

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Identifier

Trade Names: Butyl Glycol Ether
REACH Registration Number: 01-2119475108-36-XXXX
Substance Name: 2-butoxyethanol
CAS Number: 111-76-2
EINECS Number: 203-905-0
Tariff Number: 29043-3030

Relevant identified uses of the substance or mixture and uses advised against:

Identified use(s): Industrial use raw material for washing and cleaning agents.
Solvent.
Raw material for printing inks and printing ink additives.

Company name: Nexchem Ltd
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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

The product is classified and labelled according to the GB CLP regulation.

Acute toxicity Category 4 (Oral) Harmful if swallowed.
Acute toxicity Category 4 (Inhalation) Harmful if inhaled.
Skin irritation Category 2 Causes skin irritation.
Eye irritation Category 2 Causes serious eye irritation.

Label elements:

Hazard Pictogram:



Signal word: Warning.

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Hazard statement(s):	H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled. H315 Causes skin irritation. H319 Causes serious eye irritation.
Precautionary statement(s):	P261 Avoid breathing dust/ fume/ gas/mist/ vapours/ spray. P264 Wash skin thoroughly after handling P280 Wear eye protection/ face protection/protective gloves/ protective clothing. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label: 2-butoxyethanol

Other hazards:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Ecological information:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

3. COMPOSITION / INFORMATION ON INGREDIENTS

This product is a mixture in the meaning of regulation (EC) 1907/2006.

COMPONENTS TO BE NAMED IN ACCORDANCE WITH REGULATION (EC) 1907/2006 AS WELL AS OTHER HAZARDOUS INGREDIENTS AND CONTAINED SUBSTANCES WITH WORKPLACE LIMIT VALUES

Mixture:	
Substance Name (CLP/REACH):	2-butoxyethanol
Content:	>= 90 -<=100%
Component type:	Active ingredient
EC No.:	203-905-0
Index No.:	603-014-00-0
CAS No.:	111-76-2
REACH Registration No.:	01-2119475108-36-XXXX
Classification:	Acute Tox. 4 (Oral) H302 Acute Tox. 4 (Dermal) H312 Acute Tox. 4 (Inhalation) H332 Skin Irrit. 2 H315 Eye Irrit. 2 H319

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For information on ingredients listed on the candidate list (Candidate List of Substances of Very High Concern for Authorisation) or in the list of substances subject to authorization (Annex XIV of Regulation (EC) No 1907/2006), see section 15.1. of this data sheet.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Other data: Stabilised by the addition of an inhibitor.

4. FIRST AID MEASURES

General Advice: Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Provide fresh air. Call a physician immediately

Skin Contact: Wash off with plenty of water immediately, seek medical advice if necessary. Take off all contaminated clothing immediately

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

Ingestion: Rinse mouth. Call a physician immediately

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Risks: Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye irritation.

Indication of any immediate medical attention and special treatment needed:

For specialist advice physicians should contact the Poisons Information Service.

5. FIRE-FIGHTING MEASURES

Extinguishing Media:

Suitable extinguishing media: Water spray, Dry powder, Foam, Carbon dioxide (CO₂)

Special hazards arising from the substance or mixture:

Specific hazards during firefighting: No information available.

Advice for firefighters:

Further information: Standard procedure for chemicals fires. In the event of fire, cool tanks with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Personal precautions: Use personal protective equipment.

Environmental precautions: Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up: Soak up with inert absorbent material.
(e.g. sand, silica gel, acid binder, universal binder, sawdust).

Reference to other sections: For personal protection see section 8.

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7. HANDLING AND STORAGE

Precautions for safe handling:

Advice on safe handling: Wear personal protective equipment. Avoid contact with skin and eyes.

Advice on protection against fire and explosion: Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities: No further information.

Specific end uses: Consult the technical guidelines for the use of this substance/mixture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

National occupational exposure limits:

Component	CAS No.	Value	Control Parameters	Update	Basis
2-butoxyethanol	111-76-2	TWA	25 ppm	2005-04-06	United Kingdom. Workplace Exposure Limits (EH40/2005): Table 1.
		STEL	50 ppm	2005-04-06	United Kingdom. Workplace Exposure Limits (EH40/2005): Table 1.

Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.

European occupational exposure limits:

Component	CAS No.	Value	Control Parameters	Update	Basis
2-butoxyethanol	111-76-2	TWA	20 ppm 98 mg/m ³	2000-06-16	EU. Annex of Directive 2000/39/EC establishing a first list of
		STEL	50 ppm 246 mg/m ³	2000-06-16	EU. Annex of Directive 2000/39/EC establishing a first list of

Skin: Identifies the possibility of significant uptake through the skin. Indicative

Biological occupational exposure limits:

Substance name	Control parameters	Sampling time	Update	Basis
2-butoxyethanol	butoxyacetic acid: 240 Millimoles	After shift	2011-12-18	United Kingdom.
	Per mole Creatinine (Urine)			Biological monitoring guidance values

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DNEL:

End Use	Exposure routes	Value	Note
Workers	Skin contact, Acute/short-term exposure - systemic effects	98 mg/kg Body weight/day	
	Inhalation, Acute/short-term exposure - systemic effects	1091 mg/m3	
	Inhalation, Acute/short-term exposure - local effects	246 mg/m3	
	Skin contact, long-term exposure - systemic effects	125 mg/kg Body weight/day	
	Inhalation, long-term exposure - systemic effects	98 mg/m3	
Consumers	Inhalation, Acute/short-term exposure - systemic effects	426 mg/m3	
	Ingestion, Acute/short-term exposure - systemic effects	26.7 mg/kg Body weight/day	
	Inhalation, Acute/short-term exposure- local effects	147 mg/m3	
	Inhalation, long-term exposure - systemic effects	59 mg/m3	
	Ingestion, long-term exposure - systemic effects	6.3 mg/kg Body weight/day	

Predicted No Effect Concentration (PNEC):

Substance name: 2-butoxyethanol

Environmental Compartment	Value	Note
Fresh water	8.8 mg/l	
Marine water	0.88 mg/l	
Fresh water sediment	34.6mg/kg	based on dry weight
Marine sediment	3.46 mg/kg	based on dry weight
Soil	2.33mg/kg	based on dry weight
Intermittent release	26.4 mg/l	
Sewage treatment plant	463 mg/l	
food	0.02 g/kg	

Exposure controls:

Personal Protective Equipment:

Respiratory protection: In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus or breathing apparatus with a type A filter or appropriate combined filter (e.g. where aerosols are in use, or smoke and mist occur, A-P2 or ABEKP2), in compliance with EN 141.

Hand protection: The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other., Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the breakthrough time measured according to EN 374, due to the numerous outside influences (e.g. temperature).

Gloves suitable for permanent contact: Material: Fluorinated rubber. Break through time: ≥ 480 min. Layer thickness: 0.4 mm.

Material: butyl-rubber. Break through time: ≥ 480 min. Layer thickness: 0.5 mm

Unsuitable gloves: Material: Natural rubber/natural latex, Polychloroprene, Nitrile rubber/nitrile latex, Polyvinylchloride

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Eye protection: Tightly fitting safety goggles
Skin and body protection: Wear suitable protective equipment.
Protective measures: Avoid contact with eyes. Wear suitable gloves and eye/face protection.

Environmental Exposure Controls:

