OCI Company Ltd.

Material Safety Data Sheet

MSDS

Diethylene Glycol Monobutyl Ether (Butyl Carbitol)

Section 1 - Chemical Product and Company Identification

TRADE NAMES : Diethylene Glycol Monobutyl Ether (Butyl Carbitol)
Recommended use : Not available
Restriction of use : Not available
Company Identification
Company : OCI Company Ltd.
Address : 230, Dokbae-ro, Nam-gu, Incheon, KOREA
Tel No. : 82 - 32 - 860 - 6114

Section 2 - Hazards Identification

1) Hazard Classification Serious eye damage / Eye irritation : 2
2) Warning signal
Symbol

Signal word Warning
Hazard statement H319 Causes serious eye irritation
Prevention precautionary statements
P264 Wash ... thoroughly after handling
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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

3) NFPA
Health Rating 2
Flammability Rating 2
Reactivity Rating 0

Section 3 - Composition, Information on Ingredients

COMPONENT : Diethylene Glycol Monobutyl Ether (Butyl Carbitol)
CAS No. : 112-34-5
PERCENTAGE :100%

Section 4 - First Aid Measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician if you feel unwell.
Inhalation: Move to fresh air. Get medical attention if symptoms persist.
Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
Eye contact: Flush thoroughly with water. If irritation occurs, get medical assistance.
Most important symptoms/effects, acute and delayed Symptoms: Causes serious eye irritation.
Indication of immediate medical attention and special treatment needed Treatment: Treat symptomatically. Symptoms may be delayed.

Section 5 - Fire Fighting Measures

General Fire Hazards: Combustible liquid. In case of fire and/or explosion do not breathe fumes.
Suitable (and unsuitable) extinguishing media
Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media: Water may be ineffective in fighting the fire. Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters
Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.
Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA...

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.
Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.
Notification Procedures: Inform authorities if large amounts are involved. Prevent runoff from entering drains, sewers, or streams.
Environmental Precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground..

Section 7 - Handling and Storage

Precautions for safe handling: Use personal protective equipment as required. Avoid breathing mist or vapor. Wash hands thoroughly after handling. Avoid contact with eyes. Avoid contact with skin. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in a cool, dry place. Store in a well-ventilated place.

Section 8 - Exposure Controls, Personal Protection

Control Parameters Occupational Exposure Limits : None of the components have assigned exposure limits.
Appropriate Engineering Controls : No data available.
Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Eye/face protection: Use eye protection.

Skin Protection

Hand Protection: Wear protective gloves.

Other: Wear suitable protective clothing.

Respiratory Protection: In case of inadequate ventilation use suitable respirator.
Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Section 9 - Physical and Chemical Properties

Appearance

Physical state: Liquid

Form: Liquid

Color: Colorless

Odor: Good smell
Odor threshold: No data available.
pH: No data available.
Melting point/freezing point: -68 °C
Initial boiling point and boiling range: 231 °C
Flash Point: 78 °C (Closed Cup)
Evaporation rate: (Slower than Butyl Acetate)
Flammability (solid, gas): No data available.
Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): 24.6 %(V)

Flammability limit - lower (%): 0.85 %(V)

Explosive limit - upper (%): No data available.

Explosive limit - lower (%): No data available.

Vapor pressure: 0.0219 ㎜Hg (25 °C)
Vapor density: 5.6
Relative density: 0.9553
Solubility(ies)

Solubility in water: 100 g/100㎖ (25 °C)

Solubility (other): No data available.

Partition coefficient (n-octanol/water): 0.56
Auto-ignition temperature: 204 °C
Decomposition temperature: No data available.
Viscosity: 5.17 cSt (25 °C)
Other information
Molecular weight: 162.26

Section 10 - Stability and Reactivity

Reactivity: No dangerous reaction known under conditions of normal use.
Chemical Stability: Material is stable under normal conditions.
Possibility of Hazardous Reactions: Hazardous polymerization does not occur.
Conditions to Avoid: Heat, sparks, flames. Contact with incompatible materials.
Incompatible Materials: Strong oxidizing agents. Acids. Bases. Alkalies.
Hazardous Decomposition Products: Oxides of Carbon..

