

# SAFETY DATA SHEET



Revision date: 23-Feb-2023

Revision Number 11

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### Product identifier

**Product Name** BUTYL GLYCOL ETHER

**Product Code(s)** 000030122201

### Other means of identification

**CAS No.** 111-76-2

**Synonyms** Butyl ethoxol; Butyl glycol; Butyl oxitol; Butyl icinol; Ethylene glycol monobutyl ether; Ethylene glycol butyl ether; 2-Butoxyethanol; Ethanol, 2-butoxy-; EGBE; Butyl cellosolve.

### Recommended use of the chemical and restrictions on use

**Recommended use** Solvent. Chemical intermediate.

**Uses advised against** No information available

### Supplier

Ixom Operations Pty Ltd  
ABN: 51 600 546 512  
Level 8, 1 Nicholson Street  
Melbourne 3000  
Australia

Telephone Number: +61 3 9906 3000

### Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## 2. HAZARDS IDENTIFICATION

### GHS Classification

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

<b>Flammable liquids</b>	Category 4
<b>Acute toxicity - Oral</b>	Category 4
<b>Acute toxicity - Dermal</b>	Category 4
<b>Acute toxicity - Inhalation (Vapors)</b>	Category 4
<b>Skin corrosion/irritation</b>	Category 2
<b>Serious eye damage/eye irritation</b>	Category 2

<b>Specific target organ toxicity (single exposure)</b>	Category 3
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**SIGNAL WORD**

Warning

**Label elements**

Exclamation mark

**Hazard statements**

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

H335 - May cause respiratory irritation

**Precautionary Statements - Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

Avoid breathing dust / fume / gas / mist / vapours / spray

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Wear protective gloves / protective clothing / eye protection / face protection

**Precautionary Statements - Response**

Specific treatment (see First aid on this SDS)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

Call a POISON CENTER or doctor/physician if you feel unwell

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

In case of fire: Use extinguishing media as outlined in Section 5 of this Safety Data Sheet to extinguish.

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed

Store in a well-ventilated place. Keep cool

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**Other hazards which do not result in classification****General Hazards**

Poisons Schedule (SUSMP)

6

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Chemical name	CAS No.	Weight-%
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2-Butoxyethanol	111-76-2	>99
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#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Call a physician if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Do not give milk or alcoholic beverages. Get medical attention if symptoms occur.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Irritation. Erythema (skin redness). May cause redness and tearing of the eyes. Coughing and/ or wheezing. Difficulty in breathing.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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#### 5. FIRE FIGHTING MEASURES

##### Suitable Extinguishing Media

<b>Suitable Extinguishing Media</b>	Dry chemical, CO <sub>2</sub> , alcohol-resistant foam or water spray.
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<b>Unsuitable extinguishing media</b>	High volume water jet.
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##### Specific hazards arising from the chemical

<b>Specific hazards arising from the chemical</b>	Combustible liquid. Most vapors are heavier than air. Vapors may spread along ground and collect in low or confined areas (sewers, basements, tanks). May form explosive mixtures with air. Pay attention to flashback. In the event of fire, cool tanks with water spray.
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<b>Hazardous combustion products</b>	Carbon monoxide. Carbon dioxide (CO <sub>2</sub> ). Hydrocarbons.
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##### Special protective actions for fire-fighters

<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Evacuate personnel to safe areas. Do not touch or walk through spilled material. Use personal protective equipment as required. Wash thoroughly after handling. Take precautionary measures against static discharges.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

### Methods and material for containment and cleaning up

**Methods for containment** Dike to collect large liquid spills.

**Methods for cleaning up** Dike to collect large liquid spills. Avoid breathing dust or spray mist. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Do not return spilled material to original container. Use non-sparking tools.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. Use personal protection equipment. Wash thoroughly after handling. Use spark-proof tools and explosion-proof equipment.

**General hygiene considerations** Avoid contact with skin, eyes, and clothing. Wear suitable gloves and eye/face protection. Avoid breathing vapors or mists. Wash hands and face before breaks and immediately after handling the product. When using do not eat, drink or smoke.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from foodstuffs and sources of heat or ignition. Store locked up. Keep container closed when not in use.

This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

**Incompatible materials** Acids. Bases. Amines. Ammonia. Acid chlorides. Neoprene. Natural rubber. Oxidizing agents. Aluminium. Aluminium alloys. Copper. Copper alloys.

**Poisons Schedule (SUSMP)** 6

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Limits

2-Butoxyethanol: 8hr TWA = 96.9 mg/m<sup>3</sup> (20 ppm), 15 min STEL = 242 mg/m<sup>3</sup> (50 ppm), Sk

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

'Sk' (skin) Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

### Appropriate engineering controls

#### **Engineering controls**

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

### Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.



#### **Eye/face protection**

Goggles.

#### **Skin and body protection**

Wear suitable protective clothing. Long sleeved clothing. Boots. Overalls.

#### **Hand protection**

Impervious gloves.

