SAFETY DATA SHEET

1. Identification

Product identifier

ES COMPLEAT OAT CONCENTRATE

Other means of identification

SDS number

LT3613400

Product code

CC3607300 (1 gallon / 3.785 L); CC3607200 (55 gallon / 208 L Drum); CC3607100 / CC3607000JX (275 gallon / 1040 L Tote tanks); CC3607000 (Bulk)

Recommended use

Concentrated antifreeze / coolant with corrosion inhibitors, for use in all heavy duty and light duty diesel and gas engines.

Recommended restrictions

No restrictions on use known.

Chemical family

Mixture of: glycol; Carboxylic acid; Sodium salts; Bases

Manufacturer

Company name

Cummins Filtration

Address

1200 Fleetguard Road
Cookeville, TN, U.S.A.
38506

Telephone

(931) 526 9551

Website

www.cumminsfiltration.com

E-Mail

fleetmaster.us@cummins.com

Supplier information

Refer to Manufacturer

Emergency phone number

Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

2. Hazard(s) Identification

This material is classified as hazardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012).

Physical hazards

This mixture does not meet the classification criteria according to OSHA Hazcom 2012.

Health hazards

Acute toxicity - Category 4 (Oral)
Reproductive Toxicity - Category 2 (Developmental)
Specific target organ toxicity - single exposure - Category 2
Specific target organ toxicity - single exposure - Category 3 (Narcotic effects)

Environmental hazards

Not currently regulated by OSHA, refer to Section 12 for additional information.

OSHA defined hazards

This mixture does not meet the classification criteria according to OSHA Hazcom 2012.

Label elements

Signal Word

WARNING!

Hazard statement(s)

Harmful if swallowed. Suspected of damaging the unborn child. May cause drowsiness or dizziness. May cause damage to the kidneys if swallowed.

Precautionary statement(s)

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapors. Wash hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing and eye/face protection.

Response

If exposed: Call a POISON CENTER or doctor/physician.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.
SAFETY DATA SHEET

Disposal
Dispose of contents/container in accordance with local regulation.

Hazard(s) not otherwise Classified (HNOC)
No OSHA defined hazard classes.
Other hazards which do not result in classification:
Toxic fumes, gases or vapors may evolve on burning. Direct eye contact may cause slight or mild, transient irritation. May be mildly irritating to skin and respiratory system. Prolonged overexposure may cause slight liver effects, such as increased organ weights.

Supplemental Information
Avoid contact with eyes, skin and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles.
Spills and leaks: Wear suitable protective equipment. Contain and absorb spilled material with inert, non-combustible absorbent material, such as sand. Pick up and transfer to properly labelled containers. Prevent product from entering drains, sewers, waterways and soil.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>Caustic soda</td>
<td>107-21-1</td>
<td>85.0 - 95.0</td>
<td></td>
</tr>
<tr>
<td>Disodium sebacate</td>
<td>Sebacic acid, disodium salt</td>
<td>17265-14-4</td>
<td>1.0 - 4.0</td>
<td></td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>Caustic soda</td>
<td>532-32-1</td>
<td>1.0 - 4.0</td>
<td></td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>Nitrate of soda</td>
<td>7631-99-4</td>
<td>1.0 - 3.0</td>
<td></td>
</tr>
<tr>
<td>Sodium tolytriazole</td>
<td>1H-Benzotriazole, 4(or 5)-methyl-, sodium salt</td>
<td>64665-57-2</td>
<td>0.2 - 0.5</td>
<td></td>
</tr>
</tbody>
</table>

The following precursor ingredients are present at very low levels (< 0.03%), or are no longer present, in the final product:

<table>
<thead>
<tr>
<th>Mixture</th>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>Caustic soda</td>
<td>1310-73-2</td>
<td>1.0 - 2.0</td>
<td></td>
</tr>
<tr>
<td>Benzoic acid</td>
<td>Benzenecoxyacetic acid</td>
<td>65-85-0</td>
<td>2.0 - 3.0</td>
<td></td>
</tr>
<tr>
<td>Sebacic acid</td>
<td>Decanedioic acid</td>
<td>111-20-6</td>
<td>2.0 - 3.0</td>
<td></td>
</tr>
</tbody>
</table>

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. First-aid measures

Inhalation
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact
Immediately flush with plenty of water, while removing contaminated clothing. If irritation or symptoms develop, seek medical attention.

