure- systemic effects, oral: 1.25 mg/kg

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

nitrile rubber (NBR) - 0.4 mm coating thickness

Manufacturer's directions for use should be observed because of great diversity of types.

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g.

temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

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).

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	almost odourless	
pH value:	(20 °C) neutral, miscible	
Melting point:	-68.0 °C	(other)
Boiling point:	Literature data. 230.5 °C	(other)
Flash point:	(1,013.25 hPa) 105 °C	(ASTM D93, closed cup)
Evaporation rate:	not determined	
Flammability:	not readily ignited	(other)
Lower explosion limit:	0.69 %(V) 46 g/m ³ (102.2 °C)	(air)
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Ignition temperature:	210 °C	(DIN 51794)
Vapour pressure:	0.03 hPa (25 °C) Literature data.	(measured)
Density:	approx. 0.9553 g/cm ³ (20 °C)	(other)
Relative density:	Literature data. 0.9553 (20 °C) Literature data.	(other)

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Relative vapour density (air):	not determined	
Solubility in water:	miscible (20 °C)	(other)
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Kow):	1 (20 °C; pH value: 7)	(OECD Guideline 117)
Self ignition:	not self-igniting	
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	6.49 mPa.s (20 °C)	
	Literature data.	
Explosion hazard:	not explosive	(other)
Fire promoting properties:	not fire-propagating	(other)

9.2. Other information

pKA:	14.77 (25 °C)	(calculated)
Surface tension:	The substance does not dissociate.	
	Based on chemical structure, surface activity is not to be expected.	
Grain size distribution:	The substance / product is marketed or used in a non solid or granular form.	
Molar mass:	162.23 g/mol	

SECTION 10: Stability and Reactivity

10.1. Reactivity

Corrosion to metals:	No corrosive effect on metal.	
Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Reacts with strong oxidizing agents. Reacts with light metals, with evolution of hydrogen.

10.4. Conditions to avoid

No special precautions other than good housekeeping of chemicals.

10.5. Incompatible materials

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Substances to avoid:
strong oxidizing agents

10.6. Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

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.

Experimental/calculated data:

LD50 mouse (oral): 2,410 mg/kg (OECD Guideline 401)

other rat (by inhalation): > 29 ppm 2 h (IRT)

No mortality was observed. An aerosol was tested.

LD50 rabbit (dermal): 2,764 mg/kg (OECD Guideline 402)

Irritation

Assessment of irritating effects:

Eye contact causes irritation. May cause slight irritation to the skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)

Germ cell mutagenicity

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 studies with mammals.

Carcinogenicity

Assessment of carcinogenicity:

The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity:

Animal studies gave no indication of a fertility impairing effect at doses which were not toxic to the parental animals. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Developmental toxicity

Assessment of teratogenicity:

Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

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

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

After repeated exposure the prominent effect is local irritation. Repeated oral exposure to large quantities may affect certain organs. No adverse effects were observed after repeated dermal exposure in animal studies. No adverse effects were observed after repeated inhalative exposure in animal studies.

Aspiration hazard

not applicable

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to 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) 1,300 mg/l, *Lepomis macrochirus* (OECD Guideline 203, static)

Literature data. Nominal concentration.

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, Daphnia magna (Directive 92/69/EEC, C.2, static)

Nominal concentration.

Aquatic plants:

EC50 (96 h) > 100 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201, static)

Nominal concentration.

Microorganisms/Effect on activated sludge:

EC10 (30 min) > 1,995 mg/l, activated sludge, industrial (OECD Guideline 209, aquatic)

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.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Elimination information:

80 - 90 % BOD of the ThOD (28 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, Inoculum conforming to MITI requirements (OECD 301C))

Assessment of stability in water:

Study scientifically not justified.

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

Significant accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:

Volatility: The substance will not evaporate into the atmosphere from the water surface.

Adsorption in soil: Adsorption to solid soil phase is not expected. Study scientifically not justified.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT

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(Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.7. Additional information

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

Other ecotoxicological advice:
Do not release untreated into natural waters.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

The waste codes are manufacturer's recommendations based on the designated use of the product. Other use and special waste disposal treatment on customer's location may require different waste-code assignments.

Contact the manufacturer directly in case of waste disposal problems with the assigned waste-codes.

Contaminated packaging:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

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	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
Transport in inland waterway vessel:	No dangerous good in inland waterway vessel Environmental hazards: no

Sea transport

IMDG

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

user

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	IBC
Shipment approved:	1
Pollution name:	Poly(2-8)Alkylene Glykol Monoalkyl (C1-C6)ether
Pollution category:	Z
Ship Type:	3

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006

Number on List: 55

Restriction Type: Shall not be placed on the market for the first time after 27 June 2010, for supply to the general public, as a constituent of spray paints or spray cleaners in aerosol dispensers in concentrations equal to or greater than 3 % by weight.

Spray paints and spray cleaners in aerosol dispensers containing DEGBE and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010. Without prejudice to other Community legislation concerning the classification, packaging and

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labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3 % by weight of that are placed on the market for supply to the general public are visibly, legibly and indelibly marked by 27 December 2010 as follows: "Do not use in paint spraying equipment".

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

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

Acute Tox. 5 (oral)

Acute Tox. 5 (dermal)

Eye Dam./Irrit. 2B

Skin Corr./Irrit. 3

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

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

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.