

# Material Safety Data Sheet

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** BUTYL DIGLYCOL ETHER

**Other name(s):** Butyl diethoxol; Butyl carbitol; Butyl dioxitol; Butyl diicinel; 2-(2-Butoxyethoxy) ethanol; Diethylene glycol monobutyl ether; Diethylene glycol butyl ether; DEGBE.

**Recommended Use:** Solvent.

**Supplier:** Orica Australia Pty Ltd

**ABN:** 99 004 117 828

**Street Address:** 1 Nicholson Street,  
Melbourne 3000  
Australia

**Telephone Number:** +61 3 9665 7111

**Facsimile:** +61 3 9665 7937

**Emergency Telephone:** 1 800 033 111 (ALL HOURS)

## 2. HAZARDS IDENTIFICATION

This material is hazardous according to criteria of Safe Work Australia; HAZARDOUS SUBSTANCE.

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.

**Risk Phrases:** Irritating to eyes.

**Safety Phrases:** Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with

plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water (or soap and water if product is water insoluble). Wear suitable protective clothing, gloves and eye/face protection.

**Poisons Schedule:** S5 Caution.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Components CAS Number Proportion Risk Phrases**

2-(2-butoxyethoxy)ethanol 112-34-5 100% R36

## 4. FIRST AID MEASURES

**Inhalation:**

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

**Skin Contact:**

If skin contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice.

**Eye Contact:**

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by

the Poisons Information Centre or a doctor, or for at least 15 minutes.

**Product Name:** BUTYL DIGLYCOL ETHER **Issued:** 10/06/2009

**Substance No:** 000030169101 **Version:** 5

**Page 1 of 6**

# Material Safety Data Sheet

**Ingestion:**

Rinse mouth with water. If swallowed, give a glass of water to drink. If vomiting occurs give further water. Seek medical

advice.

**Medical attention and special treatment:**

Treat symptomatically.

## **5. FIRE FIGHTING MEASURES**

**Hazards from combustion products:**

Combustible liquid.

**Precautions for fire fighters and special protective equipment:**

On burning will emit toxic fumes, including those of oxides of carbon. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

**Suitable Extinguishing Media:**

Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

**Unsuitable Extinguishing Media:**

Water jets.

## **6. ACCIDENTAL RELEASE MEASURES**

**Emergency procedures:**

Shut off all possible sources of ignition. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

**Methods and materials for containment and clean up:**

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact

and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways.

Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal.

Wash area down with excess water.

## **7. HANDLING AND STORAGE**

Classified as a C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the

requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

**Conditions for safe storage:**

Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from sources of heat or ignition. Store

away from incompatible materials described in Section 10. Store away from foodstuffs. Keep containers closed when not

in use - check regularly for leaks.

**Precautions for safe handling:**

Avoid skin and eye contact and breathing in vapour. Keep out of reach of children.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Occupational Exposure Limits:** No value assigned for this specific material by the National Occupational Health and Safety Commission.

**Product Name:** BUTYL DIGLYCOL ETHER *Issued: 10/06/2009*

**Substance No:** 000030169101 *Version: 5*

Page 2 of 6

# **Material Safety Data Sheet**

**Engineering controls:**

Use in well ventilated areas. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter

confined spaces where vapour may have collected. If inhalation risk exists: Use with local exhaust ventilation or while wearing organic vapour respirator. Keep containers closed when not in use.

**Personal Protective Equipment:**

The selection of PPE is dependant 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. Orica Personal Protection Guide No. 1, 1998: H - OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.

Wear overalls, chemical goggles and impervious gloves. If risk of inhalation exists, wear organic vapour respirator

meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state:** Clear Liquid

**Colour:** Colourless

**Odour:** Mild

**Molecular Formula:** C<sub>8</sub>H<sub>18</sub>O<sub>3</sub>

**Solubility:** Miscible with water.

**Specific Gravity:** 0.96 @20 °C

**Relative Vapour Density (air=1):** 5.59

**Vapour Pressure (20 °C):** 0.003 kPa

**Flash Point (°C):** 114 (OC)

**Flammability Limits (%):** 0.7-5.9

**Autoignition Temperature (°C):** 210

**Boiling Point/Range (°C):** 224

**pH:** Not available

**Viscosity:** 6.5 cP @20 °C

**Evaporation Rate:** <0.01 (n-Butyl acetate = 1)

**Freezing Point/Range (°C):** -68

**Product Name:** BUTYL DIGLYCOL ETHER *Issued: 10/06/2009*

**Substance No:** 000030169101 *Version: 5*

Page 3 of 6

## Material Safety Data Sheet

### 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable under normal conditions of use.

**Conditions to avoid:** Excessive heat will lead to accelerated oxidative degradation.

**Incompatible materials:** Incompatible with aluminium and alloys , copper , copper alloys , neoprene , natural rubber , strong oxidising agents .

