SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Glycol ether EB
Product Use Description: ESBS-Cleaner for removal of vegetable or animal oil from soiled surfaces.

Manufacturer or supplier's details
Company: Nexeo Solutions LLC
Address: 3 Waterway Square Place Suite 1000
Woodlands, Tx. 77380
United States of America

Emergency telephone number:
Health North America: 1-855-NEXEO4U (1-855-639-3648)
Health International: 1-855-NEXEO4U (1-855-639-3648)
Transport North America: CHEMTREC 800.424.9300

Additional Information:
Responsible Party: Product Safety Group
E-Mail: msds@nexeosolutions.com
SDS Requests: 1-855-429-2661
SDS Requests Fax: 1-281-500-2370
Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

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

GHS Label element
Hazard pictograms:
Signal word: Warning
Safety Data Sheet  
Glycol ether EB  

Version 1.2  
Revision Date: 04/08/2015  

Hazard statements:  
H227 Combustible liquid.  
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  

Precautionary statements:  
Prevention:  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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/ eye protection/ face protection.  

Response:  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  

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

Disposal:  
P501 Dispose of contents/ container to an approved waste disposal plant.
Potential Health Effects

Carcinogenicity:

**IARC**
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH**
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**OSHA**
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**
No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Emergency Overview

<table>
<thead>
<tr>
<th>CAUTION!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
</tr>
<tr>
<td>Colour</td>
</tr>
<tr>
<td>Odour</td>
</tr>
<tr>
<td>Hazard Summary</td>
</tr>
</tbody>
</table>

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture: Substance

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Chemical Name</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-76-2</td>
<td>2-Butoxy ethanol</td>
<td>90 - 100</td>
</tr>
<tr>
<td>107-21-1</td>
<td>Ethylene glycol</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

General advice: Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
If inhaled: If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of skin contact: If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.

In case of eye contact: Immediately flush eye(s) with plenty of water. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

If swallowed: Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use an extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: High volume water jet

Hazardous combustion products: Carbon oxides

Specific extinguishing methods: Use a water spray to cool fully closed containers.

Further information: For safety reasons in case of fire, cans should be stored separately in closed containments.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

NFPA Flammable and Combustible Liquids Classification: Combustible Liquid Class IIIA

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, : Use personal protective equipment.
protective equipment and
emergency procedures

Environmental precau-
tions

: Prevent further leakage or spillage if safe to do so.

Methods and materials
for containment and
cleaning up

: Contain spillage, and then collect with non-
combustible absorbent material, (e.g. sand, earth,
diatomaceous earth, vermiculite) and place in con-
tainer for disposal according to local / national regu-
lations (see section 13).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling

: Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in
the application area.
Provide sufficient air exchange and/or exhaust in work
rooms.
Dispose of rinse water in accordance with local and
national regulations.

Conditions for safe sto-
rage

: No smoking.
Keep container tightly closed in a dry and well-
ventilated place.
Observe label precautions.
Electrical installations / working materials must compl-
ly with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| CAS-No. | Components       | Value type (Form of exposure) | Control parameters / Permissi-
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th>ble concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>111-76-2</td>
<td>2-Butoxy ethanol</td>
<td>TWA</td>
<td>20 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 ppm 24 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50 ppm 240 mg/m³</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>25 ppm</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>
## Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Butoxy ethanol</td>
<td>111-76-2</td>
<td>Butoxyacetic acid</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>200 mg/g Creatinine</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

### Personal protective equipment

**Respiratory protection**
- No personal respiratory protective equipment normally required.

**Hand protection**
- The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye protection**
- Eye wash bottle with pure water
- Tightly fitting safety goggles
- Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection**
- Impervious clothing
  - Choose body protection according to the amount and concentration of the dangerous substance at the workplace.

**Hygiene measures**
- When using do not eat or drink.
- When using do not smoke.
- Wash hands before breaks and at the end of workday.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- Liquid
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>mild, sweet, ester-like, ether-like</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>0.48 ppm</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing Point (Melting point/freezing point)</td>
<td>-75 - -74.8 °C (-103 - -102.6 °F)</td>
</tr>
<tr>
<td>Boiling Point (Boiling point/boiling range)</td>
<td>166 - 173.5 °C (331 - 344.3 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>62 - 70 °C (144 - 158 °F) (1,013 hPa)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>0.153 n-Butyl Acetate</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Burning rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>10.6 % (V)</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1.1 - 1.3 % (V)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0.599 mmHg @ 20 °C (68 °F)</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>4 (Air = 1.0)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.9005 - 0.904 @ 20 °C (68 °F) Reference substance: (water = 1)</td>
</tr>
<tr>
<td>Density</td>
<td>7.514 lb/gal @ 20 °C (68 °F)</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>900 g/l completely soluble @ 25 °C (77 °F)</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>log Pow: 0.81 @ 25 °C (77 °F)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>230 - 245 °C 1,013 hPa</td>
</tr>
</tbody>
</table>
**Safety Data Sheet**  
**Glycol ether EB**

