



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

<b>Product identifier</b>	<b>ES COMPLEAT PG CONCENTRATE (Propylene glycol based antifreeze)</b>
<b>Other means of identification</b>	
<b>MSDS number</b>	LT16590
<b>Product code</b>	CC2830 (1 gallon / 3.785 L); CC2831 (55 gallon / 208 L Drum); CC2832 (Bulk); CC2849 (5 gallon / 18.9 L Pail); CC2833 (275 gallon / 1040 L Tote tanks)
<b>Product use</b>	Concentrated, extended life antifreeze, especially for use in heavy duty diesel engines.
<b>Chemical family</b>	Mixture of: Water; glycol; Mixture of inorganic salts.
<b>Manufacturer</b>	
<b>Company name</b>	Cummins Filtration
<b>Address</b>	1200 Fleetguard Road Cookeville, TN, U.S.A. 38506
<b>Telephone</b>	(931) 526 9551
<b>Website</b>	www.cumminsfiltration.com
<b>E-Mail</b>	fleetmaster.us@cummins.com
<b>Supplier information</b>	Refer to Manufacturer
<b>Emergency phone number</b>	Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

## 2. Hazard(s) Identification

<b>Emergency overview</b>	Blue liquid. Little or no odour. Caution! Ingestion of large amounts may be harmful. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system. Prolonged or repeated skin contact may cause drying and irritation. May cause minor eye irritation. Possible reproductive hazard. Contains material that may cause adverse reproductive effects, based on animal data.
<b>Potential health effects</b>	
<b>Routes of exposure</b>	
<b>Routes of entry skin &amp; eye</b>	May be mildly irritating to eyes and skin.
<b>Routes of entry skin absorption</b>	Not expected to be absorbed through the skin.
<b>Routes of entry inhalation</b>	Mild respiratory irritant
<b>Routes of entry ingestion</b>	May cause gastrointestinal irritation.
<b>Target organs</b>	Eyes, skin, respiratory system, central nervous system, liver and kidneys.
<b>Chronic effects</b>	Prolonged overexposure may cause slight kidney effects, such as increased organ weight. For further information, please refer to section 11 of the MSDS.
<b>Most important symptoms/effects, acute and delayed</b>	May damage fertility or the unborn child. Contains chemicals that may cause male reproductive toxicity and developmental toxicity. This product contains: Sodium tetraborate. 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 kidney effects, such as increased organ weight. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).
<b>Potential environmental effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

### 3. Composition/information on ingredients

**Mixture**

Chemical name	CAS #	Percent
Propylene glycol	57-55-6	90.0 - 100.0
Sodium nitrite	7632-00-0	0.1 - 0.5
Sodium tetraborate	1330-43-4	0.1 - 0.3
Sodium tolytriazole	64665-57-2	0.1 - 0.3

### 4. First Aid Measures

**First aid procedures**

<b>Inhalation</b>	Move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. If irritation or symptoms develop, seek medical attention.
<b>Skin contact</b>	Immediately flush with plenty of water, while removing contaminated clothing. If irritation or symptoms develop, seek medical attention.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Do not induce vomiting. Never give anything by mouth if victim is unconscious. Get medical attention.

**Notes to physician**

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

**Flammable properties**

Not flammable by WHMIS criteria.

**Extinguishing media**

<b>Suitable extinguishing media</b>	Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.
<b>Unsuitable extinguishing media</b>	None known.

**Protection of firefighters**

<b>Specific hazards arising from the chemical</b>	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.
<b>Protective equipment for firefighters</b>	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.

**Explosion data**

<b>Sensitivity to static discharge</b>	Not expected to be sensitive to static discharge.
<b>Sensitivity to mechanical impact</b>	Not expected to be sensitive to mechanical impact.

**Hazardous combustion products**

Carbon oxides; Nitrogen oxides (NOx); phosphorus oxides; Boron and compounds.



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**General fire hazards** Not flammable under normal conditions of handling. However, may burn if exposed to extreme heat and flame.

## 6. Accidental Release Measures

**Personal precautions** 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.

**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.

**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.

**Other information** Clean up in accordance with all applicable regulations.

## 7. Handling and Storage

**Handling** Wear suitable protective equipment during handling. Use with adequate ventilation. Avoid breathing mist or vapours. 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 vapour) and can be dangerous. Wash thoroughly after handling. Keep out of the reach of children.

**Storage** Store in a cool, dry, well-ventilated area. 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

### Occupational exposure limits

### US. ACGIH Threshold Limit Values

	Type	Value
Propylene glycol (CAS 57-55-6)	TWA	10 mg/m <sup>3</sup> (AIHA WEEL)
Sodium tetraborate (CAS 1330-43-4)	STEL	6 mg/m <sup>3</sup> (inhalable fraction, listed under Borate compounds, inorganic)
	TWA	2 mg/m <sup>3</sup> (inhalable fraction, listed under Borate compounds, inorganic)

### Biological limit values

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



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### Engineering controls

Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.

### Personal protective equipment

#### Eye / face protection

Chemical splash goggles are recommended.