#### **Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear an organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

#### **Environmental exposure controls**

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Colourless
Odor	Mild , Ether -like
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	-74.8°C	None known
Boiling point / boiling range	171-173.5°C	None known
Flash point	61-68°C	Tag Closed Cup
Evaporation rate	0.1 (n-Butyl acetate=1)	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	10.6 vol%	
Lower flammability or explosive limits	1.1 vol%	
Vapor pressure	0.8-1.0 hPa @20°C	None known
Vapor density	4.1 (air=1.0)	None known
Relative density	0.90 @20°C	None known
Water solubility	Miscible in water	None known
Solubility(ies)	No data available	None known
Partition coefficient	log Pow = 0.81 @25°C	None known
Autoignition temperature	230-245°C	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

### Other information

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactivity Reacts with air or water to form peroxides.

### Chemical stability

Stability Stable under normal conditions.

### Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

### Possibility of hazardous reactions

Possibility of hazardous reactions Contact with aluminium or alloys containing aluminium may result in alcoholate formation with subsequent evolution of hydrogen.

### Conditions to avoid

Conditions to avoid Heat, flames and sparks.

**Incompatible materials****Incompatible materials**

Acids. Bases. Amines. Ammonia. Acid chlorides. Neoprene. Natural rubber. Oxidizing agents. Aluminium. Aluminium alloys. Copper. Copper alloys.

**Hazardous decomposition products**

**Hazardous decomposition products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Hydrocarbons.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity****Information on likely routes of exposure****Product Information**

No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

**Inhalation**

Irritating to respiratory system. Harmful by inhalation.

**Eye contact**

Causes serious eye irritation.

**Skin contact**

Causes skin irritation. May be absorbed through the skin in harmful amounts. Harmful in contact with skin.

**Ingestion**

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Harmful if swallowed.

**Symptoms**

Irritation. Erythema (skin redness). May cause redness and tearing of the eyes. Coughing and/ or wheezing. Difficulty in breathing.

**Numerical measures of toxicity - Product Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-Butoxyethanol	= 470 mg/kg ( Rat )	= 435 mg/kg ( Rabbit )	= 450 ppm ( Rat ) 4 h = 486 ppm ( Rat ) 4 h

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Respiratory or skin sensitization**

Not a skin sensitizer. (guinea pig).

**Germ cell mutagenicity**

Not classified.

**Carcinogenicity**

This material has been classified by the International Agency for Research on Cancer (IARC) as a Group 3 agent. Group 3 - The agent is not classifiable as to its carcinogenicity to humans. Data available is insufficient for an assessment to be made.

**Reproductive toxicity**

Not classified.

**STOT - single exposure**

May cause respiratory irritation.

**STOT - repeated exposure** Not classified.

**Aspiration hazard** Not classified.

**Chronic effects:** Long term exposure to 2-butoxyethanol can cause blood changes, including anaemia, in rats. Both 2-butoxyethanol and its metabolite, butoxyacetic acid, can cause breakdown of red blood cells, however, in vitro and in vivo tests have shown that human red blood cells are comparatively insensitive to this effect. Animal studies have shown that exposure to 2-butoxy ethanol during pregnancy produced no teratogenic effects in the offspring. In the rat, foetotoxic effects were only observed at concentrations that also produced maternal toxicity (ie 200 ppm). Also, 2-butoxy ethanol did not produce testicular atrophy in male rats. Not genotoxic in a range of in vitro studies.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
2-Butoxyethanol	-	LC50: =1490mg/L (96h, Lepomis macrochirus) LC50: =2950mg/L (96h, Lepomis macrochirus)	-	EC50: >1000mg/L (48h, Daphnia magna) EC50: 1698 - 1940mg/L (24h, Daphnia magna)

### Persistence and degradability

**Persistence and degradability** Readily biodegradable.

### Bioaccumulative potential

**Bioaccumulation** No information available.

### Component Information

Chemical name	Partition coefficient
2-Butoxyethanol	0.81

### Mobility

**Mobility in soil** No information available.

### Other adverse effects

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION



**ADG**

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

**IATA**

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

**IMDG**

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

## 15. REGULATORY INFORMATION

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

#### National regulations

##### Australia

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

See section 8 for national exposure control parameters

#### **Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)**

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

**Poisons Schedule (SUSMP) 6**

#### **National pollutant inventory**

Subject to reporting requirement

Chemical name	National pollutant inventory
2-Butoxyethanol - 111-76-2	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

#### International Inventories

##### **AIIC**

This material is listed on the Australian Inventory of Industrial Chemicals.

##### **NZIoC**

This material is listed on the New Zealand Inventory of Chemicals.

#### **Legend:**

**AIIC- Australian Inventory of Industrial Chemicals**

**NZIoC - New Zealand Inventory of Chemicals**

#### International Regulations

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

The Rotterdam Convention Not applicable

## 16. OTHER INFORMATION

Supplier Safety Data Sheet 10/ 2019

**Reason(s) For Issue:** 5 Yearly Revised Primary SDS

**Issuing Date:** 23-Feb-2023

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

**Revision Note:**

The symbol (\*) in the margin of this SDS indicates that this line has been revised.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Key literature references and sources for data used to compile the SDS**

European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australian Industrial Chemicals Introduction Scheme (AICIS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

**Disclaimer**

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

**End of Safety Data Sheet**