**Version 1.2**  
**Revision Date:** 04/08/2015

**Thermal decomposition**: 124.7 °C

**Viscosity**
- **Viscosity, dynamic**: 3.3 - 6.4 mPa.s @ 20 °C (68 °F)
- **Viscosity, kinematic**: 2.3 - 3.7 mm²/s @ 20 - 40 °C (68 - 104 °F)

**Surface tension**: 65 mN/m

---

**SECTION 10. STABILITY AND REACTIVITY**

- **Reactivity**: No dangerous reaction known under conditions of normal use.
- **Chemical stability**: Stable under normal conditions.
- **Possibility of hazardous reactions**: No hazards to be specially mentioned.
- **Conditions to avoid**: Heat, flames and sparks.
- **Incompatible materials**: Strong oxidizing agents, Acids, Bases, Amines, Ammonia, Acid chlorides.

**Hazardous decomposition products**: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke), Aldehydes, Ketones, Organic acids.

---

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

**Product:**
- **Acute oral toxicity**: Acute toxicity estimate: 500 mg/kg  
  Method: Calculation method
- **Acute inhalation toxicity**: Acute toxicity estimate: 4500 ppm  
  Exposure time: 4 h
Safety Data Sheet
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Test atmosphere: gas
Method: Calculation method

<table>
<thead>
<tr>
<th>Acute dermal toxicity</th>
<th>Acute toxicity estimate: 1,100 mg/kg</th>
<th>Method: Calculation method</th>
</tr>
</thead>
</table>

**Components:**

**111-76-2:**

**Acute oral toxicity**

LD50 (rat): 745 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

**Acute inhalation toxicity**

LC50 (rat): 550 ppm
Exposure time: 4 h
Assessment: The component/mixture is moderately toxic after short term inhalation.

**Acute dermal toxicity**

LD50 (rat): 1,250 mg/kg
Assessment: The component/mixture is moderately toxic after single contact with skin.

**107-21-1:**

**Acute oral toxicity**

LD50 (rat): 2,000 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.

**Acute inhalation toxicity**

LC50 (rat, male and female): > 2.5 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

**Acute dermal toxicity**

LD50 (mouse, male and female): > 3,500 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation**

**Product:**
Remarks: Irritating to skin.

**Components:**

**111-76-2:**
Species: rabbit
Result: Irritating to skin.

**107-21-1:**
Species: rabbit
Exposure time: 20 h
Safety Data Sheet  
Glycol ether EB  

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Revision Date: 04/08/2015  

Method: In vivo  
Result: No skin irritation  

**Serious eye damage/eye irritation**  
Remarks: Irritating to eyes.  

**Components:**  
**111-76-2:**  
Species: rabbit  
Result: Irritating to eyes.  

**107-21-1:**  
Species: rabbit  
Result: No eye irritation  
Exposure time: 24 h  
Method: In vivo  

**Respiratory or skin sensitisation**  

**Components:**  
**111-76-2:**  
Test Type: Maximization test  
Species: guinea pig  
Result: Did not cause sensitisation on laboratory animals.  

**107-21-1:**  
Test Type: Maximisation Test (GPMT)  
Species: guinea pig  
Result: Did not cause sensitisation on laboratory animals.  

**Germ cell mutagenicity**  

**Components:**  
**111-76-2:**  
Genotoxicity in vitro: Test Type: Mammalian cell gene mutation assay  
Test species: Chinese hamster ovary (CHO)  
Metabolic activation: with and without metabolic activation  
Result: negative  

Genotoxicity in vivo:  
Test Type: In vivo micronucleus test  
Test species: mouse (male)  
Application Route: Intraperitoneal  
Result: negative  

Germ cell mutagenicity-Assessment: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Genotoxicity in vitro: Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Genotoxicity in vivo: Test Type: Dominant lethal assay
Test species: rat (male and female)
Application Route: Oral
Exposure time: daily
Dose: 0, 40, 200, 1000 mg/kg
Result: negative

Germ cell mutagenicity-assessment: Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

**Components:**

**111-76-2:**
Species: mouse
Application Route: Inhalation
Exposure time: 2 yr
Activity duration: 6 h
Frequency of Treatment: 5 days/week
NOAEL: 125 ppm

Result: Limited evidence of carcinogenic effects with no relevance to humans

Carcinogenicity - Assessment: Not classifiable as a human carcinogen.