#### Skin protection

Gloves impervious to the material are recommended. Advice should be sought from glove suppliers. Wear sufficient clothing to prevent skin contact. Where extensive exposure to product is possible, use resistant coveralls, apron and boots to prevent contact.

#### 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 CSA Z94.4-02.

#### Hand protection

Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

## 9. Physical and chemical properties

### Appearance

#### Physical state

Liquid.

#### Form

Thin liquid.

#### Colour

blue

### Odour

Little or no odour.

### Odour threshold

N/Av

### pH

11.0 - 11.6

### Melting point /freezing point

N/Av

### Initial boiling point and boiling range

188°C (370.4°F)

### Flash point

102.8°C (217°F)  
Cleveland Open Cup

### Evaporation rate

N/Av

### Flammability (solid, gas)

N/Av

### Lower flammability/explosive limit

N/Av

### Upper flammability/explosive limit

N/Av

### Vapour pressure

0.07 mmHg @ 20°C (68°F)

### Vapour density

> 1 (Air = 1)

### Relative density

1.04 - 1.07

### Solubility(ies)

#### Other solubility(ies)

N/Av

#### Solubility (water)

Complete

### Partition coefficient (n-octanol/water)

N/Av

### Auto-ignition temperature

N/Av

### Decomposition temperature

N/Av

### Viscosity

N/Av

### Other information

#### Explosive properties

Not explosive

#### Oxidizing properties

None known.

#### Specific gravity

1.04 - 1.07

#### VOC

N/Av

#### Volatilities %

N/Av



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**Other physical/chemical data** No additional information.

## 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** Keep away from extreme heat and flame. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

**Incompatible materials** Strong oxidizing agents; Strong acids; Strong bases.

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

## 11. Toxicological information

### Toxicological data

Components	Species	Test Results
Propylene glycol		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	20 800 mg/kg
<i>inhalation</i>		
LC50	Rat	> 158 mg/L (aerosol)
<i>Oral</i>		
LD50	Rat	21 800 mg/kg
Sodium nitrite		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	N/Av
<i>inhalation</i>		
LC50	Rat	5.5 mg/L (dust)
<i>Oral</i>		
LD50	Rat	180 mg/kg
Sodium tetraborate		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg (No mortality)
<i>inhalation</i>		
LC50	Rat	> 2.04 mg/L (dust) (No mortality)
<i>Oral</i>		
LD50	Rat	3225 - 5560 mg/kg
Sodium tolytriazole		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg (No mortality)
<i>inhalation</i>		
LC50	Rat	N/Av
<i>Oral</i>		
LD50	Rat	735 - 1980 mg/kg (50% solution)



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**Acute effects** May be mildly irritating to skin, eyes and respiratory system. May cause gastrointestinal irritation. May cause central nervous system depression. See data above for individual ingredient acute toxicity data.

**Senitization** Not expected to be a skin or respiratory sensitizer.

**Chronic effects** Prolonged overexposure may cause slight kidney effects, such as increased organ weight. For further information, please refer to section 11 of the MSDS.

**Carcinogenicity** No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP. See below for ingredients present on regulatory lists.

## ACGIH Carcinogenicity

Sodium tetraborate(CAS 1330-43-4) A4 - Not Classifiable as a Human Carcinogen (listed under Borate compounds, inorganic)

**Skin corrosion/irritation** May cause mild skin irritation.

**Serious eye damage/irritation** May cause mild eye irritation.

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

**Reproductive effects** May damage fertility.  
 Contains: Sodium tetraborate, anhydrous. The data regarding subchronic and chronic oral exposure to boric acid or borax (Disodium tetraborate, anyhydrous) in laboratory animals have demonstrated reproductive toxicity. Available animal data indicates that this substance has toxic effects on the male reproductive tract. Testicular lesions have been observed in rats, mice, and dogs administered boric acid or borax in food or drinking-water (INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY Environmental Health Criteria document # 204).

**Teratogenicity** May damage the unborn child.  
 Contains: Disodium tetraborate, anhydrous. Sodium tetraborate has been investigated as a developmental hazard.

**Most important symptoms/effects, acute and delayed** May damage fertility or the unborn child. Contains chemicals that may cause male reproductive toxicity and developmental toxicity. This product contains: Sodium tetraborate. 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 kidney effects, such as increased organ weight. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

**Further information** None known or reported by the manufacturer.

## 12. Ecological information

<b>Ecotoxicity data:</b>				
<b>Components</b>	<b>CAS No</b>	<b>Toxicity to Fish</b>		
		<b>LC50 / 96h</b>	<b>NOEC / 21 day</b>	<b>M Factor</b>
Propylene glycol	57-55-6	46 500 mg/L (Fathead minnow)	N/Av	None.
Sodium nitrite	7632-00-0	0.54 mg/L (Rainbow trout)	N/Av	1
Sodium tetraborate	1330-43-4	79.7 mg/L (Fathead minnow) (Read-across)	6.4 mg/L/34 days (Zebra fish) (Read-across)	None.
Sodium tolytriazole	64665-57-2	25 mg/L (Rainbow trout)	N/Av	None.

