



SAFETY DATA SHEET

BUTYL GLYCOL ETHER

Infosafe No.: X0021

Version No.: 6.0

ISSUED Date : 25/02/2022

ISSUED by: DKSH Performance Materials New Zealand Limited

Section 1 - Identification

Product Identifier

BUTYL GLYCOL ETHER

Product Code

110845670

Company Name

DKSH Performance Materials New Zealand Limited

Address119 Carbine Road, Mt Wellington, Auckland, 1060
NEW ZEALAND**Telephone/Fax Number**

Telephone: +64 9 884 6380

Emergency Phone Number

0800 154 666

Email

regaffairs.anz@dksh.com

Recommended uses and any restrictions on use or supply

Industrial application.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture

Classified as Hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020, New Zealand.

Not classified as Dangerous Goods for transport according to the New Zealand Standard NZS 5433:2020 Transport of Dangerous Goods on Land.

Flammable liquids: Category 4

Acute dermal toxicity: Category 4

Acute inhalation toxicity: Category 4

Acute oral toxicity: Category 4

Skin corrosion/irritation: Category 2

Eye irritation Category 2

Signal Word (s)

WARNING

Hazard Statement (s)

H227 Combustible liquid

H302 Harmful if swallowed

H312 Harmful in contact with skin

H315 Causes skin irritation
 H319 Causes serious eye irritation
 H332 Harmful if inhaled

Pictogram (s)

Exclamation mark

**Precautionary Statement – Prevention**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Precautionary Statement – Response

P312 Call a POISON CENTER/doctor if you feel unwell.
 P370+P378 In case of fire: Use water spray, dry chemical, carbon dioxide or foam to extinguish.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 P330 Rinse mouth.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 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+P313 If eye irritation persists: Get medical advice/attention.

Precautionary Statement – Storage

P403 Store in a well-ventilated place.

Precautionary Statement – Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

Section 3 - Composition and Information on Ingredients**Chemical Characterization**

Liquid

Ingredients

Name	CAS	Proportion
2- Butoxyethanol	111- 76- 2	> 99 %

Section 4 - First Aid Measures**Inhalation**

If inhaled, remove affected person from contaminated area. Apply artificial respiration if not breathing. Seek medical attention.

Ingestion

Do not induce vomiting. Wash out mouth thoroughly with water. Seek immediate medical attention.

Skin

Remove all contaminated clothing immediately. Wash affected area thoroughly with soap and water. Wash contaminated clothing before reuse or discard. Seek medical attention.

Eye

If in eyes, hold eyelids apart and flush the eyes continuously with running water. Remove contact lenses. Continue flushing for several minutes until all contaminants are washed out completely. Seek medical attention.

First-aid Facilities

Eyewash, safety shower and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

Other Information

For advice in an emergency, contact a Poisons Information Centre or a doctor at once. (0800 764 766)

Section 5 - Firefighting Measures

Suitable Extinguishing Media

Water fog or fine spray, dry chemical, carbon dioxide or foam. Alcohol resistant foams (ATC type) are preferred.

General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Hazards from Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes, smoke and gases including aldehydes, ketones, organic acids, carbon monoxide, carbon dioxide and oxides of nitrogen.

Specific hazards arising from the chemical

Combustible. This product will burn if exposed to fire.

Decomposition Temperature

Not available

Precautions in connection with fire

Fire fighters should wear Self-Contained Breathing Apparatus (SCBA) operated in positive pressure mode and full protective clothing to prevent exposure to vapours or fumes. Water spray may be used to cool down heat-exposed containers. Fight fire from safe location. This product should be prevented from entering drains and watercourses.

Section 6 - Accidental Release Measures

Emergency Procedures

Wear appropriate personal protective equipment and clothing to prevent exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unprotected personnel. If possible contain the spill. Place inert absorbent, non-combustible material onto spillage. Use clean non-sparking tools to collect the material and place into suitable labelled containers for subsequent recycling or disposal. Dispose of waste according to the applicable local and national regulations. If contamination of sewers or waterways occurs inform the local water and waste management authorities in accordance with local regulations.