**107-21-1:**
Species: mouse, (male and female)
Application Route: Oral
Exposure time: 24 mths
Dose: 0, 40, 200, 1000 mg/kg
Frequency of Treatment: daily
LOAEL: 1,000 mg/kg

Result: Ambiguous

Carcinogenicity - Assessment: Not classifiable as a human carcinogen.
## Reproductive toxicity

**Components:** 111-76-2:

- **Effects on fertility**
  - **Species:** mouse
  - **Application Route:** oral
  - **Fertility:** NOAEL: 720 mg/kg body weight
  - **Symptoms:** Reduced fertility
  - **Result:** Reduced fertility at maternally toxic doses

- **Effects on foetal development**
  - **Test Type:** Embryo-foetal development
  - **Species:** rat
  - **Application Route:** Inhalation
  - **Duration of Single Treatment:** 10 d
  - **Frequency of Treatment:** 6 hr/day
  - **Developmental Toxicity:** Lowest observed adverse effect level: 100 ppm
  - **Result:** Developmental toxicity occurred at maternal toxicity dose levels

**107-21-1:**

- **Effects on fertility**
  - **Test Type:** Three-generation study
  - **Species:** rat, male and female
  - **Application Route:** Oral
  - **Dose:** 0, 40, 200, 1000 mg/kg
  - **General Toxicity - Parent:** NOAEL: > 1,000 mg/kg body weight
  - **General Toxicity F1:** NOAEL: > 1,000 mg/kg body weight
  - **Result:** No reproductive effects.

- **Effects on foetal development**
  - **Species:** rabbit
  - **Application Route:** Oral
  - **Dose:** 0, 100, 500, 1000, 2000 mg/kg
  - **Duration of Single Treatment:** 10 d
  - **Teratogenicity:** NOAEL: 2,000 mg/kg body weight
  - **Developmental Toxicity:** NOAEL: 2,000 mg/kg body weight
  - **Result:** No teratogenic effects.
  - **GLP:** yes

*Species*: mouse
- **Application Route:** inhalation (dust/mist/fume)
- **Dose:** 0, 60, 400, 1000 ppm
Duration of Single Treatment: 10 d
Frequency of Treatment: 6 hr/day
General Toxicity Maternal: NOAEC: 60 ppm
Teratogenicity: NOAEC: 60 ppm
Developmental Toxicity: NOAEC: 60 ppm
Symptoms: Maternal toxicity, Malformations were observed.
Result: Teratogenic effects.

Reproductive toxicity -
Assessment : Fertility classification not possible from current data.
Embryotoxicity classification not possible from current data.

**STOT - single exposure**
*Product:* No data available

**Components:**
111-76-2: No data available

107-21-1: No data available

**STOT - repeated exposure**
*Product:* No data available

**Components:**
111-76-2: No data available

<table>
<thead>
<tr>
<th>Exposure routes:</th>
<th>Target Organs:</th>
<th>Assessment:</th>
<th>Remarks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>Kidney</td>
<td>May cause damage to organs through prolonged or repeated exposure., The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.</td>
<td></td>
</tr>
</tbody>
</table>

**Repeated dose toxicity**

**Components:**
111-76-2:
Species: rat
NOAEL: 30
Application Route: Inhalation
Exposure time: 14 wk
Number of exposures: 6 h/d, 5 d/wk

107-21-1:
Species: rat, male
NOAEL: 150 mg/kg
Application Route: Oral
Exposure time: 12 mths
Number of exposures: daily
Dose: 0, 50, 150, 300, 400 mg/kg bw
Method: OECD Test Guideline 452
Target Organs: Kidney
Symptoms: Kidney disorders

Repeated dose toxicity - Assessment: Harmful if swallowed.

