STARFIRE DOT 4 BRAKE FLUID
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Version: 1.3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Product form : Mixture
Trade name : STARFIRE DOT 4 BRAKE FLUID 12 FL.OZ.

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture : Brake Fluid

1.3. Details of the supplier of the safety data sheet
Coolants Plus Inc.
2570 Van Hook Ave
Hamilton, OH 45015
+1 (888) 258-8723
www.starfire1.com

1.4. Emergency telephone number
Emergency number : CHEMTREC 24 Hour 1-800-424-9300, 1-703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Skin Irrit. 2 H315
Eye Dam. 1 H318
STOT RE 2 H373
Full text of H statements : see section 16

2.2. Label elements
GHS-US labeling
Hazard pictograms (GHS-US)

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : H315 - Causes skin irritation
                                  H318 - Causes serious eye damage
                                  H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS-US) : P260 - Do not breathe dust, fumes, gas, mist, vapor spray
                                   P264 - Wash affected areas thoroughly after handling
                                   P280 - Wear protective gloves, protective clothing, eye protection, face protection
                                   P302+P352 - If on skin: Wash with plenty of soap and water
                                   P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
                                   P310 - Immediately call a poison center, doctor, physician
                                   P314 - Get medical advice/attention if you feel unwell
                                   P321 - Specific treatment: See section 4.1 on SDS
                                   P332+P313 - If skin irritation occurs: Get medical advice/attention
                                   P362+P364 - Take off contaminated clothing and wash it before reuse
                                   P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

2.3. Other hazards
Other hazards not contributing to the classification : None under normal conditions.

2.4. Unknown acute toxicity (GHS US)
No data available

SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures
Summary of the document:

**SECTION 4: First aid measures**

1. **Description of first aid measures**
   - **First-aid measures general**: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.
   - **First-aid measures after inhalation**: Allow victim to breathe fresh air. Allow the victim to rest. 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.
   - **First-aid measures after skin contact**: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
   - **First-aid measures after eye contact**: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
   - **First-aid measures after ingestion**: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER or doctor/physician if you feel unwell.

2. **Most important symptoms and effects, both acute and delayed**
   - **Symptoms/injuries**: Causes damage to organs. Suspected of damaging fertility or the unborn child.
   - **Symptoms/injuries after inhalation**: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
   - **Symptoms/injuries after skin contact**: May cause moderate irritation. Itching. Red skin. Skin rash/inflammation. Causes skin irritation.
   - **Symptoms/injuries after eye contact**: Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. Causes serious eye damage.
   - **Symptoms/injuries after ingestion**: Swallowing a small quantity of this material will result in serious health hazard.

3. **Indication of any immediate medical attention and special treatment needed**
   - No additional information available

**SECTION 5: Firefighting measures**

1. **Extinguishing media**
   - Unsuitable extinguishing media: Do not use a heavy water stream.

2. **Special hazards arising from the substance or mixture**
   - No additional information available

3. **Advice for firefighters**
   - **Firefighting instructions**: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
   - **Protection during firefighting**: Do not enter fire area without proper protective equipment, including respiratory protection.

**SECTION 6: Accidental release measures**

1. **Personal precautions, protective equipment and emergency procedures**
   - **General measures**: Remove ignition sources. Use special care to avoid static electric charges.
   - **For non-emergency personnel**
     - **Protective equipment**: Gloves. Safety glasses.
     - **Emergency procedures**: Evacuate unnecessary personnel.
   - **For emergency responders**
     - **Protective equipment**: Equip cleanup crew with proper protection.
     - **Emergency procedures**: Ventilate area.