Section 7 - Handling and Storage

Precautions for Safe Handling

Avoid inhalation of vapours and mists, and skin or eye contact. Use only in a well ventilated area. Keep containers sealed when not in use. Prevent the build up of mists or vapours in the work atmosphere. Do not use near ignition sources. Do not pressurise, cut, heat or weld containers as they may contain hazardous residues. Maintain high standards of personal hygiene i.e. washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area away from sources of ignition, foodstuffs, clothing and incompatible materials such as oxidising agents. Keep containers closed when not in use, securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Have appropriate fire extinguishers available in and near the storage area. Take precautions against static electricity discharges. Use proper grounding procedures. Ensure that storage conditions comply with applicable local and national regulations.

For information on the design of the storeroom, reference should be made to Australian Standard AS1940 - The storage and handling of flammable and combustible liquids.

Recommended Materials

Carbon steel, stainless steel, phenolic lined steel drums.

Unsuitable Materials

Aluminium, copper, galvanized iron, galvanized steel.

Section 8 - Exposure Controls and Personal Protection

Occupational Exposure Limits (OEL)

Substance	Regulations	Exposure Duration	Exposure Limit	Units	Notes
2- Butoxyethanol	NZ OELs List	TWA	25	ppm	skin
2- Butoxyethanol	NZ OELs List	TWA	121	mg/m3	skin

Biological Limit Values

Name: 2-butoxyethanol

Determinant: Butoxyacetic acid (BAA) in urine, with hydrolysis

BEI®: 200 mg/g creatinine

Sampling time: end of shift.

Source: American Conference of Industrial Hygienists (ACGIH)

Appropriate Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. A flame-proof exhaust ventilation system is required. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn. Refer to relevant regulations for further information concerning ventilation requirements. Refer to AS 1940 - The storage and handling of flammable and combustible liquids and AS/NZS 60079.10.1 Explosive atmospheres - Classification of areas - Explosive gas atmospheres, for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Effective types of air-purifying respirators: organic vapour cartridge.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 (series) - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as butyl rubber, ethyl vinyl alcohol laminate ("EVAL"), neoprene, nitrile/butadiene rubber ("nitrile" or "NBR"), polyvinyl chloride("PVC" or "vinyl"), vinton. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Footwear

Wear safety footwear. Final choice will vary according to individual circumstances.

Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Liquid	Appearance	Colourless liquid
Colour	Colourless	Odour	Mild
Decomposition Temperature	Not available	Melting Point	Not applicable
Freezing Point	-77 °C (from literature)	Boiling Point	171 °C (760 mmHg) (from literature)

Solubility in Water	100% (25 °C) (by weight)(from literature)	Specific Gravity	0.9005-0.9040 (20 °C)(using hydrometer)
pH	Not available	Vapour Pressure	0.4 mmHg (20 °C) (ASTM E1719)
Vapour Density (Air=1)	Not available	Evaporation Rate	0.06 (n-Butyl acetate=1)
Odour Threshold	Not available	Viscosity	Refer to Section 9: Kinematic Viscosity and Dynamic Viscosity
Volatile Component	Not available	Partition Coefficient: n-octanol/water	0.83 (measured value)
Density	Liquid Density: 7.5347 lb/gal (15.56 °C) 7.504 lb/gal (20 °C) 8.1259 lb/gal (70 °C) (freezing point)	Flash Point	65 °C Closed Cup) (from literature) 85 °C (Open Cup)
Flammability	Combustible	Auto-Ignition Temperature	224 °C (from literature)
Flammable Limits - Lower	1.3% (V) (from literature)	Flammable Limits - Upper	10.6% (V) (from literature)
Molecular Weight	18.2 g/mol	Kinematic Viscosity	Not available
Dynamic Viscosity	Not available	Particle Characteristics	Not applicable

Other InformationMolecular Formula: CH₃CH₂CH₂CH₂OCH₂CH₂OHHenry's Law Constant (H): 1.60E-06 atm*m³/mole (measured value)**Section 10 - Stability and Reactivity****Reactivity**

Refer to Section 10: Possibility of hazardous reactions

Chemical Stability

Stable under normal conditions of storage and handling.

