SAFETY DATA SHEET

1. Identification

Product identifier **ES COMPLEAT EG CONCENTRATE (Ethylene glycol based antifreeze)**

Other means of identification

SDS number LT16588

Product code CC2820, CC2821, CC2822, CC2847, CC2823

Recommended use Concentrated antifreeze / coolant.

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 Harmful if swallowed. 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 swallowed: Call a poison center/doctor if you feel unwell. If inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Call a poison center/doctor. Rinse mouth.

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)	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.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
ETHYLENE GLYCOL	Glycol alcohol 1,2-ETHANDIOL	107-21-1	90.0-100.0
Diethylene Glycol	2-(2-HYDROXYETHOXY)ETHANOL BIS(2-HYDROXYETHYL) ETHER	111-46-6	0.1-1.0
Disodium Tetraborate, Anhydrous	BORAX Sodium tetraborate	1330-43-4	0.1-0.5
Sodium Nitrite	Nitrous acid, sodium salt	7632-00-0	0.1-0.5
Sodium Molybdate	Molybdic acid, Disodium salt	7631-95-0	<= 0.2
Other components below reportable levels			1 - 3

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Most important symptoms/effects, acute and delayed	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	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.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. 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	During fire, gases hazardous to health may be formed.
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	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Not available.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

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

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. Do not breathe mist or vapor. Do not taste or swallow. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

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
Disodium Tetraborate, Anhydrous (CAS 1330-43-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
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. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Disodium Tetraborate, Anhydrous (CAS 1330-43-4)	TWA	1 mg/m3

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 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 Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear protective gloves.

Other Wear appropriate chemical-resistant clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

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	Characteristic odour.
Odor threshold	Not available.
pH	9.4 - 10 (100%); 10.2 - 10.8 (50%)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	383 °F (195 °C)
Flash point	231.8 °F (111.0 °C) Open Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	3.2
Flammability limit - upper (%)	15.3
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	0.05 mm Hg @ 20°C
Vapor density	2.1
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	
Flammability class	Combustible IIIB estimated
Specific gravity	1.11 - 1.14

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.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause damage to organs by inhalation. May cause irritation to the respiratory system.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Kidney injury may occur. Harmful if swallowed. May cause damage to organs by ingestion.
Most important symptoms/effects, acute and delayed	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Information on toxicological effects

Acute toxicity Harmful if swallowed. Narcotic effects. May cause respiratory irritation.

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
Disodium Tetraborate, Anhydrous (CAS 1330-43-4)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	> 2.04 mg/l/4h
Oral		
LD50	Rat	1200 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

Components	Species	Test Results
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 Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

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

Germ cell mutagenicity Not expected to be hazardous by WHMIS criteria.

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 May cause damage to organs. Kidney injury may occur. Respiratory tract irritation. Narcotic effects. May cause damage to organs by ingestion.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration toxicity Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Contains a substance which causes risk of hazardous effects to the environment. Do not allow this material to drain into sewers/water supplies.

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
Disodium Tetraborate, Anhydrous (CAS 1330-43-4)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	15.4 mg/l, 96 Hours
Crustacea	EC50	Water flea (Daphnia magna)	141 mg/kg, 48 Hours
Fish	LC50	Fathead minnow (Pimephales promelas)	332 mg/l, 96 Hours
Chronic			
Crustacea	NOEC	Water flea (Daphnia magna)	6 mg/l, 21 days
Fish	NOEC	Japanese rice fish (Oryzias latipes)	2.1 mg/l, 87 days
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

Components		Species	Test Results
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
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. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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	90.0-100.0
Sodium Nitrite	7632-00-0	0.1-0.5

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

Disodium Tetraborate, Anhydrous (CAS 1330-43-4)
ETHYLENE GLYCOL (CAS 107-21-1)
Sodium Nitrite (CAS 7632-00-0)

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

Disodium Tetraborate, Anhydrous (CAS 1330-43-4)
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)
Disodium Tetraborate, Anhydrous (CAS 1330-43-4)
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
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
Regulatory Information: Canada
GHS: Classification

Bibliography Not available.