2. **Environmental precautions**
   - Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date: 09/05/2018
Supersedes: 08/18/2016
Version: 1.3

6.3. Methods and material for containment and cleaning up
For containment: Dam up the liquid spill. Plug the leak, cut off the supply. Contain released product, pump into suitable containers.
Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Use only outdoors or in a well-ventilated area. Avoid breathing dust, fume, gas, mist, vapor spray. Obtain special instructions. Do not handle until all safety precautions have been read and understood.
Hygiene measures: Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take off immediately all contaminated clothing and wash it before reuse. Observe normal hygiene standards. Keep container tightly closed. Always wash hands after handling the product. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Proper grounding procedures to avoid static electricity should be followed.
Storage conditions: Keep only in the original container in a cool, well ventilated place away from: Keep container closed when not in use.
Incompatible products: Strong bases. Strong acids.
Incompatible materials: Sources of ignition. Direct sunlight.
Storage area: Keep only in the original container.
Special rules on packaging: Keep only in original container.

7.3. Specific end use(s)
Follow Label Directions.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
2-(2-Butoxyethoxy) Ethanol (112-34-5)

<table>
<thead>
<tr>
<th></th>
<th>USA ACGIH</th>
<th>ACGIH TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>10 ppm (Inhalable fraction and vapor)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls
Appropriate engineering controls: Local exhaust ventilation, vent hoods. Ensure good ventilation of the work station.
Personal protective equipment: Gloves. Safety glasses. Avoid all unnecessary exposure.

Materials for protective clothing: GIVE EXCELLENT RESISTANCE:
Hand protection: Wear protective gloves.
Eye protection: Chemical goggles or safety glasses.
Skin and body protection: Wear suitable protective clothing.
Respiratory protection: Wear appropriate mask.
Environmental exposure controls: Avoid release to the environment.
Consumer exposure controls: Avoid contact during pregnancy/while nursing.
Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Physical state: Liquid
Appearance: Liquid.
Color: Amber. Yellow.
Odor: Mild. Ammoniacal.
Odor threshold: No data available

05/09/2018 EN (English US) 3/11
PH: 9 - 11
Relative evaporation rate (butyl acetate=1): No data available
Melting point: < -59 °C
Freezing point: No data available
Boiling point: > 230 °C
Flash point: 203 °C
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: < 0.01 mm Hg Estimated
Relative vapor density at 20 °C: > 10
Relative density: 1.03 - 1.08
Solubility: Soluble in water. Water: 100% Estimated
Log Pow: No data available
Log Kow: No data available
Viscosity, kinematic: < 1500 cSt
Viscosity, dynamic: No data available
Explosive properties: No data available
Explosion limits: No data available
Flammable properties: No data available
Oxidizing properties: No data available
Explosive properties: No data available
Oxidizing properties: No data available
Explosion limits: No data available

9.2. Other information
VOC content: 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available

10.2. Chemical stability
Not established.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

Triethylene glycol Monoethyl Ether (112-50-5)

LD50 oral rat: 7750 mg/kg (Rat, Oral)
LD50 dermal rabbit: 8168 mg/kg (Rabbit, Dermal)
ATE CLP (oral): 7750 mg/kg body weight
ATE CLP (dermal): 8168 mg/kg body weight

Butyl Triglycolether (143-22-6)

LD50 oral rat: 5170 mg/kg body weight (according to BASF-internal standards, Rat, Male/female, Experimental value, Oral)
LD50 dermal rabbit: 3540 mg/kg body weight (OECD 402: Acute Dermal Toxicity, Rabbit, Male, Experimental value, Dermal)
ATE CLP (oral): 5170 mg/kg body weight
ATE CLP (dermal): 3540 mg/kg body weight

Polyethylene Glycol (25322-68-3)