Eye contact
Immediately flush eye(s) with plenty of water. After initial flushing, remove any contact lenses if worn, and continue flushing for at least 5 to 10 minutes. If irritation or symptoms develop, seek medical attention.

Ingestion
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
Most important symptoms and effects, both acute and delayed

Harmful if swallowed. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Initially, the central nervous system is stimulated, followed by depression. Could cause cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood). Could also cause convulsions, coma, respiratory arrest and death.

Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to the kidneys if swallowed. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition. Direct eye contact may cause slight or mild, transient irritation. Symptoms may include redness, pain, tearing and conjunctivitis. Direct skin contact may cause temporary redness. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. Prolonged overexposure may cause slight liver effects, such as increased organ weights.

Indication of any immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

General Information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Toxic fumes may be released during a fire.

Special protective equipment and precautions 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. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Fire-fighting equipment/instructions

Move containers from fire area if safe to do so. Use water spray to keep containers cool. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

Not flammable under normal conditions of handling. However, may ignite if exposed to extreme heat and flame.

Hazardous combustion products

Carbon oxides; formaldehyde; Metal oxides; Nitrogen oxides (NOx); Other unidentified organic compounds.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Restrict access to area until completion of clean-up. Keep all other personnel upwind and away from the spill/release. Ensure clean-up is conducted by trained personnel only. All persons dealing with the clean-up should wear the appropriate personal protective equipment. Refer to protective measures listed in sections 7 and 8.
SAFETY DATA SHEET

Methods and materials for containment and cleaning up
Ventilate the area. Stop the spill at source if it is safe to do so. Eliminate all ignition sources.

Clean-up methods - small spillage: Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labelled containers. Never return spills in original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product.

Clean-up methods - large spillage: Contain spilled liquid with non-combustible, inert absorbent material (e.g. sand). Remove liquid by pumps or vacuum equipment. Keep in properly labelled containers.

Notify the appropriate authorities as required. Refer to Section 13 for disposal of contaminated material.

Environmental precautions
Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and storage

Precautions for safe handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Use only outdoors or in a well-ventilated area. Do not ingest. Do not breathe mist or vapors. Avoid contact with eyes, skin and clothing. Keep away from extreme heat and flame. Keep away from acids and other incompatibles. Use caution when opening cap. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapor) and can be dangerous. Wash thoroughly after handling. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities
Store in a cool, dry, well-ventilated area. Store away from areas of excessive heat, open flames, sparks, and other possible sources of ignition. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store locked up. Keep out of the reach of children. Do not store near any incompatible materials (see Section 10).

8. Exposure controls/personal protection

U.S. OSHA Exposure Limits (29 CFR 1910)

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide (CAS 1310-73-2)</td>
<td>TWA 2 mg/m³</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol (CAS 107-21-1)</td>
<td>Ceiling 100 mg/m³ (aerosol)</td>
</tr>
<tr>
<td>sodium hydroxide (CAS 1310-73-2)</td>
<td>Ceiling 2 mg/m³</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol (CAS 107-21-1)</td>
<td>Ceiling 50 ppm</td>
</tr>
<tr>
<td>sodium hydroxide (CAS 1310-73-2)</td>
<td>Ceiling 2 mg/m³</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Biological limit values
No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Use only outdoors or in a well-ventilated area. 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.

Individual protection measures, such as personal protective equipment
Eye / face protection
Chemical splash goggles are recommended. A full face shield may also be necessary.

