SAFETY DATA SHEET

1. Identification

Product identifier **ES COMPLEAT EG PREMIX (Ethylene glycol based coolant)**

Other means of identification

SDS number LT16587

Product code CC2825, CC2826, CC2827, CC2834, CC2848, CC2863

Recommended use Premixed, extended life coolant, especially for use in heavy-duty diesel engines.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Cummins Filtration

Address 1200 Fleetguard Road
Cookeville, TN 38506
United States

Telephone 24 Hours per day 1-800-22FILTER
(1-800-223-4583)

E-mail Not available.

Emergency phone number Within Continental U.S. Chemtrec 1-800-424-9300
Outside U.S. Chemtrec 703-527-3887

Supplier Not available.

2. Hazard(s) identification

Physical hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Health hazards

Acute toxicity, oral	Category 4
Reproductive toxicity	Category 2
Specific target organ toxicity, single exposure	Category 2
Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Specific target organ toxicity, single exposure	Category 3 narcotic effects

Environmental hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

OSHA defined hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Label elements

Signal word Warning

Hazard statement May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. May cause damage to organs.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash 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/protective clothing/eye protection/face protection.

Response If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Call a poison center/doctor.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	May cause mild skin and eye irritation. 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. Prolonged or repeated ingestion may cause bladder or kidney stones. May potentially result in lethal kidney damage. Prolonged or repeated overexposure may cause liver effects.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
ETHYLENE GLYCOL	Glycol alcohol 1,2-ETHANDIOL	107-21-1	40.0 - 60.0
Diethylene Glycol	2-(2-HYDROXYETHOXY)ETHANOL BIS(2-HYDROXYETHYL) ETHER	111-46-6	0.1 - 1.0
Sodium Nitrite	Nitrous acid, sodium salt	7632-00-0	0.1 - 0.3
Sodium Molybdate	Molybdic acid, Disodium salt	7631-95-0	0.158
Other components below reportable levels			1.628

The exact concentrations of the above listed chemicals are being withheld as a trade secret as allowed by 29CFR1910.1200.

4. First-aid measures

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.
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.
Indication of immediate medical attention and special treatment needed	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 information	If you feel unwell, seek medical advice (show the label where possible). IF exposed or concerned: Get medical advice/attention. 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	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.
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.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
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. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted. 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.

Hazardous combustion products Carbon oxides. Formaldehyde. Other irritating fumes and smoke.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Evacuate the area promptly. Wear appropriate protective equipment and clothing during clean-up. See Section 8 of the SDS for Personal Protective Equipment.

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 SDS. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe 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.

Conditions for safe storage, including any incompatibilities Store in tightly closed original container in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). 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. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium Molybdate (CAS 7631-95-0)	PEL	5 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ETHYLENE GLYCOL (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.
Sodium Molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Diethylene Glycol (CAS 111-46-6)	TWA	10 mg/m3

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

Appropriate 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. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical respirator with organic vapor cartridge and full facepiece.

Skin protection

Hand protection Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.

Other Wear appropriate chemical-resistant clothing.

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.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Blue.
Odor	Odorless.
Odor threshold	25 ppm (Ethylene glycol)
pH	10.2 - 10.8
Melting point/freezing point	Not available.
Initial boiling point and boiling range	224.6 °F (107 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	completely miscible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Specific gravity	1.056 - 1.088

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
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.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Irritating to respiratory system.

Skin contact	May cause mild skin irritation. May be absorbed and cause symptoms similar to those listed for ingestion.
Eye contact	May cause mild eye irritation.
Ingestion	May be harmful or fatal if swallowed. May cause irritation of the gastrointestinal tract. Human poison by ingestion (lethal dose of Ethylene glycol for humans reported to be 100 mL).
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.

Information on toxicological effects

Acute toxicity May cause respiratory irritation. The below product data is the calculated ATE values for this mixture. Individual ingredient component data appears below the product mixture ATE values.

