

SAFETY DATA SHEET



Revision date: 17-Sep-2021

Revision Number 8

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name BUTYL DIGLYCOL ETHER

Product Code(s) 000030169101

Other means of identification

CAS No. 112-34-5

Synonyms Butyl diethoxol; Butyl carbitol; Butyl dioxitol; Butyl diicinol; 2-(2-Butoxyethoxy) ethanol; Diethylene glycol monobutyl ether; Diethylene glycol butyl ether; DEGBE.

Recommended use of the chemical and restrictions on use

Recommended use Solvent

Uses advised against No information available.

Details of the supplier of the safety data sheet

Supplier

Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226 Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700

Facimile: +64 9 368 2710

For further information, please contact

Contact Point Product Safety Department

Emergency telephone number

Emergency Telephone 0 800 734 607 (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

Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; NON-DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

SIGNAL WORD

Warning

Approval Code: HSR001075

Serious eye damage/eye irritation

Category 2

| | |
|--|------------|
| Specific target organ toxicity (repeated exposure) | Category 2 |
|--|------------|

Label elements**Hazard statements**

H319 - Causes serious eye irritation

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention

Do not breathe fume, gas, mist, vapours, spray

Wash eyes thoroughly after handling.

Wear eye/face protection

Precautionary Statements - Response

Get medical advice/attention if you feel unwell

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

Precautionary Statements - Storage

No storage statements

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

| Chemical name | CAS No. | Weight-% |
|---------------------------|----------|----------|
| 2-(2-butoxyethoxy)ethanol | 112-34-5 | >=99 |
| 2-Butoxyethanol | 111-76-2 | <=0.5 |

4. FIRST AID MEASURES**Description of first aid measures**

| | |
|-----------------------------------|---|
| Emergency telephone number | Poisons Information Center, New Zealand: 0800 764 766 Poisons Information Center, Australia: 13 11 26 |
| Inhalation | Remove to fresh air. Call a physician if symptoms occur. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin contact | Wash with soap and water. Get medical attention if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |

Most important symptoms and effects, both acute and delayed

Symptoms Irritation.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE FIGHTING MEASURES**Suitable Extinguishing Media**

Suitable Extinguishing Media Dry chemical, CO2, alcohol-resistant foam or water spray.

Unsuitable extinguishing media High volume water jet.

Specific hazards arising from the chemical

Specific hazards arising from the chemical Combustible liquid. Most vapors are heavier than air. Vapors may spread along ground and collect in low or confined areas (sewers, basements, tanks). Pay attention to flashback.

Hazardous combustion products Carbon oxides.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions Avoid contact with skin and eyes. Do not breathe vapor or mist. Stop leak if you can do it without risk. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Use personal protective equipment as required. Wash thoroughly after handling.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on safe handling**

Avoid breathing vapors or mists. Avoid contact with skin and eyes. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Use personal protection equipment. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Store away from foodstuffs. Keep container closed when not in use.

Incompatible materials

Acids. Alkalis. Oxidizing agents. Aluminium. Copper. Natural rubber. Neoprene.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Limits**

No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s):

2-Butoxyethanol (Butyl glycol ether): WES-TWA 25 ppm, 121 mg/m³, skin

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

'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. |
| Hand protection | Impervious gloves. |
| Skin and body protection | Boots. Overalls. |
| 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 | Clear |
| Color | Colourless |
| Odor | Faint Characteristic |
| Odor threshold | No information available. |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|-------------------|-------------------------|
| pH | 6-7.5 | None known |
| Melting point / freezing point | -68°C | None known |
| Boiling point / boiling range | 224-234°C | None known |
| Flash point | 99-114°C | CC (closed cup) |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | 24.6% (V) | |
| Lower flammability or explosive limits | 0.9% (V) | |
| Vapor pressure | 0.027 hPa @20°C | None known |
| Vapor density | 5.6 (Air=1) | None known |
| Relative density | 0.95 @20°C | None known |
| Water solubility | Miscible in water | None known |
| Solubility(ies) | No data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | 210°C | None known |
| Decomposition temperature | No data available | None known |
| Kinematic viscosity | No data available | None known |
| Dynamic viscosity | 6.49 mPa.s @20°C | None known |

Other information

10. STABILITY AND REACTIVITY

Reactivity

Reactivity May react on prolonged contact with aluminium or light alloys releasing gas and causing subsequent pressure build up.