LD50 oral rat: 30200 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit: > 20000 mg/kg (Rabbit, Inconclusive, insufficient data, Dermal)
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Classification Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene Glycol (25322-68-3)</td>
<td>ATE CLP (oral) 30200 mg/kg body weight</td>
</tr>
<tr>
<td>2-(2-Butoxyethoxy) Ethanol (110-34-5)</td>
<td></td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>2764 mg/kg body weight (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value, Dermal)</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>2410 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>2764 mg/kg body weight</td>
</tr>
<tr>
<td>Diethylene Glycol (111-46-6)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>19600 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>11890 mg/kg (Rabbit, Dermal)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 4.6 mg/l air (Other, 4 h, Rat, Weight of evidence, Inhalation (mist))</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>500 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>11890 mg/kg body weight</td>
</tr>
<tr>
<td>Diethylene glycolmono Ether (111-90-0)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>5445 mg/kg (Rat, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>5940 mg/kg (Rat, Dermal)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 5000 mg/kg (Rabbit, Dermal)</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>&gt; 5.2 mg/l (4 h, Rat, Inhalation)</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>5445 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>5940 mg/kg body weight</td>
</tr>
<tr>
<td>Triethylene glycol (112-27-6)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg (Rat, Literature study, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg (Rabbit, Literature study, Dermal)</td>
</tr>
<tr>
<td>Methoxypolyethylene glycols (9004-74-4)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg body weight (Rat, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg body weight (Rabbit, Dermal)</td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male/female, Experimental value, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>3540 mg/kg body weight (Modification of Draize 1959 method, 24 h, Rabbit, Male, Read-across, Dermal)</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>3540 mg/kg body weight</td>
</tr>
<tr>
<td>Triethylene Glycol Monomethyl Ether (112-35-6)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>11865 mg/kg (Rat, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>7455 mg/kg (Rabbit, Dermal)</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>11865 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>7455 mg/kg body weight</td>
</tr>
<tr>
<td>Diisopropanolamine (110-97-4)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>4765 mg/kg (Rat, Oral)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>16000 mg/kg (Rat, Dermal)</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>8000 mg/kg (Rabbit, Dermal)</td>
</tr>
<tr>
<td>ATE CLP (oral)</td>
<td>4765 mg/kg body weight</td>
</tr>
<tr>
<td>ATE CLP (dermal)</td>
<td>8000 mg/kg body weight</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>pH: 9 - 11</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Causes serious eye damage.</td>
</tr>
<tr>
<td>pH: 9 - 11</td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td>Not classified</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Not classified Based on available data, the classification criteria are not met</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Not classified</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>Not classified</td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Based on available data, the classification criteria are not met. Harmful if swallowed. Harmful if inhaled.</td>
</tr>
</tbody>
</table>
**Symptoms/injuries after inhalation**
Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.

**Symptoms/injuries after skin contact**

**Symptoms/injuries after eye contact**
Irritation of the eye tissue. Inflammation/damage of the eye tissue. Redness of the eye tissue. Causes serious eye damage.