Components	Species	Test Results
Diethylene Glycol (CAS 111-46-6)		
Acute		
Dermal		
LD50	Rabbit	13300 mg/kg
Inhalation		
LC50	Rat	> 5.08 mg/l
Oral		
LD50	Rat	25300 mg/kg
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
Sodium Molybdate (CAS 7631-95-0)		
Acute		
Dermal		
LD50	Rabbit	No data in literature
Inhalation		
LC50	Rat	> 2.08 mg/l, 4 Hours
Oral		
LD50	Rat	4040 mg/kg
Sodium Nitrite (CAS 7632-00-0)		
Acute		
Dermal		
LD50	Rabbit	No data in literature
Inhalation		
LC50	Rat	No data in literature
Oral		
LD50	Rat	85 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation May be irritating to the skin.

Serious eye damage/eye irritation May be irritating to eyes.

Respiratory or skin sensitization

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

Skin sensitizer This product is not expected to cause skin sensitization.

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

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure Specific Target Organ Toxicity (STOT), Single Exposure: Category 2; Category 3
May cause damage to organs (Kidney) by ingestion. May cause respiratory irritation. May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Not classified as a specific target organ toxicity -repeated exposure.

Aspiration toxicity Not available.

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.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Diethylene Glycol (CAS 111-46-6)			
Aquatic			
Acute			
Algae	EC10	Green plankton algae (Chlorococcales)	1000 mg/l, 24 Hours
Crustacea	EC50	Water flea (Daphnia magna)	48900 mg/l, 48 Hours
Fish	LC50	Fathead minnow (Pimephales promelas)	77900 mg/l, 96 hours
ETHYLENE GLYCOL (CAS 107-21-1)			
Acute			
	LC50	Rainbow trout (Oncorhynchus mykiss)	22810 mg/l, 96 Hours
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
Sodium Molybdate (CAS 7631-95-0)			
Aquatic			
Acute			
Crustacea	LC50	Water flea (Daphnia magna)	3220 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	2911 mg/l, 96 hours
Chronic			
Crustacea	NOEC	Water flea (Daphnia magna)	50 mg/l, 21 days
Fish	NOEC	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	200 mg/l, 32 days
Sodium Nitrite (CAS 7632-00-0)			
Acute			
	LC50	Rainbow trout (Oncorhynchus mykiss)	0.54 mg/l, 96 hours

Components		Species	Test Results
Aquatic			
Acute			
Algae	EC50	Green Algae (Scenedesmus subspicatus)	> 100 mg/l, 72 hours
Crustacea	EC50	Water flea (Daphnia magna)	15.4 mg/l, 48 hours
Chronic			
Algae	NOEC	Green Algae (Scenedesmus subspicatus)	100 mg/l, 72 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Diethylene Glycol	-1.5
ETHYLENE GLYCOL	-1.36

Bioconcentration factor (BCF)

Diethylene Glycol	3
ETHYLENE GLYCOL	10

Mobility in soil No data available.

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 considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

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

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
One or more components are not listed on TSCA.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Sodium Nitrite (CAS 7632-00-0) 1.0 % One-Time Export Notification only.

CERCLA Hazardous Substance List (40 CFR 302.4)

ETHYLENE GLYCOL (CAS 107-21-1) Listed.
Sodium Nitrite (CAS 7632-00-0) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
ETHYLENE GLYCOL	107-21-1	40.0 - 60.0
Sodium Nitrite	7632-00-0	0.1 - 0.3

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

ETHYLENE GLYCOL (CAS 107-21-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

ETHYLENE GLYCOL (CAS 107-21-1)
Sodium Nitrite (CAS 7632-00-0)

US. New Jersey Worker and Community Right-to-Know Act

ETHYLENE GLYCOL (CAS 107-21-1)
Sodium Nitrite (CAS 7632-00-0)

US. Pennsylvania Worker and Community Right-to-Know Law

Diethylene Glycol (CAS 111-46-6)
ETHYLENE GLYCOL (CAS 107-21-1)
Sodium Nitrite (CAS 7632-00-0)

US. Rhode Island RTK

ETHYLENE GLYCOL (CAS 107-21-1)
Sodium Nitrite (CAS 7632-00-0)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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

Country(s) or region	Inventory name	On inventory (yes/no)*
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, including date of preparation or last revision

Issue date 02-27-2015

Version # 01

Disclaimer

Prepared by: ICC The Compliance Center Inc. 1-888-442-9628
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Revision Information

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.