Conditions to Avoid

Heat, open flames and other sources of ignition. Do not distill to dryness. Product can oxidise at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials

Strong oxidising agents. Strong acids.

Hazardous Decomposition Products

Thermal decomposition may result in the release of toxic and/or irritating fumes including: aldehydes, ketones, organic acids, carbon monoxide and carbon dioxide.

Possibility of hazardous reactions

Reacts with incompatible materials.

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information**Toxicology Information**

Toxicity data for material given below.

Acute Toxicity - Oral

LD50 (rat, male): 1746 mg/kg

LD50 (guinea pig): 1400 mg/kg

Acute Toxicity - Inhalation

LC50 (rat): 2.2 mg/l/4h (vapour)

Acute Toxicity - Dermal

LD50 (guinea pig): >2000 mg/kg

Ingestion

Harmful if swallowed. Ingestion of this product may cause irritation to the mouth, throat, oesophagus and stomach with symptoms of nausea, abdominal discomfort, vomiting and diarrhoea.

In animals, effects have been reported on the following organs: blood (haemolysis) and secondary effects on the kidney and liver.

Human red blood cells have been shown to be significantly less sensitive to haemolysis than those of rodents and rabbits. Massive ingestion of ethylene glycol monobutyl ether (attempted suicides) may produce metabolic acidosis and subsequent secondary effects such as haemolysis, central nervous system and kidney effects.

Inhalation

Harmful if inhaled. Inhalation of product vapours can cause irritation of the nose, throat and respiratory system.

Skin

Harmful in contact with skin. Product can be absorbed through skin with resultant harmful systemic effects. Causes skin irritation. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.

Prolonged skin contact to animals which are less sensitive to haemolysis, as are humans, did not result in the absorption of harmful amounts.

Eye

Causes serious eye irritation. On eye contact this product will cause tearing, stinging, blurred vision, and redness.

Respiratory Sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

Not expected to be a skin sensitiser.

Did not cause allergic skin reactions when tested in humans. Did not cause allergic skin reactions when tested in guinea pigs.

Germ Cell Mutagenicity

Not considered to be a mutagenic hazard.

Genetic Toxicology

In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

Carcinogenicity

Not considered to be a carcinogenic hazard.

2-butoxyethanol is listed as a Group 3: Not classifiable as to carcinogenicity to humans according to International Agency for Research on Cancer (IARC).

Chronic Toxicity and Carcinogenicity

In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumours were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling procedures, exposures should not pose a carcinogenic risk to man.

Reproductive Toxicity

Not considered to be toxic to reproduction.

2-Butoxyethanol**Reproductive Toxicity**

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significantly toxicity to the parent animals.

Developmental Toxicity

Component has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

STOT - Single Exposure

Not expected to cause toxicity to a specific target organ.

STOT - Repeated Exposure

Not expected to cause toxicity to a specific target organ.

Repeated Dose Toxicity

In animals, effects have been reported on the following organs: blood (haemolysis) and secondary effects on the kidney and liver. Human red blood cells have been shown to be significantly less sensitive to haemolysis than those of rodents and rabbits.

Aspiration Hazard

Not expected to be an aspiration hazard.

Section 12 - Ecological Information

Ecotoxicity

The available ecological data is given below.

Persistence and degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable(reaches 70% mineralisation in OECD test(s) for inherent biodegradability).