Components	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Propylene glycol	57-55-6	43 500 mg/L (Daphnia magna)	N/Av	None.
Sodium nitrite	7632-00-0	15.4 mg/L (Daphnia magna)	N/Av	None.
Sodium tetraborate	1330-43-4	91 mg/L Ceriodaphnia (water flea)	10.8 mg/L (Read-across)	None.
Sodium tolytriazole	64665-57-2	280 mg/L (Daphnia magna)	18.4 mg/L	None.

Components	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Propylene glycol	57-55-6	19 000 mg/L/96hr (Green algae)	N/Av	None.
Sodium nitrite	7632-00-0	≥ 100 mg/L/72hr (Green algae)	100 mg/L/72hr	None.
Sodium tetraborate	1330-43-4	52.4 mg/L/72hr (Green algae) (Read-across)	17.5 mg/L/72hr (Read-across)	None.
Sodium tolytriazole	64665-57-2	26.2 mg/L/72hr (Green algae)	10 mg/L/72hr	None.

**Ecotoxicity** There is no data available for this product. Harmful to aquatic life. The product contains the following substances which are hazardous for the environment: Sodium nitrite.

See the above tables for individual ingredient ecotoxicity data.

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

**Aquatic toxicity** No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

**Persistence and degradability** No data is available on the product itself. The following ingredients are considered to be readily biodegradable: Propylene glycol; sodium nitrite. Contains the following chemicals which are not readily biodegradable: Sodium tetraborate; Sodium tolytriazole.

**Bioaccumulation / accumulation** No data is available on the product itself. See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Propylene glycol (CAS 57-55-6)	- 1.41 to - 0.3	1.4
Sodium nitrite (CAS 7632-00-0)	- 3.7	3.162 (estimated)
Sodium tetraborate (CAS 1330-43-4)	N/Av	121 (alga)
Sodium tolytriazole (CAS 64665-57-2)	1.083	N/Av

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

## 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, provincial and local regulations.

**Waste from residues / unused products** Dispose of contents/container in accordance with local regulation. This material and its container must be disposed of in a safe way.

**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

<b>TDG</b>	<b>Not regulated as dangerous goods</b>
<b>ICAO/IATA</b>	<b>Not regulated as dangerous goods</b>
<b>IMDG</b>	<b>Not regulated as dangerous goods</b>

**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.

## 15. Regulatory information

**Canadian regulations** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

**WHMIS status** Controlled

**WHMIS classification** D2A - Other toxic effects - Very toxic

**WHMIS labeling**



### International Inventories

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

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

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECs</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>NewZealand IOC</u>
Propylene glycol	57-55-6	200-338-0	Present	Present	(2)-234	KE-29267	Present	May be used as a single component chemical under an appropriate group standard
Sodium nitrite	7632-00-0	231-555-9	Present	Present	(1)-483	KE-31546	Present	HSR001286
Sodium tetraborate	1330-43-4	215-540-4	Present	Present	(1)-69	KE-12384	Present	HSR002799
Sodium tolytriazole	64665-57-2	265-004-9	Present	Present	(5)-3601	KE-23499	Present	May be used as a single component chemical under an appropriate group standard

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

**NFPA Rating**

0 - Minimal	1 - Slight	2 - Moderate	3 - Serious
: Health: 1	Flammability: 1	Instability: 0	Special Hazards: None.





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HMIS Rating : \* - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious  
Health: \*1 Flammability: 1 Reactivity: 0

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Version # 1

## Legend

ACGIH: American Conference of Governmental Industrial Hygienists  
AICS: Australian Inventory of Chemical Substances  
CAS: Chemical Abstract Services  
CEPA: Canadian Environmental Protection Act  
COC: Cleveland Open Cup  
CSA: Canadian Standards Association  
EC50: Effective Concentration 50%.  
EINECS: European Inventory of Existing Commercial chemical Substances  
HMIS: Hazardous Materials Identification System  
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  
MSDS: Material Safety Data Sheet  
N/Ap: Not Applicable  
N/Av: Not Available  
NFPA: National Fire Protection Association  
NIOSH: National Institute of Occupational Safety and Health  
NOEC: No observable effect concentration  
NTP: National Toxicology Program  
OECD: Organisation for Economic Co-operation and Development  
OSHA: Occupational Safety and Health Administration  
PEL: Permissible exposure limit  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
RTECS: Registry of Toxic Effects of Chemical Substances  
STEL: Short Term Exposure Limit  
TDG: Canadian Transportation of Dangerous Goods Act & Regulations  
TLV: Threshold Limit Values  
TWA: Time Weighted Average  
WHMIS: Workplace Hazardous Materials Identification System

## Bibliography

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2015.
2. International Agency for Research on Cancer Monographs, searched 2015.
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases, 2015 (Chempendium, HSDB and RTECS).
4. Material Safety Data Sheets from manufacturer.
5. OECD - The Global Portal to Information on Chemical Substances - eChemPortal, 2015.

## Disclaimer

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