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  12120 Wickchester Lane, 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
SDS 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

OSHA/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.
Butyl Glycol Ether

H319  Causes serious eye irritation.
H332  Harmful if inhaled.

Precautionary statements

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/doctor 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 | CAS-No. | Weight percent
--- | --- | ---
2-butoxyethanol | 111-76-2 | 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.
Butyl Glycol Ether

**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.

### 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...
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

<table>
<thead>
<tr>
<th>Components</th>
<th>Exposure limit(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>OSHA PEL (Permissible Exposure Limit) 50 ppm 240 mg/m3</td>
</tr>
<tr>
<td></td>
<td>ACGIH TLV (8-hour) 20 ppm</td>
</tr>
<tr>
<td></td>
<td>Confirmed animal carcinogen with unknown relevance to humans.</td>
</tr>
</tbody>
</table>

PEL= Permissible Exposure Limits  TWA= Time Weighted Average (8 hr.)
TLV= Threshold Limit Value  STEL= Short Term Exposure Limit (15 min.)
EL= Excursion Limit  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;
Butyl Glycol Ether

**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;

**Relative density**  No data available

**Water solubility**  completely miscible

**Viscosity**  No data available

**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
### SAFETY DATA SHEET

#### Butyl Glycol Ether

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute inhalation toxicity</strong></td>
<td>LC50 Rat (4 hours): &gt; 10 - 20 mg/l (literature value)</td>
</tr>
<tr>
<td><strong>Acute oral toxicity</strong></td>
<td>LD50 Rat: &gt; 300 - 2,000 mg/kg (literature value)</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td>(Rabbit) Irritating.</td>
</tr>
<tr>
<td><strong>Serious eye damage/eye irritation</strong></td>
<td>(Rabbit) Irritating.</td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitisation</strong></td>
<td>Guinea pig: not sensitizing; Maximisation Test (literature value)</td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td><strong>Genotoxicity in vitro:</strong></td>
</tr>
<tr>
<td></td>
<td>Type: Ames test</td>
</tr>
<tr>
<td></td>
<td>System: Salmonella typhimurium; with and without metabolic activation</td>
</tr>
<tr>
<td></td>
<td>Result: In vitro tests did not show mutagenic effects</td>
</tr>
<tr>
<td></td>
<td>(literature value)</td>
</tr>
<tr>
<td></td>
<td><strong>Genotoxicity in vivo:</strong></td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Assessment Mutagenicity:</strong></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
<tr>
<td><strong>Reproductive toxicity</strong></td>
<td><strong>Reproductive toxicity:</strong></td>
</tr>
<tr>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Assessment Reproductive toxicity:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Teratogenicity:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Assessment teratogenicity:</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>STOT - single exposure</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>STOT - repeated exposure</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Aspiration toxicity</strong></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>Assessment carcinogenicity:</td>
</tr>
</tbody>
</table>
Contains no ingredient listed as a carcinogen

SECTION 12  ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Test Type</th>
<th>Endpoint</th>
<th>Value/Unit</th>
<th>Test Type</th>
<th>Endpoint</th>
<th>Value/Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Oncorhynchus mykiss (rainbow trout))</td>
<td>&gt; 100 mg/l</td>
<td>Static test</td>
<td>EC50 (Daphnia magna (Water flea))</td>
<td>&gt; 100 mg/l</td>
</tr>
<tr>
<td>Toxicity to aquatic</td>
<td>EC50 (Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt; 100 mg/l</td>
<td>Static test</td>
<td>NOEC (Danio rerio (zebra fish))</td>
<td>&gt; 100 mg/l</td>
</tr>
<tr>
<td>invertebrates</td>
<td></td>
<td></td>
<td></td>
<td>Chronic toxicity to fish 21 d</td>
<td>&gt; 100 mg/l</td>
</tr>
<tr>
<td>Toxicity to algae</td>
<td></td>
<td></td>
<td></td>
<td>Chronic toxicity to aquatic invertebrates EC10</td>
<td>&gt; 100 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biodegradation</td>
<td>Readily biodegradable.</td>
<td></td>
<td></td>
<td>OECD Test Guideline 301B (28 d): &gt; 60 %</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>This substance is not considered to be persistent, bioaccumulating and toxic (PBT).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 Shipment by water under IMDG is non-regulated; however it must be shipped per the applicable DOT hazard classification if any part of the shipment is by ground.

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

TSCA Inventory Listing

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>111-76-2</td>
</tr>
</tbody>
</table>

All chemical substances in this product are either on the TSCA Active Inventory, or in compliance with the inventory.

SARA 302 Status

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312 Classification

Flammable liquids, Acute toxicity, Eye irritation, Skin irritation

SARA 313 Chemical

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-butoxyethanol</td>
<td>111-76-2</td>
<td>100 %</td>
</tr>
</tbody>
</table>

US. EPA CERCLA Hazardous Substances (40 CFR 302)

<table>
<thead>
<tr>
<th>Components</th>
<th>Reportable Quantity</th>
<th>Weight percent</th>
</tr>
</thead>
</table>
Butyl Glycol Ether

none

INTERNATIONAL REGULATIONS

WHMIS Classification

- 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

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

- Flammable liquids, Category 4
- Acute toxicity (Oral), Category 4
- Acute toxicity (Inhalation), Category 4
- Acute toxicity (Dermal), 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. ISHL - Inventory of Chemical Substances Listed

Canada. Domestic Substances List (DSL) Inventory Listed

Canada. Non-Domestic Substance Listing (NDSL) Not 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

New Zealand. Inventory of Chemical Substances (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>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPA</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

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