1. Product and Company Identification

Product identifier: ES COMPLEAT EG PREMIX (Ethylene glycol based coolant)
Version #: 01
Issue date: 02-27-2015
CAS #: Mixture
Product code: CC2825, CC2826, CC2827, CC2834, CC2848, CC2863
MSDS Number: LT16587
Product use: Premixed, extended life coolant, especially for use in heavy-duty diesel engines.

Manufacturer information:
Cummins Filtration
1200 Fleetguard Road
Cookeville, TN 38506
United States
24 Hours per day: 1-800-22FILTER
(1-800-223-4583)
Within Continental U.S.: Chemtrec 1-800-424-9300
Outside U.S.: Chemtrec 703-527-3887

Supplier:
Not available.

2. Hazards Identification

Emergency overview:
WARNING
May be harmful or fatal if swallowed. Harmful if absorbed through skin. May cause nausea, vomiting, headache and other central nervous system effects. Prolonged or repeated overexposure may cause kidney damage. Prolonged or repeated overexposure may cause liver effects. Possible risk of harm to the unborn child.

Potential health effects:
Routes of exposure: Inhalation. Ingestion. Skin contact. Eye contact.

Eyes:
May cause mild eye irritation.

Skin:
May cause skin irritation.

Inhalation:
If mists are inhaled, may cause tearing, general anesthesia, headache, coughing, respiratory stimulation, nausea, vomiting, pulmonary, kidney and liver damage.

Ingestion:
Human poison by ingestion (lethal dose of Ethylene glycol for humans reported to be 100 mL). Symptoms of poisoning may include cyanosis (bluish discoloration of the skin), nausea, dizziness, rapid heartbeat, irregular breathing, coma and death. Initially, the central nervous system is stimulated, followed by depression. Could also cause convulsions, coma, respiratory arrest, and death.

Target organs:
Central nervous system. Eyes. Respiratory system. Skin.

Chronic effects:
Sterility. Pregnant women or women of child-bearing age should not be exposed to this product. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. May potentially result in lethal kidney damage. Prolonged or repeated ingestion may cause bladder or kidney stones. Prolonged or repeated overexposure may cause liver effects.

Most important symptoms/effects, acute and delayed:
May cause mild skin and eye irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging and tearing. May cause respiratory irritation. If mists are inhaled, may cause tearing, general anesthesia, headache, coughing, respiratory stimulation, nausea, vomiting, pulmonary, kidney and liver damage. Human poison by ingestion (lethal dose of Ethylene glycol for humans reported to be 100 mL). Symptoms of poisoning may include cyanosis (bluish discoloration of the skin), nausea, dizziness, rapid heartbeat, irregular breathing, coma and death. Initially, the central nervous system is stimulated, followed by depression.

Potential environmental effects:
May cause long-term adverse effects in the environment.
3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>107-21-1</td>
<td>40.0 - 60.0</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td>2.606</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures

- **Inhalation**: Move to fresh air. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Get medical attention if symptoms persist.

- **Skin contact**: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

- **Eye contact**: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Continue rinsing. Get medical attention if irritation persists after washing.

- **Ingestion**: Call a physician or poison control center immediately. Do NOT induce vomiting, unless directed to do so by qualified medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Notes to physician

Immediate medical attention is required. Symptoms may be delayed. Use of ethanol may be helpful to counter the toxic effects of ethylene glycol by interfering with the absorption rate in the stomach and intestine.

General advice

If you feel unwell, seek medical advice (show the label where possible). 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

Flammable properties

Not classified as flammable. However, may ignite if exposed to extreme heat and flame. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Vapors are heavier than air and may spread along floors.

Extinguishing media

- **Suitable extinguishing media**: Alcohol resistant foam. Water spray. Water fog. Dry chemical powder. Carbon dioxide (CO2).

- **Unsuitable extinguishing media**: Do not use water jet as an extinguisher, as this will spread the fire.

Protection of firefighters

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. Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back.

Protective equipment for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus.

Fire fighting equipment/instructions

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Use water spray to cool unopened containers.

Explosion data

- **Sensitivity to static discharge**: Not expected to be sensitive to static discharge.

- **Sensitivity to mechanical impact**: Not expected to be sensitive to mechanical impact.

Hazardous combustion products

Carbon oxides. Formaldehyde. Other irritating fumes and smoke.

6. Accidental Release Measures

Personal precautions

Evacuate the area promptly. Wear appropriate protective equipment and clothing during clean-up. See Section 8 of the MSDS for Personal Protective Equipment.

Environmental precautions

Do not contaminate water.

Methods and materials for containment and cleaning up

Remove sources of ignition. Ventilate the area. Stop leak if you can do so without risk. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. For waste disposal, see section 13 of the MSDS. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Other information

Clean up in accordance with all applicable regulations.
7. Handling and Storage

Handling
Wear personal protective equipment. Use only with adequate ventilation. Do not ingest. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Wash hands after handling and before eating. Keep away from heat and sources of ignition. Keep container tightly closed.

Storage
Store in tightly closed original container in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS). Keep away from heat and flame. Keep locked up or in an area accessible only to qualified or authorized persons.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol (CAS 107-21-1)</td>
<td>Ceiling</td>
<td>100 mg/m3</td>
<td>Aerosol</td>
</tr>
</tbody>
</table>

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

Engineering controls
If exposure limits have not been established, maintain airborne levels to an acceptable level. 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. Ensure adequate ventilation, especially in confined areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin protection
Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Seek advice from respiratory protection specialists.

