MATERIAL SAFETY DATA SHEET

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.

Skin absorption: May be absorbed and cause symptoms similar to those listed for ingestion.

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 discolouration 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 discolouration 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

Components	CAS #	Percent
Ethylene Glycol	107-21-1	40.0 - 60.0
Other components below reportable levels		2.606

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 (CO_2).

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

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethylene Glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.

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

Physical state Liquid.

Form Liquid.

Color Blue.

Odor Odorless.

Odor threshold 25 ppm (Ethylene glycol)

pH 10.2 - 10.8

Vapor pressure Not available.

Vapor density Not available.

Boiling point 224.6 °F (107 °C)

Melting point/Freezing point Not available.

Solubility (water) completely miscible

Specific gravity 1.056 - 1.088

Relative density Not available.

Flash point Not available.

Flammability limits in air, upper, % by volume Not available.

Flammability limits in air, lower, % by volume Not available.

Auto-ignition temperature Not available.

Evaporation rate Not available.

Partition coefficient (n-octanol/water)	Not available.

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	Strong acids. Strong oxidizing agents. Alkali metals. Halogenated materials. Strong alkalis. Ketones.
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

Components	Species	Test Results
Ethylene Glycol (CAS 107-21-1)		
Acute		
Dermal		
LD50	Rabbit	9530 mg/kg
Inhalation		
LC50	Rat	10.92 mg/l, 4 hours
Oral		
LD50	Human	1110 - 1665 mg/kg
	Rat	4000 mg/kg

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 discolouration 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

Components		Species	Test Results
Ethylene Glycol (CAS 107-21-1)			
Acute			
	LC50	Rainbow trout (Oncorhynchus mykiss)	22810 mg/l, 96 Hours

Components		Species	Test Results
Aquatic			
Crustacea	LC50	Water flea (Daphnia magna)	46300 - 57000 mg/l, 48 hours
Acute			
Algae	IC50	Green algae (Selenastrum capricornutum)	10940 mg/l, 96 Hours
	NOEC	Green algae (Selenastrum capricornutum)	10000 mg/l, 96 Hours

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

Bioaccumulative potential

Bioconcentration factor

Ethylene Glycol 10

Partition coefficient

Ethylene Glycol -1.36

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

International Inventories

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

*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
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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.