**Symptoms/injuries after ingestion**
Swallowing a small quantity of this material will result in serious health hazard.

### SECTION 12: Ecological information

#### Toxicity

<table>
<thead>
<tr>
<th>Compound</th>
<th>Endpoint</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Triethylene glycol Monoethyl Ether (112-50-5)</strong></td>
<td>LC50 fish 1</td>
<td>&gt; 10000 mg/l (96 h, Pimephales promelas)</td>
</tr>
<tr>
<td><strong>Butyl Triglycolether (143-22-6)</strong></td>
<td>LC50 fish 1</td>
<td>2200 - 2400 mg/l (DIN 38412-15, 96 h, Leuciscus idus, Static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 1</td>
<td>&gt; 500 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td><strong>Polyethylene Glycol (25322-68-3)</strong></td>
<td>LC50 fish 1</td>
<td>&gt; 100 mg/l (OECD 201, 96 h, Pimephales promelas, Flow-through system, Measured concentration)</td>
</tr>
<tr>
<td></td>
<td>LC50 other aquatic organisms 1</td>
<td>&gt; 1000 mg/l (96 h)</td>
</tr>
<tr>
<td><strong>2-(2-Butoxyethoxy) Ethanol (112-34-5)</strong></td>
<td>LC50 fish 1</td>
<td>1300 mg/l (Equivalent or similar to OECD 203, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 1</td>
<td>&gt; 100 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td></td>
<td>ErC50 (algae)</td>
<td>1101 mg/l (Equivalent or similar to OECD 201, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)</td>
</tr>
<tr>
<td><strong>Diethylene Glycol (111-46-6)</strong></td>
<td>LC50 fish 1</td>
<td>&gt; 5000 ppm (24 h, Carassius auratus)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 1</td>
<td>&gt; 10000 mg/l (24 h, Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>LC50 fish 2</td>
<td>75200 mg/l (Other, 96 h, Pimephales promelas, Flow-through system, Experimental value)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 2</td>
<td>&gt; 10000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value)</td>
</tr>
<tr>
<td><strong>Diethylene glycol monoethyl ether (111-90-0)</strong></td>
<td>LC50 fish 1</td>
<td>12900 mg/l (96 h, Salmo gairdneri, Flow-through system)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 1</td>
<td>3940 mg/l (48 h, Daphnia magna)</td>
</tr>
<tr>
<td><strong>Triethylene glycol (112-27-6)</strong></td>
<td>LC50 fish 1</td>
<td>61000 mg/l (96 h, Lepomis macrochirus, Flow-through system)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 1</td>
<td>42426 mg/l (48 h, Daphnia magna)</td>
</tr>
<tr>
<td><strong>Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)</strong></td>
<td>LC50 fish 1</td>
<td>&gt; 1800 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Scophthalmus maximus, Semi-static system, Salt water, Experimental value, GLP)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 1</td>
<td>&gt; 3200 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, GLP)</td>
</tr>
<tr>
<td></td>
<td>ErC50 (algae)</td>
<td>2490 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Selenastrum capricornutum, Static system, Fresh water, Read-across, GLP)</td>
</tr>
<tr>
<td><strong>Triethylene Glycol Monomethyl Ether (112-35-6)</strong></td>
<td>LC50 fish 1</td>
<td>&gt; 5000 mg/l (96 h, Brachydanio rerio, Measured concentration)</td>
</tr>
<tr>
<td><strong>Disopropanolamine (110-97-4)</strong></td>
<td>LC50 fish 1</td>
<td>1000 - 2200 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio)</td>
</tr>
<tr>
<td></td>
<td>EC50 Daphnia 1</td>
<td>277.7 mg/l (48 h, Daphnia magna)</td>
</tr>
</tbody>
</table>

#### Persistence and degradability

**STARFIRE DOT 4 BRAKE FLUID 12 FLOZ.**
Persistence and degradability: Not established.

**Triethylene glycol Monoethyl Ether (112-50-5)**
Persistence and degradability: Readily biodegradable in water. Not established.

**Butyl Triglycolether (143-22-6)**
### Polyethylene Glycol (25322-68-3)
**Persistence and degradability**  
Readily biodegradable in water. Not established.

### 2-(2-Butoxyethoxy) Ethanol (112-34-5)
**Persistence and degradability**  

### Diethylene Glycol (111-46-6)
**Biochemical oxygen demand (BOD)**  
0.02 g O₂ /g substance
**Chemical oxygen demand (COD)**  
1.51 g O₂ /g substance
**Bioaccumulative potential**  
Not bioaccumulative. Not established.  
**Persistence and degradability**  

### Diethyleneglycolmonoethyl Ether (111-90-0)
**Bioaccumulative potential**  
Not established.
**Persistence and degradability**  
Readily biodegradable in water. Not established.
**Biochemical oxygen demand (BOD)**  
0.2 g O₂ /g substance
**Chemical oxygen demand (COD)**  
1.85 g O₂ /g substance
**Bioaccumulative potential**  
Not bioaccumulative. Not established.
**Biochemical oxygen demand (BOD)**  
1.9078849 g O₂ /g substance
**Bioaccumulative potential**  
Not established.

