

TRULUX SAFETY DATA SHEET

Provides critical information about hazardous chemicals.

1.1 COMPANY IDENTIFICATION

Company's Name: Trulux Pty Ltd
Email address: info@trulux.com.au
Website: www.trulux.com.au
Contact number: +61 (02) 9975 2655
Address: C3/ 1-3 Rodborough Rd, Frenchs Forest NSW 2086 Australia

1.2 PRODUCT IDENTIFICATION

Trade name: Butylene Glycol
Reference number: RMTR-0565A
Classification: Refer to clause 2

1.3 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses: Raw Material
Uses advised against: No further information available.

1.4 DETAILS OF THE SUPPLIER OF THE SUBSTANCE INFORMATION SHEET

Supplier's Company: Trulux Pty Ltd
Website: www.trulux.com.au
Address: C3/ 1-3 Rodborough Rd, Frenchs Forest NSW 2086 Australia

Trade Name: Butylene Glycol
TR Ref. Number: RMTR-0565A

Doc: RMSDS - Butylene Glycol
Rev.: 03
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1.5 EMERGENCY CONTACTS – INSTITUTIONAL CENTRES

Australia

Poisons Information Centre 13 11 26

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

This substance is not hazardous in accordance with paragraph (d) of §1910.1200 (GHS-US classification).

Label elements:

Not required according to §1910.1200 (GHS-US labeling).

3 COMPOSITION/ INFORMATION ON INGREDIENTS

Component	CAS Number	Concentration (%)
1,3-Butylene glycol (Butane-1,3-diol)	107-88-0	> 99.5

4 FIRST AID MEASURES

Inhalation:

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

Ingestion:

Call a physician immediately. Do not induce vomiting without medical advice.

Skin contact:

Wash off immediately with plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

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Eyes contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed (if relevant):

Main symptoms: cough.

Special hazard: Lung irritation.

Indication of any immediate medical attention and special treatment needed

General advice: Remove contaminated, soaked clothing immediately and dispose of it safely. First aider needs to protect himself. Treat symptomatically. If ingested, irrigate the stomach using activated charcoal.

5 FIRE FIGHTING MEASURES

Suitable extinguishing media: Foam, dry chemical, carbon dioxide (CO₂), water spray

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or Mixture: Under conditions giving incomplete combustion, hazardous gases produced may consist of: carbon monoxide (CO) carbon dioxide (CO₂). Combustion gases of organic materials must in principle be graded as inhalation poisons Vapours are heavier than air and may spread along floors.

Advice for firefighters Firefighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turnout gear.
Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

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6 ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.
Environmental precautions:	Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

Methods and material for containment and cleaning up

- | | |
|---------------------------|--|
| - Methods for containment | Stop the flow of material, if possible without risk. Dike spilled material, where this is possible. |
| - Methods for cleaning up | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities, clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). |

7 HANDLING AND STORAGE

Precautions for safe handling:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.
Hygiene measures:	When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

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Incompatible products:	Strong oxidizing agents.
Conditions for safe storage, including any incompatibilities:	<p>Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material.</p> <p>Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Keep at temperatures between 15 and 32 °C (60 and 90 °F).</p>

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control Parameters	No exposure limits established.
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Exposure Controls:

- | | |
|--------------------------------|---|
| • General Engineering Measures | General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems. |
|--------------------------------|---|

Individual Protection Measures, such as Personal Protective Equipment

- | | |
|---------------------------------------|--|
| • General industrial hygiene practice | Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location. |
| • Hygiene measures | When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product. |

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- **Eye Protection**

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.
 - **Respiratory Protection**

Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (vapor or mist). Equipment should conform to NIOSH.
 - **Hand Protection**

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Suitable material: nitrile rubber
Evaluation: according to EN 374: level 6
Glove thickness: approx 0,55 mm
Break through time: > 480 min

Suitable material: polyvinylchloride / nitrile rubber
Evaluation: according to EN 374: level 6
Glove thickness: approx 0,9 mm
Break through time: > 480 min
 - **Skin and Body Protection**