Skin protection
Wear protective gloves. Advice should be sought from glove suppliers.

Hand protection
Wear protective clothing to cover as much of the exposed skin area as possible. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.

Other
Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection
Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134).

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Do not breathe mist or vapors. Avoid contact with eyes, skin and clothing. When using do not eat or drink. When using do not smoke. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance
Liquid.

Physical state
Thin liquid.

Form
red

Color

Odor
Little or no odor.

Odor threshold
N/A

pH
8.2 - 9.0

Melting point /freezing point
- 36.7 to - 44.4°C (- 34 to - 48°F)

Initial boiling point and boiling range
> 100°C (212°F) (based on ingredients)

Flash point
> 100°C (212°F) (based on ingredients)

Evaporation rate
N/A

COC

Flammability (solid, gas)
N/A

Lower flammability/explosive limit
N/A

Upper flammability/explosive limit
N/A

Vapor pressure
N/A

Vapor density
N/A

Relative density
1.127 - 1.157

Solubility(ies)

Other solubility(ies)
N/A

Solubility (water)
Complete

Partition coefficient
N/A

(n-octanol/water)
## SAFETY DATA SHEET

### Auto-ignition temperature
N/Av

### Decomposition temperature
N/Av

### Viscosity
N/Av

### Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>None known</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.127 - 1.157</td>
</tr>
<tr>
<td>VOC</td>
<td>N/Av</td>
</tr>
<tr>
<td>Volatilities %</td>
<td>N/Av</td>
</tr>
<tr>
<td>Other physical/chemical data</td>
<td>No additional information.</td>
</tr>
</tbody>
</table>

### 10. Stability and reactivity

**Reactivity**
The product is stable and non-reactive under normal conditions of use, storage and transport.

**Chemical stability**
Stable under the recommended storage and handling conditions prescribed.

**Possibility of hazardous reactions**
No dangerous reaction known under conditions of normal use. Hazardous polymerization does not occur.

**Conditions to avoid**
Avoid excessive heat, sparks and open flame. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

**Incompatible materials**
Strong oxidizing agents; Strong acids; Strong alkalis; Alkali metals; Reducing agents.

**Hazardous decomposition products**
None known, refer to hazardous combustion products in Section 5.

### 11. Toxicological information

#### Information on likely routes of exposure

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td>Mild respiratory irritant</td>
</tr>
<tr>
<td><strong>Skin &amp; eye</strong></td>
<td>May cause mild skin irritation. Direct eye contact may cause slight or mild, transient irritation.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>Harmful if swallowed. May cause gastrointestinal irritation. Kidney injury may occur.</td>
</tr>
<tr>
<td><strong>Skin absorption</strong></td>
<td>May be absorbed through the skin.</td>
</tr>
</tbody>
</table>

**Most important symptoms/effects, acute and delayed**

Harmful if swallowed. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Initially, the central nervous system is stimulated, followed by depression. Could cause cyanosis (bluish discoloration of the skin due to deficient oxygenation of the blood). Could also cause convulsions, coma, respiratory arrest and death.

Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects.

May cause damage to the kidneys if swallowed. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.

Direct eye contact may cause slight or mild, transient irritation. Symptoms may include redness, pain, tearing and conjunctivitis.

Direct skin contact may cause temporary redness.

Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.

Prolonged overexposure may cause slight liver effects, such as increased organ weights.
Information on toxicological effects

Acute toxicity

Hazardous by OSHA criteria. Classification:
Acute toxicity - Category 4. Harmful if swallowed.