**Hazardous decomposition products:**

Oxides of carbon.

**Hazardous reactions:** Contact with aluminium or alloys containing aluminium may result in alcoholate formation with subsequent evolution of hydrogen.

### 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product

label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

**Ingestion:** Swallowing can result in nausea, vomiting and central nervous system depression. If the victim is showing signs of central system depression (like those of drunkenness) there is greater likelihood of the patient breathing in vomit and causing damage to the lungs.

**Eye contact:** An eye irritant.

**Skin contact:** Contact with skin will result in mild irritation.

**Inhalation:** Breathing in mists or aerosols may produce respiratory irritation.

**Long Term Effects:**

Available evidence from animal studies indicate that repeated or prolonged exposure to this material could result in effects on the blood. These effects were observed only at very high doses in rats. There are no reports of adverse effects in humans from use of products containing this material.

**Toxicological Data:**

Oral LD50 (rat): 6560 mg/kg.

Dermal LD50 (rabbit): 2800 mg/kg

SKIN: Slight irritant (rabbit).

EYES: Moderate irritant (rabbit).

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Avoid contaminating waterways.

96hr LC50 (fish): 2500 mg/L (Fathead minnow)

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods:**

Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Normally suitable for

disposal at approved land waste site. Normally suitable for incineration by an approved agent.

**Product Name:** BUTYL DIGLYCOL ETHER **Issued:** 10/06/2009

**Substance No:** 000030169101 **Version:** 5

Page 4 of 6

# Material Safety Data Sheet

## 14. TRANSPORT INFORMATION

**Road and Rail Transport**

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.

**Marine Transport**

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

**Air Transport**

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.

## 15. REGULATORY INFORMATION

**Classification:** This material is hazardous according to criteria of Safe Work Australia; HAZARDOUS SUBSTANCE.

**Hazard Category:** Xi: Irritant

**Risk Phrase(s):** R36: Irritating to eyes.

**Safety Phrase(s):** S25: Avoid contact with eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/39: Wear suitable protective clothing and eye/face protection.

**Poisons Schedule:** S5 Caution.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

In: 'Patty's Industrial Hygiene and Toxicology'. Vol. IIA/IIB/IIC/11D/11E/11F 4th Edition. Ed. Clayton, C.D. and Clayton,

F.E.. John Wiley and Sons Inc., New York 1993.

Supplier Material Safety Data Sheet; 03/ 2006.

This material safety data sheet has been prepared by SH&E Shared Services, Orica.

### Reason(s) for Issue:

5 Yearly Revised Primary MSDS

**Product Name:** BUTYL DIGLYCOL ETHER **Issued:** 10/06/2009

**Substance No:** 000030169101 **Version:** 5

Page 5 of 6

## Material Safety Data Sheet

This MSDS 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 Orica Limited 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 Orica representative or Orica Limited at the contact details on page 1.

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

**Product Name:** BUTYL DIGLYCOL ETHER **Issued:** 10/06/2009

**Substance No:** 000030169101 **Version:** 5

Page 6 of 6

<b>Butyl DiGlycol Ether</b>		
Product Specification - Version 4a		
<b>Specifications Minimum Maximum Test Method</b>		
Purity (wt%)	97.0	GC
Water (wt%)	0.1	ASTM D1364
Acid Number (mgKOH/g)	0.05	ASTM D974
Color (Pt-Co)	10	ASTM D1209
Appearance	Clear and free	ASTM D4176
Further Properties:		
Density @ 20C (g/ml)	0.952 0.955	ASTM D4052
Refractive Index (nD20)	1.431 1.432	ASTM D1218
Distillation range @ 101.3 kPa (degrees C)		ASTM D1078
Initial Boiling Point	228	
Dry Point	233	