### Triethylene Glycol (112-27-6)
**Biochemical oxygen demand (BOD)**  
0.03 g O₂ /g substance
**Chemical oxygen demand (COD)**  
1.57 g O₂ /g substance
**Bioaccumulative potential**  
Not bioaccumulative. Not established.
**Persistence and degradability**  
**ThOD**  
1.6 g O₂ /g substance
**BOD (% of ThOD)**  
0.11

### Methoxypolyethyleneglycols (9004-74-4)
**Persistence and degradability**  
Biodegradability in water: no data available. Not established.

### Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)
**Persistence and degradability**  
Readily biodegradable in water. Not established.

### Triethylene Glycol Monomethyl Ether (112-35-6)
**Bioaccumulative potential**  
Not established.
**Persistence and degradability**  
**Biochemical oxygen demand (BOD)**  
0.015 g O₂ /g substance
**Chemical oxygen demand (COD)**  
1.51 g O₂ /g substance
**Bioaccumulative potential**  
Not established.
**Biochemical oxygen demand (BOD)**  
1.98 (Calculated, Other)
**Chemical oxygen demand (COD)**  
6.74 g O₂ /g substance
**Bioaccumulative potential**  
Not established.

### Disopropanolamine (110-97-4)
**Persistence and degradability**  
Not readily biodegradable in water. Not established.

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Bioaccumulative potential</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STARFIRE DOT 4 BRAKE FLUID 12 FL.OZ.</td>
<td>Not established.</td>
<td></td>
</tr>
<tr>
<td>Triethylene Glycol Monoethyl Ether (112-50-5)</td>
<td>Not bioaccumulative. Not established.</td>
<td></td>
</tr>
<tr>
<td>Butyl Triglycolether (143-22-6)</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4). Not established.</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol (25322-68-3)</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4). Not established.</td>
<td></td>
</tr>
<tr>
<td>2-(2-Butoxyethoxy) Ethanol (112-34-5)</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4). Not established.</td>
<td></td>
</tr>
<tr>
<td>Diethylene Glycol (111-46-6)</td>
<td>Low potential for bioaccumulation (BCF &lt; 500). Not established.</td>
<td></td>
</tr>
<tr>
<td>Diethyleneglycolmonoethyl Ether (111-90-0)</td>
<td>Low potential for bioaccumulation: not applicable. Not established.</td>
<td></td>
</tr>
</tbody>
</table>
### 12.4. Mobility in soil

**Butyl Triglycolether (143-22-6)**
- **Surface tension**: 0.0614 N/m
- **Ecology - soil**: Low potential for adsorption in soil.

**Polyethylene Glycol (25322-68-3)**
- **Log Koc**: 1 (log Koc, Other, Calculated value)
- **Ecology - soil**: Highly mobile in soil.

**2-(2-Butoxyethoxy) Ethanol (112-34-5)**
- **Surface tension**: 27 mN/m (25 °C, 0.00212 mol/g)
- **Ecology - soil**: Low potential for adsorption in soil.

**Diethyleneglycolmonooxyethoxyether (111-90-0)**
- **Surface tension**: 0.0485 N/m
- **Log Koc**: 0 (log Koc, SRC PCKOCWIN v1.66, Calculated value)
- **Ecology - soil**: Highly mobile in soil.

**Triethylene Glycol (112-27-6)**
- **Surface tension**: 0.032 N/m (25 °C)

**Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)**
- **Surface tension**: 0.0614 N/m (20 °C)
- **Ecology - soil**: Low potential for adsorption in soil.

**Triethylene Glycol Monomethyl Ether (112-35-6)**
- **Surface tension**: 0.0314 N/m

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

**Product/Packaging disposal recommendations** : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to appropriate waste disposal facility, in accordance with local, regional, national, international regulations.

**Ecology - waste materials** : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

**US DOT (ground)**: Not regulated,

**ICAO/IATA (air)**: Not regulated,

**IMO/IMDG (water)**: Not regulated,

### 14.2. UN proper shipping name

**Proper Shipping Name (DOT)** : Not regulated
### Additional information

Other information: No supplementary information available.