The calculated ATE values for this mixture are:
ATE oral = 1133 mg/kg
ATE inhalation (mist) = 11.5 mg/L/4H

See below for individual ingredient acute toxicity data.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>9530 mg/kg</td>
</tr>
<tr>
<td>inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>4300 ppm (10.92 mg/L) (aerosol)</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>4000 mg/kg (rat)</td>
</tr>
</tbody>
</table>

Disodium sebacate

Acute

Dermal

LD50

Rabbit

> 2000 mg/kg (No mortality)

Sodium benzoate

Acute

Dermal

LD50

Rabbit

> 2000 mg/kg (No mortality) (Read-across)

Sodium nitrate

Acute

Dermal

LD50

Rabbit

> 5000 mg/kg

Sodium tolytriazole

Acute

Dermal

LD50

Rabbit

> 2000 mg/kg (No mortality)

SDS US

Material name: ES COMPLEAT OAT CONCENTRATE
SDS No. LT3613400 Version #: 1 Issue date: 04-23-2015
The following precursor ingredients are present at very low levels (< 0.03%), or are no longer present, in the final product:

**Sodium hydroxide**

<table>
<thead>
<tr>
<th><strong>Acute</strong></th>
<th><strong>Dermal</strong></th>
<th><strong>Rabbit</strong></th>
<th><strong>N/Av</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LD50</strong></td>
<td><strong>Rabbit</strong></td>
<td>N/Av</td>
<td></td>
</tr>
<tr>
<td><strong>inhalation</strong></td>
<td><strong>Rat</strong></td>
<td>N/Av</td>
<td></td>
</tr>
<tr>
<td><strong>LC50</strong></td>
<td><strong>Rat</strong></td>
<td>N/Av</td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td><strong>Rat</strong></td>
<td>N/Av</td>
<td></td>
</tr>
<tr>
<td><strong>LD50</strong></td>
<td><strong>Rat</strong></td>
<td>N/Av</td>
<td></td>
</tr>
</tbody>
</table>

**Benzoic acid**

<table>
<thead>
<tr>
<th><strong>Acute</strong></th>
<th><strong>Dermal</strong></th>
<th><strong>Rabbit</strong></th>
<th><strong>&gt; 5000 mg/kg</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LD50</strong></td>
<td><strong>Rabbit</strong></td>
<td>&gt; 5000 mg/kg (No mortality)</td>
<td></td>
</tr>
<tr>
<td><strong>inhalation</strong></td>
<td><strong>Rat</strong></td>
<td>&gt; 12.2 mg/L (dust) (No mortality)</td>
<td></td>
</tr>
<tr>
<td><strong>LC50</strong></td>
<td><strong>Rat</strong></td>
<td>&gt; 12.2 mg/L (dust) (No mortality)</td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td><strong>Rat</strong></td>
<td>2360 mg/kg</td>
<td></td>
</tr>
<tr>
<td><strong>LD50</strong></td>
<td><strong>Rat</strong></td>
<td>14 375 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**Sebacic acid**

<table>
<thead>
<tr>
<th><strong>Acute</strong></th>
<th><strong>Dermal</strong></th>
<th><strong>Rabbit</strong></th>
<th><strong>&gt; 2000 mg/kg (No mortality)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LD50</strong></td>
<td><strong>Rabbit</strong></td>
<td>&gt; 2000 mg/kg (No mortality)</td>
<td></td>
</tr>
<tr>
<td><strong>inhalation</strong></td>
<td><strong>Rat</strong></td>
<td>N/Av</td>
<td></td>
</tr>
<tr>
<td><strong>LC50</strong></td>
<td><strong>Rat</strong></td>
<td>N/Av</td>
<td></td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td><strong>Rat</strong></td>
<td>N/Av</td>
<td></td>
</tr>
<tr>
<td><strong>LD50</strong></td>
<td><strong>Rat</strong></td>
<td>14 375 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**Skin Corrosion/Irritation**

Not expected to be hazardous by OSHA criteria.

**Serious eye damage/Irritation**

Not expected to be hazardous by OSHA criteria.

**Respiratory or skin sensitization**

Not expected to be a skin or respiratory sensitizer.

**Germ cell mutagenicity**

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

Not expected to be hazardous by OSHA criteria. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

See below for ingredients present on regulatory lists.

