Butyl Glycol Ether

SECTION 1  IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Trade name  Butyl Glycol Ether
Synonyms  Butyl cellosolve, Ethylene glycol monobutyl ether
Use  Hard-surface cleaner, Industrial & Institutional cleaning, Industrial use, Intermediate, Paint and Coatings, Paper Chemical, Raw material for chemical processes, Raw material for industry, Solvent
Company  Sasol Chemicals (USA) LLC
(an affiliate of Sasol Chemicals North America LLC)
Address  900 Threadneedle Ste 100   Houston TX 77079
Telephone  CHEMTREC North America Transportation Emergency (24-hr) (800) 424-9300
CHEMTREC World Wide (703) 527-3887
Other Emergencies (24-hr) (337) 494-5142
MSDS and Product Information (8:00am-4:30pm CST) (281) 588-3491
Health and Safety Information (7:30am-4:00pm CST) (281) 588-3492
E-mail address  SasolElectronicSDS@us.sasol.com

SECTION 2  HAZARDS IDENTIFICATION

GHS Hazards
Flammable liquids  Category 4
Acute toxicity (Oral)  Category 4
Acute toxicity (Inhalation)  Category 4
Acute toxicity (Dermal)  Category 4
Eye irritation  Category 2A
Skin irritation  Category 2

LABEL ELEMENTS

Hazard symbols

Signal word  Warning

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.

Precautionary statements
**SAFETY DATA SHEET**

**Butyl Glycol Ether**

**Prevention**
- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response**
- P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
- P330 Rinse mouth.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P362 Take off contaminated clothing and wash before reuse.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- 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.
- P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Storage**
- P403 + P235 Store in a well-ventilated place. Keep cool.

**Disposal**
- P501 Dispose of contents/ container to an approved waste disposal plant.

**SECTION 3  COMPOSITION/INFORMATION ON INGREDIENTS**

**Components**

| 2-butoxyethanol | CAS-No. 111-76-2 | Weight percent 100 |

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

**SECTION 4  FIRST AID MEASURES**

**Eye contact** Rinse immediately with plenty of water for at least 15 minutes. If eye irritation persists, consult a specialist.

**Skin contact** If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Inhalation** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

**Ingestion** Do NOT induce vomiting. Consult a physician.
Butyl Glycol Ether

SECTION 5  FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES
- **Fire/explosion**: NFPA Class IIIA combustible liquid.
- **Suitable extinguishing media**: Water spray, Foam, Dry chemical, Carbon dioxide (CO2)

Protective equipment and precautions for firefighters
- In the event of fire, wear self-contained breathing apparatus.

Further information
- Keep containers and surroundings cool with water spray.

SECTION 6  ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up
- Evacuate the area and eliminate all sources of ignition. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7  HANDLING AND STORAGE

Safe handling advice
- Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from heat and sources of ignition.

Storage/Transport pressure
- Ambient

Load/Unload temperature
- Ambient

SECTION 8  EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES
- Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines).

PERSONAL PROTECTIVE EQUIPMENT
- **Eyes**: Wear as appropriate: Goggles, Face-shield
- **Skin**: Wear suitable protective clothing, gloves and eye/face protection.
- **Inhalation**: Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.

EXPOSURE GUIDELINES
- **Components**
- **Exposure limit(s)**
Butyl Glycol Ether

2-butoxyethanol
OSHA PEL 50 ppm 240 mg/m3
ACGIH TLV (8-hour) 20 ppm
Confirmed animal carcinogen with unknown relevance to humans.

PEL= Permissible Exposure Limits
TLV= Threshold Limit Value
EL= Excursion Limit
TWA= Time Weighted Average (8 hr.)
STEL= Short Term Exposure Limit (15 min.)
WEEL= Workplace Environmental Exposure Level

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid;
Colour Clear, colorless
Form liquid
Odour mild
Odour Threshold no data available

Flash point 67 °C, 152 °F;
Flammability Upper explosion limit: ca. 10.6 %(V)
Lower explosion limit: ca. 1.1 %(V)

Boiling point/boiling range 171 °C, 340 °F;
Melting point/range -75 °C, -103 °F;
Auto-ignition temperature ca. 230 °C, 446 °F;
Decomposition temperature no data available

Flammability (solid, gas) no data available

Vapour pressure 1 hPa @ 20 °C, 68 °F;
Vapour density 4.1
Density 0.9 g/cm3 @ 20 °C, 60 °F;
Specific gravity no data available
Water solubility completely miscible
Viscosity no data available
SAFETY DATA SHEET

Butyl Glycol Ether

Viscosity, dynamic 3.3 mPa.s @ 20 °C, 68 °F;

pH 7 @ 20 °C, 68 °F;

Evaporation rate no data available

Partition coefficient: n-octanol/water no data available

SECTION 10 STABILITY AND REACTIVITY

Reactivity
Stable at normal ambient temperature and pressure.

Chemical stability
No decomposition if stored and applied as directed.

Conditions to avoid
Keep away from heat and sources of ignition.

Hazardous decomposition products
Combustion products include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.