General advice: Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state: Liquid; 20 °C; 1,013 hPa
Form: Liquid
Colour: Colourless
Odour: Mild
Odour Threshold: No valid method available
pH: 20 °C; 6 – 7; 10 g/l
Melting point/range: -75 °C; 1,013 hPa
Boiling point/boiling range: ca. 171°C; 1,013 hPa
Flash point: ca. 67°C; 1,013 hPa; DIN 51755
Evaporation rate: No data available
Flammability (solid, gas): Not applicable (liquid)
Lower explosion limit: 1.1 %(V)
Upper explosion limit: 10.6 %(V)
Vapour pressure: < 1 hPa; 20 °C. 1.17 hPa; 25 °C
Relative vapour density: No data available
Density: 0.9 g/cm³; 20 °C
Water solubility: 20 °C; completely miscible 900 g/l; 25 °C
Partition coefficient: n- octanol/water: log Pow: 0.81; 20 °C
Ignition temperature: 230 °C; DIN 51794
Auto-ignition temperature: 230 °C; 1,013 hPa
Viscosity, dynamic: 3.3 mPas; 20 °C
Explosive properties: Not expected based on structure and functional groups
Oxidising properties: Not expected based on structure and functional groups

Other information:

Explosives: Not expected based on structure and functional groups
Oxidizing properties: Not expected based on structure and functional groups
Self-ignition: 230 °C, 1,013 hPa
Evaporation rate: No data available

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10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical stability: Note: Formation of peroxides may occur stabilised by the addition of an inhibitor.

Possibility of hazardous reactions:

Hazardous reactions: No data available.

Conditions to avoid: No data available.

Incompatible materials:

Materials to avoid: No data available.

Hazardous decomposition products: No decomposition if stored normally.

Thermal decomposition: No data available.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Acute oral toxicity: Acute toxicity estimate : 1,200 mg/kg; Calculation method

Acute oral toxicity: Acute oral toxicity 2-butoxyethanol: LD50 Rat: 1,200 mg/kg (literature value). Harmful if swallowed.

Acute inhalation toxicity: Acute toxicity estimate : 11 mg/l; 4 h; Calculation method. Test atmosphere: vapour

Acute inhalation toxicity: 2-butoxyethanol: Derived from the classification according to Annex VI of Regulation (EC) 1272/2008. Harmful if inhaled.

Acute dermal toxicity: Acute toxicity estimate : 1,100 mg/kg; Calculation method

Acute dermal toxicity: 2-butoxyethanol: Derived from the classification according to Annex VI of Regulation (EC) 1272/2008. Harmful in contact with skin

Skin corrosion/irritation:

Skin irritation: 2-butoxyethanol: Rabbit: irritating (literature value). Causes skin irritation.

Serious eye damage/eye irritation:

Eye irritation: 2-butoxyethanol: Rabbit: highly irritating (literature value). Causes serious eye irritation.

Respiratory or skin sensitisation:

Sensitisation: 2-butoxyethanol: Maximisation Test Guinea pig: Not sensitising (literature value).

Based on available data, the classification criteria are not met.

Germ cell mutagenicity:

Genotoxicity in vitro: 2-butoxyethanol: Equivocal, Conflicting results have been seen in different studies. (literature value).

Genotoxicity in vivo: 2-butoxyethanol: In vivo tests did not show mutagenic effects (literature value).

Remarks: 2-butoxyethanol; ethylene glycol monobutyl ether butyl cello solve.

Based on available data, the classification criteria are not met.

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Carcinogenicity: 2-butoxyethanol: Mouse; Inhalation; 2 years; NOAEC: 125 mg/m³; OECD Test Guideline 451 (literature value)

Remarks: 2-butoxyethanol; ethylene glycol monobutyl ether butyl cello solve. The observed tumours do not appear to be relevant for men. This effect is not relevant for human beings. Based on available data, the classification criteria are not met.

Reproductive toxicity: 2-butoxyethanol: No indications that the substance caused adverse effects on reproductive organs. (literature value).

Remarks: Reproductive toxicity.
Based on available data, the classification criteria are not met.

Teratogenicity: 2-butoxyethanol: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses (literature value). Remarks: Teratogenicity.
Based on available data, the classification criteria are not met.

STOT - single exposure:

Remarks: 2-butoxyethanol: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure:

Remarks: 2-butoxyethanol: The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated dose toxicity: Rat; Oral; Subchronic toxicity. LOAEL: 69 mg/kg (based on body weight and day).
Target Organs: Liver (literature value).