Aspiration toxicity

Components:
111-76-2:
No aspiration toxicity classification

107-21-1:
No aspiration toxicity classification

Further information

Product:
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:
111-76-2:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 1,474 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: no

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 1,800 mg/l
Exposure time: 48 h
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brates

Test Type: static test
Method: OECD Test Guideline 202
GLP: no

Toxicity to algae: EC50 (Pseudokirchneriella subcapitata (green algae)):
911 mg/l
End point: Biomass
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: no

107-21-1:

Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): >
100 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates: LC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae: (Pseudokirchneriella subcapitata (Selenastrum capricornutum)): > 100 mg/l
End point: Growth rate
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates: Toxicity threshold (Pseudomonas putida): > 10,000 mg/l
Exposure time: 16 h
Test Type: Static
Method: DIN 38412

Persistence and degradability

Components:
111-76-2:

Biodegradability: aerobie
Inoculum: Activated sludge, domestic, adaption not specified
Result: Readily biodegradable.
Biodegradation: 90.4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B
GLP: no

MSDS Number: 100000002203  15 / 21  Glycol ether EB
Biodegradability: 90 - 100%
Exposure time: 10 d
GLP: yes
Remarks: Readily biodegradable

Bioaccumulative potential

Components:

111-76-2:
Partition coefficient: n-octanol/water

Bioaccumulation:
Species: Fish
Bioconcentration factor (BCF): 0.60
Exposure time: 61 d

107-21-1:
Partition coefficient: n-octanol/water

Mobility in soil
No data available

Other adverse effects
No data available

Product:

Regulation:
40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks:
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information:
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with all applicable local, state and federal regulations.
For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact NEXEO's Environmental Services Group at 800-637-7922.

Contaminated packaging:
Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

IATA (International Air Transport Association): Not regulated as a dangerous good

IMDG-Code: Not regulated as a dangerous good

DOT (Department of Transportation): NA1993, Combustible liquid, n.o.s., (2-BUTOXYETHANOL), CBL, III

Special Notes: The flash point for this material is greater than 100 F (38 C). Therefore, in accordance with 49 CFR 173.150(f) non-bulk containers (<450L or <119 gallon capacity) of this material may be shipped as non-regulated when transported solely by land, as long as the material is not a hazardous waste, a marine pollutant, or specifically listed as a hazardous substance.

SECTION 15. REGULATORY INFORMATION

OSHA Hazards: Combustible Liquid, Toxic by inhalation., Moderate skin irritant, Moderate eye irritant

WHMIS Classification:
B3: Combustible Liquid
D1A: Very Toxic Material Causing Immediate and Serious Toxic Effects
D2A: Very Toxic Material Causing Other Toxic Effects
D2B: Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component</th>
<th>Calculated product</th>
</tr>
</thead>
</table>

MSDS Number: 100000002203 17 / 21 Glycol ether EB
Ethylene glycol | RQ (lbs) | 5000 | *

*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**
This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards**
- Fire Hazard
- Acute Health Hazard

**SARA 302**
- SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313**
- The following components are subject to reporting levels established by SARA Title III, Section 313:
  - 111-76-2  2-Butoxy ethanol  100 %

**Clean Air Act**
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):
- 107-21-1  Ethylene glycol  0.9999 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):
- 111-76-2  2-Butoxy ethanol  100 %
- 107-21-1  Ethylene glycol  0.9999 %

**Clean Water Act**
This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**US State Regulations**

**Massachusetts Right To Know**
- 111-76-2  2-Butoxy ethanol  90 - 100 %

**Pennsylvania Right To Know**
- 111-76-2  2-Butoxy ethanol  90 - 100 %
- 107-21-1  Ethylene glycol  0.1 - 1 %

**New Jersey Right To Know**
- 111-76-2  2-Butoxy ethanol  90 - 100 %
California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Reporting Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States TSCA Inventory</td>
<td>y (positive listing)</td>
<td>(On TSCA Inventory)</td>
</tr>
<tr>
<td>Canadian Domestic Substances List (DSL)</td>
<td>y (positive listing)</td>
<td>(All components of this product are on the Canadian DSL.)</td>
</tr>
<tr>
<td>Australia Inventory of Chemical Substances (AICS)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>New Zealand. Inventory of Chemical Substances</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Japan. ENCS - Existing and New Chemical Substances Inventory</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Japan. ISHL - Inventory of Chemical Substances (METI)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Korea. Korean Existing Chemicals Inventory (KECI)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
<tr>
<td>China. Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>y (positive listing)</td>
<td>(On the inventory, or in compliance with the inventory)</td>
</tr>
</tbody>
</table>
Switzerland. New notified substances and declared preparations

y (positive listing) (The formulation contains substances listed on the Swiss Inventory)

SECTION 16. OTHER INFORMATION

Further information

NFPA:

- Health: 2
- Flammability: 2
- Instability: 0

Special hazard.