**Reproductive toxicity**

Hazardous by OSHA criteria. Classification:

Reproductive toxicity - Category 2. Suspected of damaging the unborn child. Contains ethylene glycol, which may cause teratogenic effects at doses which are not maternally toxic, based on animal data.

**Specific target organ toxicity - single exposure**

Hazardous by OSHA criteria. Classification:

Specific target organ toxicity - single exposure - Category 2. May cause damage to the kidneys if swallowed. Contains: Ethylene glycol. Ethylene glycol may cause kidney stones and kidney damage if ingested.

Specific target organ toxicity - single exposure - Category 3. May cause drowsiness or dizziness.

**Specific target organ toxicity - repeated exposure**

Not expected to be hazardous by OSHA criteria.

**Chronic effects**

Prolonged or repeated ingestion may cause bladder or kidney stones. Prolonged overexposure may cause slight liver effects, such as increased organ weights.

**Aspiration toxicity**

Not expected to be hazardous by OSHA criteria.

**Further information**

None known or reported by the manufacturer.
### 12. Ecological information

**Ecotoxicity**

There is no data available for this product. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for individual ingredient ecotoxicity data.

**Ecotoxicity data:**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Fish</th>
<th>Toxicity to Daphnia</th>
<th>Toxicity to Algae</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LC50 / 96h</td>
<td>NOEC / 21 day</td>
<td>M Factor</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>22 810 mg/L (Rainbow trout)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Disodium sebacate</td>
<td>17265-14-4</td>
<td>&gt; 100 mg/L (Zebra fish) (Read-across)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>532-32-1</td>
<td>484 mg/L (Fathead minnow)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>1685 mg/L (Rainbow trout)</td>
<td>97.8 mg/L (Ocellaris clownfish)</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium tolytriazole</td>
<td>64665-57-2</td>
<td>25 mg/L (Rainbow trout)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>125 mg/L (Mosquito fish)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Benzoic acid</td>
<td>65-85-0</td>
<td>44.6 mg/L (Bluegill sunfish)</td>
<td>&gt; 120 mg/L/28-day (Rainbow trout)</td>
<td>None.</td>
</tr>
<tr>
<td>Sebacic acid</td>
<td>111-20-6</td>
<td>&gt; 100 mg/L (Zebra fish)</td>
<td></td>
<td>None.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>EC50 / 48h</th>
<th>NOEC / 21 day</th>
<th>M Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>49 000 mg/L (Daphnia magna)</td>
<td>7500 - 15 000 mg/L</td>
<td>None.</td>
</tr>
<tr>
<td>Disodium sebacate</td>
<td>17265-14-4</td>
<td>&gt; 100 mg/L (Daphnia magna) (Read-across)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>532-32-1</td>
<td>&gt; 100 mg/L (Daphnia magna)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>3581 mg/L (Daphnia magna)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium tolytriazole</td>
<td>64665-57-2</td>
<td>280 mg/L (Daphnia magna)</td>
<td>18.4 mg/L</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>40 mg/L (Water flea)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Benzoic acid</td>
<td>65-85-0</td>
<td>&gt; 100 mg/L (Daphnia magna)</td>
<td>&gt; 25 mg/L</td>
<td>None.</td>
</tr>
<tr>
<td>Sebacic acid</td>
<td>111-20-6</td>
<td>&gt; 100 mg/L (Daphnia magna)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>EC50 / 96h or 72h</th>
<th>NOEC / 96h or 72h</th>
<th>M Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>6500 - 13 000 mg/L/96hr (Green algae)</td>
<td>10 000 mg/L/96hr</td>
<td>None.</td>
</tr>
<tr>
<td>Disodium sebacate</td>
<td>17265-14-4</td>
<td>150 mg/L/96hr (Green algae) (Read-across)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>532-32-1</td>
<td>&gt; 30.5 mg/L/72hr (Green algae)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>N/Av</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium tolytriazole</td>
<td>64665-57-2</td>
<td>26.2 mg/L/72hr (Green algae)</td>
<td>10 mg/L/72hr</td>
<td>None.</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>N/Av</td>
<td>N/Av</td>
<td>None.</td>
</tr>
<tr>
<td>Benzoic acid</td>
<td>65-85-0</td>
<td>&gt; 33.1 mg/L/72hr (Green algae)</td>
<td>0.11 mg/L/72hr</td>
<td>None.</td>
</tr>
<tr>
<td>Sebacic acid</td>
<td>111-20-6</td>
<td>150 mg/L/96hr (Green algae)</td>
<td>N/Av</td>
<td>None.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Persistence and degradability
No data is available on the product itself.
The following ingredients are considered to be readily biodegradable: Ethylene glycol; Sodium benzoate.
Contains the following chemicals which are not readily biodegradable: Sodium tolyltriazole.