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. Can react briskly with oxidizers - danger of explosion.

Conditions to avoid

Conditions to avoid Heat, flames and sparks.

Incompatible materials

Incompatible materials Acids. Alkalis. Oxidizing agents. Aluminium. Copper. Natural rubber. Neoprene.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides.

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 May cause irritation.

Eye contact Causes serious eye irritation.

Skin contact May cause irritation. Will have a mild degreasing effect on the skin on frequent usage.

Ingestion May cause irritation. May cause central nervous system depression.

Symptoms Irritation.

Acute toxicity**Numerical measures of toxicity**

| | | | |
|---------------|-----------|-------------|-----------------|
| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---------------|-----------|-------------|-----------------|

| | | | |
|---------------------------|----------------------|-------------------------|---|
| 2-(2-butoxyethoxy)ethanol | = 5660 mg/kg (Rat) | = 2700 mg/kg (Rabbit) | - |
| 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 | Not classified. |
| Serious eye damage/eye irritation | Causes serious eye irritation. |
| Respiratory or skin sensitization | Not a skin sensitizer. (guinea pig). |
| Germ cell mutagenicity | Not mutagenic in AMES Test. |
| Carcinogenicity | Refer to 'Chronic effects' section below. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | May cause damage to organs through prolonged or repeated exposure. |
| Aspiration hazard | Not classified. |
| Chronic effects: | 2-Butoxyethanol 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. |

12. ECOLOGICAL INFORMATION

Ecotoxicity

| | |
|--------------------------------|------------------------------------|
| Ecotoxicity | Keep out of waterways. |
| Terrestrial ecotoxicity | There is no data for this product. |

| Chemical name | Algae/aquatic plants | Fish | Crustacea |
|---------------------------|---|---|---|
| 2-(2-butoxyethoxy)ethanol | EC50: >100mg/L (96h, <i>Desmodesmus subspicatus</i>) | LC50: =1300mg/L (96h, <i>Lepomis macrochirus</i>) | EC50: >100mg/L (48h, <i>Daphnia magna</i>) EC50: =2850mg/L (24h, <i>Daphnia magna</i>) |
| 2-Butoxyethanol | - | LC50: =1490mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =2950mg/L (96h, <i>Lepomis macrochirus</i>) | EC50: >1000mg/L (48h, <i>Daphnia magna</i>) EC50: 1698 - 1940mg/L (24h, <i>Daphnia magna</i>) |

Persistence and degradability

| | |
|--------------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
|--------------------------------------|------------------------|

Bioaccumulative potential

| | |
|------------------------|----------------------------------|
| Bioaccumulation | Material does not bioaccumulate. |
|------------------------|----------------------------------|

Mobility

| | |
|-------------------------|---------------------------|
| Mobility in soil | No information available. |
|-------------------------|---------------------------|

Component Information

| Chemical name | Partition coefficient |
|-----------------|-----------------------|
| 2-Butoxyethanol | 0.81 |

Other adverse effects

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS**Waste treatment methods****Waste from residues/unused products**

Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020. Treat the chemical using a method that changes the characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste.

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**ROAD AND RAIL TRANSPORT**

Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; 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****New Zealand****National regulations**

See section 8 for national exposure control parameters

International Inventories**NZIoC**

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

TSCA

Contact supplier for inventory compliance status.

DSL/NDSL

Contact supplier for inventory compliance status.

EINECS/ELINCS

Contact supplier for inventory compliance status.

ENCS

Contact supplier for inventory compliance status.

IECSC

Contact supplier for inventory compliance status.

KECL

Contact supplier for inventory compliance status.

PICCS

Contact supplier for inventory compliance status.

AIIC

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

Legend:

NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
- Australian Inventory of Industrial 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 04/ 2021

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

Issuing Date: 17-Sep-2021

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

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 sheetLegend 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

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 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