### Overland transport

No additional information available.

### Transport by sea

No additional information available.

### Air transport

No additional information available.

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

**STARFIRE DOT 4 BRAKE FLUID 12 FL.OZ.**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

<table>
<thead>
<tr>
<th>Triethyleneeglycol Monoethyl Ether (112-50-5)</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
</table>

Subject to reporting requirements of United States SARA Section 313

**Triethylene Glycol Monomethyl Ether (112-35-6)**

Subject to reporting requirements of United States SARA Section 313

### 15.2. International regulations

#### CANADA

**STARFIRE DOT 4 BRAKE FLUID 12 FL.OZ.**

Listed on the Canadian DSL (Domestic Substances List)

**Triethylene Glycol Monomethyl Ether (112-35-6)**

#### EU-Regulations

**Triethylene Glycol Monomethyl Ether (112-35-6)**

### 15.2.2. National regulations

**STARFIRE DOT 4 BRAKE FLUID 12 FL.OZ.**

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

**Triethylene Glycol Monomethyl Ether (112-35-6)**

### 15.3. US State regulations

<table>
<thead>
<tr>
<th><strong>STATE</strong></th>
<th><strong>CARCINOGENS LIST</strong></th>
<th><strong>DEVELOPMENTAL TOXICITY</strong></th>
<th><strong>REPRODUCTIVE TOXICITY - FEMALE</strong></th>
<th><strong>REPRODUCTIVE TOXICITY - MALE</strong></th>
<th><strong>STATE OR LOCAL REGULATIONS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>U.S. - Pennsylvania - RTK (Right to Know) List</td>
</tr>
<tr>
<td>U.S. - New Jersey</td>
<td>Right to Know Hazardous Substance List</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>Non-significant risk level (NSRL)</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>-------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Butyl Triglycol ether (143-22-6)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Polyethylene Glycol (25322-68-3)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>2-(2-Butoxyethoxy) Ethanol (112-34-5)</td>
<td>No</td>
<td>No</td>
<td>No</td>
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</tr>
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<td>Diethylene Glycol (111-46-6)</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Diethylene glycolmonoethyl Ether (111-90-0)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Triethylene glycol (112-27-6)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Methoxypolyethylene glycols (9004-74-4)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydroxy- (9004-77-7)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Triethylene Glycol Monomethyl Ether (112-35-6)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Diisopropanolamine (110-97-4)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
Triethylene glycol monoethyl ether (112-50-5)

State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - New Jersey - Right to Know Hazardous Substance List

Triethylene glycol (112-27-6)

State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Triethylene glycol monomethyl ether (112-35-6)

State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Indication of changes: Revision - See : *.
Other information: None.

Full text of H-phrases:

<table>
<thead>
<tr>
<th>H</th>
<th>Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
<td></td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
<td></td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
<td></td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
<td></td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure</td>
<td></td>
</tr>
</tbody>
</table>

NFPA health hazard: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.
NFPA fire hazard: 1 - Must be preheated before ignition can occur.
NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health: 2 Moderate Hazard - Temporary or minor injury may occur
Flammability: 1 Slight Hazard
Physical: 0 Minimal Hazard
Personal Protection: B

SDS US (GHS HazCom 2012) - TCC

The Supplier identified in Section 1 of this SDS has evaluated this product and certifies it to be labeled and packaged in compliance with the applicable provisions of the Federal Hazardous Substance Act as stated in 16 CFR 1500 and enforced by the Consumer Product Safety Commission, and where applicable the products that require Child Resistant Closures are packaged in accordance with the Poison Prevention Packaging Act as stated in 16 CFR 1700 and enforced by the Consumer Product Safety Commission. All closures have been tested in accordance with the latest protocols. No other testing is required to certify compliance with the above. The date of manufacture is stamped on the product.

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