Bioaccumulation potential
No data is available on the product itself.
See the following data for ingredient information.

<table>
<thead>
<tr>
<th>Components</th>
<th>Partition coefficient n-octanol/ater (log Kow)</th>
<th>Bioconcentration factor (BCF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol (CAS 107-21-1)</td>
<td>- 1.36</td>
<td>10 (Fish)</td>
</tr>
<tr>
<td>Sodium benzoate (CAS 532-32-1)</td>
<td>- 2.269</td>
<td>N/Av</td>
</tr>
<tr>
<td>Sodium nitrate (CAS 7631-99-4)</td>
<td>- 0.79</td>
<td>N/Av</td>
</tr>
<tr>
<td>Sodium tolyltriazole (CAS 64665-57-2)</td>
<td>1.083</td>
<td>N/Av</td>
</tr>
<tr>
<td>Benzoic acid (CAS 65-85-0)</td>
<td>1.93</td>
<td>3.162</td>
</tr>
<tr>
<td>Sebacic acid (CAS 111-20-6)</td>
<td>2.19</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Mobility in soil
No data is available on the product itself.

Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal consideration

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable federal, state, territory and local regulations.

Local disposal regulations
Dispose of in accordance with local regulations.

Hazardous waste code
If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

Waste from residues / unused products
Dispose of contents/container in accordance with local regulation. Empty containers should be disposed of in accordance with the requirements of the following legislation:

Contaminated packaging
Empty containers should be taken for local recycling or waste disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

49CFR/DOT
Not regulated as dangerous goods

ICAO/IATA
Not regulated as dangerous goods

IMDG
Not regulated as dangerous goods

General information
This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
This information is not available.
15. Regulatory information

**US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Toxic Chemical</td>
<td>de minimus Concentration</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>Yes</td>
<td>5000 lb/ 2270 kg</td>
<td>None.</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Disodium sebacate</td>
<td>17265-14-4</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>532-32-1</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium tolytriazole</td>
<td>64665-57-2</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>Yes</td>
<td>1000 lb/ 454 kg</td>
<td>None.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/Ap</td>
</tr>
<tr>
<td>Benzoic acid</td>
<td>65-85-0</td>
<td>Yes</td>
<td>5000 lb/ 2270 kg</td>
<td>None.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sebacic acid</td>
<td>111-20-6</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N/Ap</td>
</tr>
</tbody>
</table>

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**
- Immediate Hazard - Yes
- Delayed Hazard - Yes
- Fire Hazard - NO
- Pressure Hazard - NO
- Reactivity Hazard - NO

**US state regulations**

The following chemicals are specifically listed by individual States:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>California Proposition 65</th>
<th>State &quot;Right to Know&quot; Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Listed</td>
<td>Type of Toxicity</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Disodium sebacate</td>
<td>17265-14-4</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>532-32-1</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium tolytriazole</td>
<td>64665-57-2</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Benzoic acid</td>
<td>65-85-0</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Sebacic acid</td>
<td>111-20-6</td>
<td>No</td>
<td>N/Ap</td>
</tr>
</tbody>
</table>