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

9. Physical & Chemical Properties

Appearance

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Blue.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>25 ppm (Ethylene glycol)</td>
</tr>
<tr>
<td>pH</td>
<td>10.2 - 10.8</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Boiling point</td>
<td>224.6 °F (107 °C)</td>
</tr>
<tr>
<td>Melting point/Freezing point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>completely miscible</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.056 - 1.088</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Not available.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
</tbody>
</table>
10. Chemical Stability & Reactivity Information

Chemical stability
Material is stable under normal conditions.

Conditions to avoid
Avoid temperatures exceeding the flash point. Contact with incompatible materials. Do not use in areas without adequate ventilation.

Incompatible materials

Hazardous decomposition products
No hazardous decomposition products are known.

Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

11. Toxicological Information

Toxicological data

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol (CAS 107-21-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>9530 mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Rat</td>
<td>10.92 mg/l, 4 hours</td>
</tr>
<tr>
<td>Oral</td>
<td>Human</td>
<td>1110 - 1665 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>4000 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td>Human</td>
<td></td>
</tr>
</tbody>
</table>

Acute effects
May cause mild skin irritation. May cause mild eye irritation. May cause respiratory irritation.

Sensitization
Based on available data, the classification criteria are not met.

Chronic effects
Prolonged inhalation may be harmful. Prolonged or repeated overexposure may cause liver and kidney effects. Prolonged or repeated ingestion may cause bladder or kidney stones.

Carcinogenicity

ACGIH Carcinogens
Ethylene Glycol (CAS 107-21-1) A4 Not classifiable as a human carcinogen.

Skin corrosion/irritation
May be irritating to the skin.

Serious eye damage/irritation
May be irritating to eyes.

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

Reproductive effects
Hazardous by WHMIS criteria. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility.

Teratogenicity
This product is not expected to be a teratogen.

Most important symptoms/effects, acute and delayed
May cause mild skin and eye irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging and tearing. May cause respiratory irritation. If mists are inhaled, may cause tearing, general anesthesia, headache, coughing, respiratory stimulation, nausea, vomiting, pulmonary, kidney and liver damage. Human poison by ingestion (lethal dose of Ethylene glycol for humans reported to be 100 mL). Symptoms of poisoning may include cyanosis (bluish discoloration of the skin), nausea, dizziness, rapid heartbeat, irregular breathing, coma and death. Initially, the central nervous system is stimulated, followed by depression.

Further information
Reproductive toxicity. Symptoms may be delayed.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol (CAS 107-21-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rainbow trout (Oncorhynchus mykiss)</td>
<td>22810 mg/l, 96 Hours</td>
</tr>
</tbody>
</table>
### Components Test Results

<table>
<thead>
<tr>
<th>Components</th>
<th>Test Type</th>
<th>Species / Concentration</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic</td>
<td>LC50</td>
<td>Water flea (Daphnia magna)</td>
<td>46300 - 57000 mg/l, 48 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>IC50</td>
<td>Green algae (Selenastrum capricornutum)</td>
<td>10940 mg/l, 96 Hours</td>
</tr>
<tr>
<td>Acute</td>
<td>NOEC</td>
<td>Green algae (Selenastrum capricornutum)</td>
<td>10000 mg/l, 96 Hours</td>
</tr>
<tr>
<td>Algae</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Ecotoxicity
Contains a substance which causes risk of hazardous effects to the environment.

### Environmental effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### Aquatic toxicity
Not available.

### Persistence and degradability
Not available.

### Bioaccumulation / accumulation

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>Bioconcentration factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>10</td>
</tr>
</tbody>
</table>

### Partition coefficient

<table>
<thead>
<tr>
<th>Partition coefficient</th>
<th>Ethylene Glycol</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1.36</td>
</tr>
</tbody>
</table>

### Mobility in environmental media
This product is miscible in water.

### 13. Disposal Considerations

#### Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

#### Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

#### Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport Information

#### TDG
Not regulated as dangerous goods.

#### IATA
Not regulated as dangerous goods.

#### IMDG
Not regulated as dangerous goods.

### 15. Regulatory Information

#### Canadian regulations
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

#### WHMIS status
Controlled

#### WHMIS classification
- D1B - Immediate/Serious-TOXIC
- D2A - Other Toxic Effects-VERY TOXIC
- D2B - Other Toxic Effects-TOXIC

#### WHMIS labeling

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Material name: ES COMPLEAT EG PREMIX (Ethylene glycol based coolant)

CC2825, CC2826, CC2827, CC2834, CC2848, CC2863    Version #: 01    Issue date: 02-27-2015

MSDS CANADA
### International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A “No” indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### 16. Other Information

**HMIS® ratings**
- Health: 2*
- Flammability: 1
- Physical hazard: 0

**NFPA ratings**
- Health: 2
- Flammability: 1
- Instability: 0

**Disclaimer**
Prepared by: ICC The Compliance Center Inc. 1-888-442-9628
http://www.thecompliancecenter.com

Disclaimer
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**This data sheet contains changes from the previous version in section(s):**
- Product and Company Identification: Product Codes
- Composition / Information on Ingredients: Ingredients
- Physical & Chemical Properties: Multiple Properties
- Transport Information: Material Transportation Information
- Regulatory Information: Canada
- GHS: Classification

**Bibliography**
Not available.

**Legend to abbreviations and acronyms used in the SDS**
Not available.