Materials to avoid
Oxidizing agents

Hazardous polymerisation
Stable

SECTION 11 TOXICOLOGICAL INFORMATION

Acute dermal toxicity
LD50 rabbit: > 1,000 - 2,000 mg/kg (literature value)

Acute inhalation toxicity
LC50 rat (4 hours): > 10 - 20 mg/l (literature value)

Acute oral toxicity
LD50 rat: > 300 - 2,000 mg/kg (literature value)

Skin corrosion/irritation (rabbit)
Irritating.

Eye damage/irritation (rabbit)
Irritating.

Respiratory or skin sensitization
Guinea pig: not sensitizing; Maximisation Test (literature value)

Germ cell mutagenicity
Genotoxicity in vitro:
Type: Ames test
System: Salmonella typhimurium; with and without metabolic activation
Result: In vitro tests did not show mutagenic effects. (literature value)

Genotoxicity in vivo:
Butyl Glycol Ether

Assessment Mutagenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity: no data available

Assessment Reproductive toxicity: no data available

Teratogenicity: no data available

Assessment teratogenicity: no data available

STOT - single exposure: no data available

STOT - repeated exposure: no data available

Aspiration toxicity: no data available

Carcinogenicity: Assessment carcinogenicity: Contains no ingredient listed as a carcinogen

SECTION 12 ECOLOGICAL INFORMATION

Toxicity to fish: LC50 (Onchorhynchus mykiss (rainbow trout)) 96 hours: > 100 mg/l; static test (literature value)

Toxicity to aquatic invertebrates: EC50 (Daphnia magna (Water flea)) 48 hours: > 100 mg/l; static test (literature value)

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (green algae)) 72 hours: > 100 mg/l; static test (literature value)

Chronic toxicity to fish: NOEC (Danio rerio (zebra fish)) 21 d: > 100 mg/l; semi-static test; OECD Test Guideline 204 (literature value)

Chronic toxicity to aquatic invertebrates: EC10 (Daphnia magna (Water flea)) 21 d: > 100 mg/l; semi-static test; OECD Test Guideline 211 (literature value)

Biodegradation: Readily biodegradable.

OECD Test Guideline 301B (28 d): > 60 % (literature value)
Bioaccumulation: no data available

Mobility in soil: no data available

Other adverse effects: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Code: Any unused product or empty containers may be disposed of as non-hazardous in accordance with state and federal requirements. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification. If the resulting material is determined to be hazardous, please dispose in accordance with state and federal (40 CFR 262) hazardous waste regulations.

Disposal methods: Dispose of only in accordance with local, state, and federal regulations.

Empty containers: Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

SECTION 14 TRANSPORT INFORMATION

DOT: NA 1993, Combustible liquid, n.o.s. (2-butoxyethanol), III
This product is regulated as a hazardous material according to the Department of Transportation only in bulk quantities (greater than 119 gallons per package).

IATA: Not regulated.

IMDG: Not regulated.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks: no data available

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

OSHA Hazards (HCS 1994)
Combustible liquid., Eye irritation, Skin irritation

TSCA Inventory Listing

Components
2-butoxyethanol

CAS-No. 111-76-2
SAFETY DATA SHEET

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SARA 302 Status
Components | CAS-No. | Weight percent
---|---|---
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification
"Immediate (acute) health hazard", "Fire hazard"

SARA 313 Chemical Components
Components | CAS-No. | Weight percent
---|---|---
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. EPA CERCLA Hazardous Substances (40 CFR 302)
Components | Reportable Quantity | Weight percent
---|---|---
one | none | none

INTERNATIONAL REGULATIONS

WHMIS Classification
Class B, Division 3: Combustible liquid.
Class D, Division 2, Subdivision B: Toxic material.

European Union
Classification according to Regulation (EU) 1272/2008.

| Flammable liquids, Category 4 |
| Acute toxicity (Dermal), Category 4 |
| Acute toxicity (Inhalation), Category 4 |
| Acute toxicity (Oral), Category 4 |
| Eye irritation, Category 2 |
| Skin irritation, Category 2 |

Australia. Inventory of Chemical Substances (AICS) | Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS) | Listed
Japan. Industrial Safety & Health Law (ISHL) Inventory | Listed
Canada. Domestic Substances List (DSL) Inventory | Listed
Canadian Non-Domestic Substance Listing (NDSL) | Not listed
European Inventory of Existing Commercial Chemical Substances (EINECS) Listing | Listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS) | Listed
Korea. Existing Chemicals Inventory (KECI) | Listed
China. Inventory of Existing Chemical Substances (IECSC) | Listed
Mexico. National Inventory of Chemical Substances (INSQ) | Listed
Butyl Glycol Ether

New Zealand. Inventory of Chemicals (NZIoC)  Listed
Switzerland. Inventory of Notified New Substances (CHINV)  Listed
Taiwan. National Existing Chemical Inventory (NECI)  Listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65
Components  none

SECTION 16  OTHER INFORMATION

HAZARD RATINGS

<table>
<thead>
<tr>
<th>HMIS®</th>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard/Instability</th>
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