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.
 - **Environmental exposure controls**

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable,

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dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:	liquid
Colour:	colourless
Odour:	weak
Melting point/ range:	-71 °F (-57 °C)
Boiling point/range:	408 °F (209 °C) @ 1 atm (101,3 kPa)
Flash Point:	239 °F (115 °C) @ 1 atm (101,3 kPa)
Flammability (solid, gas):	Does not apply, the substance is a liquid.
Lower explosion limit:	1.9 Vol %
Upper explosion limit:	12.6 Vol %

Vapour pressure:	Values	Values	Values	@ °C	@ °F
	[hPa]	[kPa]	[atm]	N/A	N/A
	< 1	< 0,1	< 0,001	20	68
	1,8	0,18	0,002	50	122

Solubility:	miscible, in water, OECD 105
log Pow:	- 0,9 (measured) OECD 117
Autoignition temperature:	770 °F (410 °C) @ 1019 hPa
Viscosity:	131,8 mPa*s @ 68 °F (20 °C)
pH:	6 - 9
Molecular weight:	90,12
Molecular formula:	C ₄ H ₁₀ O ₂
Dissociation constant:	pKa 15,1 @ 25 °C (77 °F), OECD 112

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Refractive Index:	1,440 @ 68 °F (20 °C)
Explosive properties:	Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties
Oxidizing Properties:	Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties
Surface tension:	72,6 mN/m (1 g/l @ 20°C (68°F)), OECD 115

10 STABILITY AND REACTIVITY

Reactivity:	The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.
Chemical Stability:	Stable under recommended storage conditions.
Possibility of Hazardous Reactions:	Hazardous polymerisation does not occur.
Conditions to Avoid:	Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.
Incompatible Materials:	strong oxidizing agents.
Hazardous decomposition products	No decomposition if stored and applied as directed.

11 TOXICOLOGICAL INFORMATION

Likely routes of exposure:	Ingestion, Inhalation, Eye contact, Skin contact. <u>1,3-Butylene glycol (Butane-1,3-diol). CAS: 107-88-0</u> Main symptoms: cough.
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Acute Toxicity				
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	22800 mg/kg	rat, male	N/A
Inhalative	LC0	292 mg/m ³	rat, male	OECD 403

- Based on available data, the classification criteria are not met for: Acute oral toxicity. Acute inhalation toxicity.

Irritation and corrosion		
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)		
Target Organ Effects	Species	Result
Skin	rabbit	No skin irritation
Eyes	rabbit	Mild eye irritation

- Based on available data, the classification criteria are not met for: skin irritation/corrosion. Eye irritation/corrosion.

Sensitization			
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)			
Target Organ Effects	Species	Evaluation	Method
Skin	Human experience	not sensitizing	Patch-test

- Based on available data, the classification criteria are not met for: Skin sensitization.

Subacute, subchronic and prolonged toxicity				
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)				
Type	Dose	Species	Method	N/A
Subchronic toxicity	NOAEL: 6000 mg/kg/d	dog, male/female	Oral	90-day
Chronic toxicity	NOAEL: 5000 mg/kg/d	rat, male/female	Oral	two-year
Chronic toxicity	NOAEL: >= 750 mg/kg/d	dog, male/female	Oral	two-year

- Based on available data, the classification criteria are not met for: STOT RE

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Carcinogenicity, Mutagenicity, Reproductive toxicity					
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)					
Type	Dose	Species	Evaluation	Method	N/A
Mutagenicity	N/A	rat, male/female	negative	N/A	in vivo
Reproductive toxicity	LOAEL 12000 mg/kg/d	rat	N/A	Oral	N/A
Reproductive toxicity	NOAEL 5000 mg/kg/d	rat	N/A	Oral	N/A
Developmental Toxicity	NOAEL 12000 mg/kg/d	rat	N/A	Oral	Maternal toxicity
Developmental Toxicity	NOAEL 12000 mg/kg/d	rat	N/A	Oral	Teratogenicity
Developmental Toxicity	LOAEL 5000 mg/kg/d	rat	N/A	Oral	Fetal toxicity
Developmental Toxicity	NOAEL 2500 mg/kg/d	rat	N/A	Oral	Fetal toxicity
Carcinogenicity	NOAEL 5000 mg/kg/d	rat, male/female	N/A	Ora	N/A