95% biodegradability in 28 days

10 Day Window: pass

OECD 301E Test

100% biodegradability in 28 days

10 Day Window: pass

OECD 302B Test

Biological Oxygen Demand (BOD)

BOD 5: 5.2%

BOD 10: 57%

BOD 20: 72.2%

Chemical Oxygen Demand (COD): 2.21 mg/g

Theoretical Oxygen Demand (ThOD): 2.17 mg/mg

Mobility

Mobility in Soil: potential for mobility in soil is high (Koc between 50 and 150)

Partition Coefficient, soil organic carbon/water (Koc): 67 (estimated)

Henry's Law Constant (H): 1.60E-06 atm.m³/mole (measured)

Bioaccumulative Potential

Bioaccumulation: bioconcentration potential is low (BCF <100 or Log Pow <3)

Partition Coefficient, n-octanol/water (log Pow): 0.83 (measured)

Other Adverse Effects

Not available

Environmental Protection

Prevent this material entering waterways, drains and sewers.

Acute Toxicity - Fish

LC50 (rainbow trout (*Oncorhynchus mykiss*)): 1700 mg/l/96h

LC50 (bluegill (*Lepomis macrochirus*)): 820-1490 mg/l/96h

Acute Toxicity - Daphnia

LC50 (water flea (*Daphnia magna*)): 835 mg/l

EC50 (water flea (*Daphnia magna*)): 1600-2500 mg/l (immobilisation)

Acute Toxicity - Algae

EC50 (green algae (*Pseudokirchneriella subcapitata**)): 911 mg/72h (biomass growth inhibition)

*Formerly known as *Selenastrum capricornutum*

Acute Toxicity - Bacteria

IC50 (bacteria): >1000 mg/l

Acute Toxicity - Other Organisms

LC50 (grasshopper (*Palaemonetes pugio*)): 5.4 mg/l/96h (static)

LC50 (common shrimp (*Crangon crangon*)): 550-950 mg/l/96h (static)

Hazardous to the Ozone Layer

This product is not expected to deplete the ozone layer.

Section 13 - Disposal Considerations

Disposal Considerations

Dispose of waste according to applicable local and national regulations. Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes including emptied containers are controlled wastes and should be disposed of in accordance with all applicable local and national regulations.

Product Disposal:

Product wastes are controlled wastes and should be disposed of in accordance with all applicable local and national regulations. This product can be disposed through a licensed commercial waste collection service. In this specific case the product is a combustible substance and therefore can be sent to an approved high temperature incineration plant for disposal.

Personal protective clothing and equipment as specified in Section 8 of this SDS must be worn during handling and disposal of this product. The ventilation requirements as specified in the same section must also be followed, and the precautions given in Section 7 of this SDS regarding handling must also be followed.

Do not dispose into the sewerage system. Do not discharge into drains or watercourses or dispose where ground or surface waters may be affected.

In New Zealand, the disposal agency or contractor must comply with the New Zealand Hazardous Substances (Disposal) Notice 2017. Further details regarding disposal can be obtained on the EPA New Zealand website under specific group standards.

Container Disposal:

The container or packaging must be cleaned and rendered incapable of holding any substance. It can then be disposed of in a manner consistent with that of the substance it contained. In this instance the packaging can be disposed through a commercial waste collection service.

Alternatively, the container or packaging can be recycled if the hazardous residues have been thoroughly cleaned or rendered non-hazardous.

In New Zealand, the packaging (that may or may not hold any residual substance) that is lawfully disposed of by householders or other consumers through a public or commercial waste collection service is a means of compliance with regulations.

Section 14 - Transport Information

Transport Information

Not classified as Dangerous Goods for transport according to the New Zealand Standard NZS 5433:2020 Transport of Dangerous Goods on Land.

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Special Precautions for User

Not available

UN Number

None Allocated

Proper Shipping Name

None Allocated

Hazard Class

None Allocated

Packing Group

None Allocated

UN Number (Air Transport, ICAO)

None Allocated

IATA/ICAO Proper Shipping Name

Not dangerous for conveyance under IATA code

IATA/ICAO Hazard Class

None Allocated

IATA/ICAO Packing Group

None Allocated

IMDG UN Number

None Allocated

IMDG Proper Shipping Name

Not dangerous for conveyance under IMO/IMDG code

IMDG Hazard Class

None Allocated

IMDG Packing Group

None Allocated

IMDG Marine pollutant

No

Transport in Bulk

Not available

Section 15 - Regulatory Information

Regulatory Information

Classified as Hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020, New Zealand.