Section 11 - Toxicological Information

Information on likely routes of exposure
Ingestion: May be harmful if swallowed.
Inhalation: May be harmful if inhaled.
Skin Contact: May cause irritation.
Eye contact: Causes serious eye irritation.
Information on toxicological effects
Acute toxicity (list all possible routes of exposure)
Oral Product: LD 50 (Rat): 4,500 - 7,292 mg/kg
LD 50 (Guinea Pig): 2,000 mg/kg
LD 50 (Rabbit): 2,200 mg/kg
LD 50 (Mouse): 2,400 mg/kg
Dermal Product: LD 50 (Rabbit): 2,700 - 4,120 mg/kg
Inhalation Product: No data available.
Repeated Dose Toxicity Product: No data available.
Skin Corrosion/Irritation Product: May cause skin irritation.
Serious Eye Damage/Eye Irritation Product: Causes serious eye irritation.
Respiratory or Skin Sensitization Product: Not a skin sensitizer.
Carcinogenicity Product: This substance has no evidence of carcinogenic properties.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans: No carcinogenic components identified
US. National Toxicology Program (NTP) Report on Carcinogens: No carcinogenic components identified
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): No carcinogenic components identified
Germ Cell Mutagenicity
In vitro Product: No mutagenic components identified
In vivo Product: No mutagenic components identified
Reproductive Toxicity Product: No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure Product: No data available.
Specific Target Organ Toxicity - Repeated Exposure Product: No data available.
Aspiration Hazard Product: Not classified
Other Effects: None known..

Section 12 - Ecological Information

Ecotoxicity:
Acute hazards to the aquatic environment:
Fish
Product: No data available.
Specified substance(s): DIETHYLENE GLYCOL MONOBUTYL ETHER
LC 50 (Bluegill (Lepomis macrochirus), 96 h): 1,300 mg/l Mortality
LC 50 (Carp (Leuciscus idus melanotus), 48 h): 1,805 - 2,304 mg/l Mortality
Aquatic Invertebrates
Product: No data available.
Specified substance(s): DIETHYLENE GLYCOL MONOBUTYL ETHER
LC 50 (Water flea (Daphnia magna), 24 h): 2,850 mg/l Mortality
Chronic hazards to the aquatic environment:
Fish Product: No data available.
Aquatic Invertebrates Product: No data available.
Toxicity to Aquatic Plants Product: No data available.
Persistence and Degradability
Biodegradation Product: There are no data on the degradability of this product.
BOD/COD Ratio Product: No data available.
Bioaccumulative Potential
Bioconcentration Factor (BCF) Product: No data available on bioaccumulation.
Partition Coefficient n-octanol / water (log Kow) Product: Log Kow: 0.56
Mobility in Soil: The product is water soluble and may spread in water systems.
Other Adverse Effects: Not expected to be harmful to aquatic organisms. Low acute toxicity to aquatic organisms.

Section 13 - Disposal Considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

Section 14 - Transport Information

DOT Not regulated.
IMDG Not regulated.
IATA Not regulated.

Section 15 - Regulatory Information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

X Acute (Immediate) **X** Chronic (Delayed) **X** Fire Reactive Pressure Generating

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

Chemical Identity : DIETHYLENE GLYCOL MONOBUTYL ETHER

Threshold Planning Quantity : 500 lbs

SARA 313 (TRI Reporting)

Chemical Identity : DIETHYLENE GLYCOL MONOBUTYL ETHER

Reporting threshold for other users : 10000 lbs

Reporting threshold for manufacturing and processing : 25000 lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

DIETHYLENE GLYCOL MONOBUTYL ETHER Listed

US. Massachusetts RTK - Substance List

No ingredient regulated by MA Right-to-Know Law present.

US. Pennsylvania RTK - Hazardous Substances

DIETHYLENE GLYCOL MONOBUTYL ETHER Listed

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Inventory Status:

Australia AICS: On or in compliance with the inventory

Canada DSL Inventory List: On or in compliance with the inventory

EINECS, ELINCS or NLP: On or in compliance with the inventory

Japan (ENCS) List: On or in compliance with the inventory

China Inv. Existing Chemical Substances: On or in compliance with the inventory

Korea Existing Chemicals Inv. (KECI): On or in compliance with the inventory

Canada NDSL Inventory: Not in compliance with the inventory.

Philippines PICCS: On or in compliance with the inventory

US TSCA Inventory: On or in compliance with the inventory

New Zealand Inventory of Chemicals: On or in compliance with the inventory
Japan ISHL Listing: On or in compliance with the inventory
Japan Pharmacopoeia Listing: Not in compliance with the inventory.

Section 16 - Other Information

Sources : KOSHA, National Emergency Management Agency
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