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

CMR Classification

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

Evaluation

Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

Note

Special hazards or target organ effects are given as a generic warning, substance specific data is not available. Handle in accordance with good industrial hygiene and safety practice.

12 ECOLOGICAL INFORMATION

Acute aquatic toxicity			
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)			
Species	Exposure time	Dose	Method

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Daphnia magna (Water flea)	48h	EC50: > 1000 mg/l	OECD 202 read across
Desmodesmus subspicatus	72h	EC50: > 1070 mg/l (Growth rate)	OECD 201
Oryzias latipes (Medaka)	96h	LC50: > 100 mg/l	OECD 203 read across
Activated sludge (bacteriae)	3h	EC20: > 100 mg/l	OECD 209

Long term toxicity			
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)			
Type	Species	Dose	Method
Reproductive toxicity	Daphnia magna (Water flea)	EC50: > 85 mg/l/21d	OECD 202 read across
Aquatic toxicity	Scenedesmus subspicatus	NOEC: 1070 mg/l (3d)	OECD 201

Persistence and degradability

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

Biodegradation

Abiotic Degradation		
1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)		
Type	Result	Method
Hydrolysis	not expected	-
Photolysis	Half-life (DT50): 27 h	calculated

Bioaccumulative potential

1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)		
Type	Result	Method
Log Pow	- 0,9	measured, OECD 117
BCF	No potential for bioaccumulation	-

Mobility in soil

1,3-Butylene glycol (Butane-1,3-diol) (107-88-0)		
Type	Result	Method
Surface tension	72,6 mN/m (1 g/l @ 20°C (68°F))	OECD 115
Adsorption/Desorption	log Koc: 0	calculated

Results of PBT and vPvB assessment

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

PBT and vPvB assessment

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This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB).

13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product Information:

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Uncleaned empty packaging:

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

14 TRANSPORT INFORMATION

D.O.T. (49CFR)

Not restricted.

ICAO-TI / IATA-DGR

Not restricted.

IMDG

Not restricted.

Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

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15 REGULATORY AND OTHER INFORMATION

Safety, health and environmental regulations specific for the mixture or substance:

Federal and State Regulations

Components of the product are listed in the quoted regulations. For details please refer to the regulations directly. This list is not exhaustive, please check for other applicable regulations.

Federal Regulations

This product is listed on the TSCA inventory.

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

40CFR 63.100-.106, Table 1: Group II

International Inventories

1,3-Butylene glycol (Butane-1,3-diol), CAS: 107-88-0

AICS (AU)

DSL (CA)

IECSC (CN) EC-No. 2035297 (EU)

ENCS (2)-235 (JP)

ISHL (2)-235 (JP)

KECI KE-03787 (KR)

INSQ (MX)

PICCS (PH)

TSCA (US)

NZIoC (NZ)

TCSI (TW)

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16 OTHER INFORMATION

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition or other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user.

This sheet completes the technical sheets but it does not replace them. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied is made and Trulux Pty Ltd assumes no legal responsibility or liability whatsoever resulting from its use. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product.

This listing must not be considered exhaustive. It does exonerate the user from ensuring that other legal obligations than those mentioned do not exist, relating to the use and storage of the product for which he solely is responsible.

The information and recommendations contained herein are to the best of the manufacturer's knowledge and belief accurate and reliable as of the date indicated. No representation warranty or guarantee, however, is made with regards to accuracy, reliability or completeness. Conditions of use of the material are under the control of the user; therefore, it is the user's responsibility to satisfy itself as to the suitability and completeness of such information for its own particular use.

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