Group Standard: Additives, Process Chemicals and Raw Materials (Combustible) Group Standard 2020.

HSNO Approval Number

HSR002490

New Zealand (NZIoC)

All components of this product are listed on the New Zealand Inventory of Chemicals (NZIoC) or exempted.

Tolerable exposure limit (TEL)

Not available

Environmental exposure limit (EEL)

Not available

Certified Handler

Not available

Tracking

Not required

Controlled Substance Licence Requirements

Not available

Montreal Protocol

Not Listed

Stockholm Convention

Not Listed

Rotterdam Convention

Not Listed

Agricultural Compounds, including Veterinary Medicines (ACVM)

Not available

Section 16 - Any Other Relevant Information

Date of preparation or last revision of SDS

SDS Reviewed: February 2022, Supersedes: December 2021

Literature References

Hazardous Substances and New Organisms Act 1996.

Health and Safety at Work (Hazardous Substances) Regulations 2017.

Workplace Exposure Standards and Biological Exposure Indices.

Agricultural Compounds and Veterinary Medicines Act 1997.

Montreal Protocol on Substances that Deplete the Ozone Layer.

Stockholm Convention on Persistent Organic Pollutants (POPs).

Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Transport of Dangerous goods on land NZS 5433.

Recommendations on the Transport of Dangerous Goods – Model Regulations.

Dangerous Goods Emergency Action Code List.

Hazardous Substances (Safety Data Sheets) Notice 2017. (EPA Consolidation)

Assigning a hazardous substance to a group standard.

Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).

Contact Person/Point

IMPORTANT ADVICE: An SDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. The information contained in this SDS is believed to be correct but is not guaranteed. Prior to using the product(s) referred to in this SDS, each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace, including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact the supplier listed in section 1 of the SDS. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request. DKSH Performance Materials does not accept any other liability either directly or indirectly for any losses suffered in connection with the use and application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

DKSH Performance Materials SDS WARNING: DKSH Performance Materials is aware that third parties are distributing documents purporting to be SDSs (or the like) in relation to DKSH Performance Materials products without any authorisation from DKSH Performance Materials ("Unauthorised SDS"). DKSH Performance Materials accepts no responsibility for the distribution of an Unauthorised SDS by a third party or for any information contained therein. All DKSH Performance Materials products must be used in accordance with the corresponding original and current SDS authorised by DKSH Performance Materials for use with that DKSH Performance Materials product ("Authorised SDS"). In the event that an SDS in relation to an DKSH Performance Materials product has expired and is not marked as obsolete, please contact DKSH Performance Materials immediately to obtain a current SDS. Further, if an DKSH Performance Materials product is used without the Authorised SDS and/or with an Unauthorised SDS, or an expired SDS which is not marked obsolete, DKSH Performance Materials hereby excludes absolutely and to the maximum extent permitted by law all liability whatsoever and howsoever arising under contract, tort (including negligence) or otherwise for all loss and/or damage including, but not limited to, for personal injury, sickness or death, damage to real property and/or chattels and all indirect and consequential loss (including loss of profits).

END OF SDS

© Copyright Chemical Safety International Pty Ltd

Copyright in the source code of the HTML, PDF, XML, XFO and any other electronic files rendered by an Infosafe system for Infosafe SDS displayed is the intellectual property of Chemical Safety International Pty Ltd.

Copyright in the layout, presentation and appearance of each Infosafe SDS displayed is the intellectual property of Chemical Safety International Pty Ltd.

The compilation of SDS's displayed is the intellectual property of Chemical Safety International Pty Ltd.

Copying of any SDS displayed is permitted for personal use only and otherwise is not permitted. In particular the SDS's displayed cannot be copied for the purpose of sale or licence or for inclusion as part of a collection of SDS without the express written consent of Chemical Safety International Pty Ltd.

Jurisdiction: New zealand

Language: English
Product Name: BUTYL GLYCOL ETHER
Issue Date: 25/02/2022