HMIS III:

- HEALTH: 2
- FLAMMABILITY: 2
- PHYSICAL HAZARD: 0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

The information accumulated is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequently to the date hereof, we do not assume any responsibility for the results of its use. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by NEXEO™ Solutions EHS Product Safety Department (1-855-429-2661) MSDS@nexeosolutions.com.

Legacy MSDS: R0000694

Material number:
16077390, 16074396, 16065290, 16062657, 16056118, 16056117, 16061248, 16054520, 16048541, 16047096, 16032176, 16016635, 16015501, 16001400, 788372, 775994, 765987, 765863, 714415, 709916, 702242, 699239, 691013, 677574, 674238, 623616, 614620, 602896, 555430, 554369, 554322, 554325, 554205, 554137, 554095, 554065, 552664, 550801, 503690, 501960, 167270, 123115, 103486, 103127, 103077, 103067, 102851, 102791, 102284, 87112, 87105, 86469, 86409, 86408, 85906, 85895, 85892, 70364, 70318, 70315, 70308, 70304, 70027, 69522, 54357, 54354, 53927, 53711, 53708, 53647, 53145, 53134, 53131, 20132, 20131, 20130, 20129, 20128
Safety Data Sheet
Glycol ether EB

Version 1.2
Revision Date: 04/08/2015

Key or legend to abbreviations and acronyms used in the safety data sheet

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH</td>
<td>American Conference of Government Industrial Hygienists</td>
</tr>
<tr>
<td>AICS</td>
<td>Australia, Inventory of Chemical Substances</td>
</tr>
<tr>
<td>DSL</td>
<td>Canada, Domestic Substances List</td>
</tr>
<tr>
<td>NDSL</td>
<td>Canada, Non-Domestic Substances List</td>
</tr>
<tr>
<td>CNS</td>
<td>Central Nervous System</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstract Service</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration</td>
</tr>
<tr>
<td>EC50</td>
<td>Effective Concentration 50%</td>
</tr>
<tr>
<td>EGEST</td>
<td>EOSCA Generic Exposure Scenario Tool</td>
</tr>
<tr>
<td>EOSCA</td>
<td>European Oilfield Specialty Chemicals Association</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Chemical Substances</td>
</tr>
<tr>
<td>MAK</td>
<td>Germany Maximum Concentration Values</td>
</tr>
<tr>
<td>GHS</td>
<td>Globally Harmonized System</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IECSC</td>
<td>Inventory of Existing Chemical Substances in China</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>IARC</td>
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</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal Concentration 50%</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal Dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>NFPA</td>
<td>National Fire Protection Agency</td>
</tr>
<tr>
<td>NIOSH</td>
<td>National Institute for Occupational Safety &amp; Health</td>
</tr>
<tr>
<td>NTP</td>
<td>National Toxicology Program</td>
</tr>
<tr>
<td>NZIoC</td>
<td>New Zealand Inventory of Chemicals</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No Observable Adverse Effect Level</td>
</tr>
<tr>
<td>NOEC</td>
<td>No Observed Effect Concentration</td>
</tr>
<tr>
<td>OSHA</td>
<td>Occupational Safety &amp; Health Administration</td>
</tr>
<tr>
<td>PEL</td>
<td>Permissible Exposure Limit</td>
</tr>
<tr>
<td>PICCS</td>
<td>Philippines Inventory of Commercial Chemical Substances</td>
</tr>
<tr>
<td>PRNT</td>
<td>Presumed Not Toxic</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation Recovery Act</td>
</tr>
<tr>
<td>STEL</td>
<td>Short-term Exposure Limit</td>
</tr>
<tr>
<td>TLV</td>
<td>Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>Time Weighted Average</td>
</tr>
<tr>
<td>TSCA</td>
<td>Toxic Substance Control Act</td>
</tr>
<tr>
<td>UVCB</td>
<td>Unknown or Variable Composition, Complex Reaction Products, and Biological Materials</td>
</tr>
<tr>
<td>WHMIS</td>
<td>Workplace Hazardous Materials Information System</td>
</tr>
<tr>
<td>&gt;=</td>
<td>Greater Than or Equal To</td>
</tr>
<tr>
<td>IC50</td>
<td>Inhibition Concentration 50%</td>
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<tr>
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<td>Less Than or Equal To</td>
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</tbody>
</table>