**Canadian Information:**

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).
International Inventories

Components listed below are present on the following International Inventory lists:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>European EINECS</th>
<th>Australia AICS</th>
<th>Philippines PICCS</th>
<th>Japan ENCS</th>
<th>Korea KECI/KECL</th>
<th>China IECSC</th>
<th>NewZealand IOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>203-473-3</td>
<td>Present</td>
<td>Present</td>
<td>(2)-230</td>
<td>KE-13169</td>
<td>Present</td>
<td>HSR001534</td>
</tr>
<tr>
<td>Disodium sebacate</td>
<td>17265-14-4</td>
<td>241-300-3</td>
<td>Present</td>
<td>Present</td>
<td>(2)-907</td>
<td>KE-09416</td>
<td>Present</td>
<td>May be used as a single component chemical under an appropriate group standard</td>
</tr>
<tr>
<td>Sodium benzoate</td>
<td>532-32-1</td>
<td>208-534-8</td>
<td>Present</td>
<td>Present</td>
<td>(3)-1293; (3)-1272; (3)-1076</td>
<td>KE-02711</td>
<td>Present</td>
<td>HSR002716</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>231-554-3</td>
<td>Present</td>
<td>Present</td>
<td>(1)-484</td>
<td>KE-31545</td>
<td>Present</td>
<td>HSR001350</td>
</tr>
<tr>
<td>Sodium tolytriazole</td>
<td>64665-57-2</td>
<td>265-004-9</td>
<td>Present</td>
<td>Present</td>
<td>(5)-3601</td>
<td>KE-23499</td>
<td>Present</td>
<td>May be used as a single component chemical under an appropriate group standard</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>215-185-5</td>
<td>Present</td>
<td>Present</td>
<td>(2)-1972; (1)-410</td>
<td>KE-31487</td>
<td>Present</td>
<td>HSR001547</td>
</tr>
<tr>
<td>Benzoic acid</td>
<td>65-85-0</td>
<td>200-618-2</td>
<td>Present</td>
<td>Present</td>
<td>(3)-1397</td>
<td>KE-02696</td>
<td>Present</td>
<td>HSR003445</td>
</tr>
<tr>
<td>Sebacic acid</td>
<td>111-20-6</td>
<td>203-845-5</td>
<td>Present</td>
<td>Present</td>
<td>(2)-878</td>
<td>KE-09402</td>
<td>Present</td>
<td>HSR003130</td>
</tr>
</tbody>
</table>

16. Other information, including date of preparation or last revision

Issue date: 04/23/2015
Version #: 1

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
COC: Cleveland Open Cup
DOT: Department of Transportation
EC50: Effective Concentration 50%.
EINECS: European Inventory of Existing Commercial chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
ICAO: International Civil Aviation Organisation
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
Inh: Inhalation
IOC: Inventory of Chemicals
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
SAFETY DATA SHEET

N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TLV: Threshold Limit Values
TWA: Time Weighted Average

Other special considerations for handling
- Provide adequate information, instruction and training for operators.

Disclaimer
Prepared by: ICC The Compliance Center Inc.
http://www.thecompliancecenter.com

The information in this SDS was obtained from sources, which we believe are reliable. However, since the conditions of handling and use are beyond our control, we assume no liability for damages incurred by use of this material. This SDS was prepared, and is to be used, for this product only. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist. If the product is used as a component in another product, this information may not be applicable. Users of this product should satisfy themselves that the conditions and methods of use assure the product is used safely. No representations or warranties, either expressed or implied, of any nature are made hereunder with respect to the information contained herein. It is the responsibility of the user to comply with any and all federal, state, or local laws and regulations that may exist. Nothing contained herein is to be construed as a recommendation for use in violation of any applicable laws or regulations.

Bibliography
1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2014.
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - March 2015 version.