2-butoxyethanol: Rabbit; Dermal; Subchronic toxicity. NOAEL: 150 mg/kg (based on body weight and day) (literature value).

Aspiration hazard:

Aspiration toxicity: 2-butoxyethanol: Not applicable.

12. ECOLOGICAL INFORMATION

Toxicity:

Toxicity to fish:

LC50 (96 h) Oncorhynchus mykiss (rainbow trout): > 100 mg/l; static test; OECD Test Guideline 203 (literature value).

Toxicity to fish - Chronic toxicity

NOEC (21 d) Danio rerio (zebra fish): > 100 mg/l; semi-static test (literature value).

Toxicity to daphnia and other aquatic invertebrates:

EC50 (48 h) Daphnia magna (Water flea): > 100 mg/l; static test; OECD Test Guideline 202 (literature value).

Toxicity to daphnia and other aquatic invertebrates - Chronic toxicity

NOEC (21 d) Daphnia magna (Water flea): 100 mg/l; reproduction rate; semi-static test; OECD Test Guideline 211; (literature value).

Toxicity to aquatic plants:

EC50 (72 h) Pseudokirchneriella subcapitata (green algae): > 100 mg/l; Growth rate; static test; OECD Test Guideline 201; (literature value).

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Toxicity to bacteria:

EC5 (48 h) Uronema parduzci: 463 mg/l; static test (literature value)

Toxicity to soil dwelling organisms: The study is not necessary. Unlikely direct and indirect exposure of the soil compartment.

Toxicity to terrestrial flora: The study is not necessary. Unlikely direct and indirect exposure of the soil compartment.

Toxicity for other terrestrial non-mammalian fauna:

The study is not necessary. Absence of toxicity in aquatic organisms and mammals Unlikely to pose a hazard to birds.

Persistence and degradability:

Biodegradability: Aerobic, >60 %, Result: Readily biodegradable., Exposure time: 28 d, activated sludge of a predominantly domestic sewage, content: 10 mg/l, OECD Test Guideline 301 E, GLP: no, (literature value).

Bioaccumulative potential: No bioaccumulation is to be expected ($\log P_{ow} \leq 4$).

Mobility in soil: The study is not necessary. Low potential for absorption Readily biodegradable.

Results of PBT and vPvB assessment: This substance is not considered to be persistent, bioaccumulating and toxic (PBT).
This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Other adverse effects:

General advice: None known.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Product: Can be incinerated, when in compliance with local regulations.

Waste code of the European Union:

EWG: A waste code in accordance with the European Waste Catalogue (EWG) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. The waste code must be determined in agreement with the regional waste disposal authority or company.

14. TRANSPORT INFORMATION

UN Number:

ADR/RID/IMDG/IATA: Not classified as dangerous goods.

Proper Shipping Name:

ADR/RID/IMDG/IATA: Not classified as dangerous goods.
ADN SUBSTANCES WITH A FLASH-POINT ABOVE 60°C AND NOT MORE THAN 100°C.

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Transport Hazard Class:

ADR/RID/IMDG/IATA: Not classified as dangerous goods.

Packing Group:

ADR/RID/IMDG/IATA: Not classified as dangerous goods.

Environmental Hazards:

ADR/RID/IMDG/IATA: Not classified as dangerous goods.

Special precautions for user:

Dangerous goods class 9, Identification-No. 9003 ADN, only when transported by inland waterways tanker.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Ship type: 3.

Pollution category: Y.

15. REGULATORY INFORMATION

Substance name	CAS-No./EC-No.	Content
2-butoxyethanol	111-76-2/203-905-0	100 %

Notification status: Legislation on the control of major-accident hazards involving dangerous substances Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

List entry in the directive: Not applicable.

EC Classification:

Please note that this product has been reclassified under EC regulation 1272/2008 as below:

Acute toxicity Category 3 (Inhalation): Toxic if inhaled. H331

Chemical Safety Assessment: A Chemical Safety Assessment has been carried out for this substance.

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3:

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

[cont...]

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Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.