



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

Level: 3
Release Date: 2005-12-14

1. Product and Company Identification

Product Name: Premium Engine Coolant With Bittering Agent
Product Code: See Attachment
Application: Engine antifreeze / coolant
Supplier: Ford Motor Company
 Attention: MSDS Information, P.O. Box 1899
 Dearborn, Michigan 48121
 1-800-392-3673

Emergency Telephone: Poison Control Center: 1-800-959-3673
 CHEMTREC: U.S. and Canada: 1-800-424-9300
 CHEMTREC: International: 1-703-527-3887

2. Composition/Information on Ingredients

This chemical product is a preparation.

Chemical Name	CAS Number	Percent Concentration	Hazard Classification
ETHYLENE GLYCOL	107-21-1	60-100	CAA-HAP HAZCOM MOC-ALL RQ SARA 313 WHMIS 1
DIETHYLENE GLYCOL	111-46-6	3-7	

3. Hazards Identification

WARNING

Health: Harmful or fatal if swallowed.
 Aspiration hazard if swallowed; can enter lungs and cause damage.
 May cause skin, eye and respiratory tract irritation.
 If ingested, this product may cause gastrointestinal irritation.
 Exposure may increase myocardial irritability.
 Overexposure may cause central nervous system effects.
 Overexposure may cause liver and kidney damage.
 This product may be absorbed through the skin in harmful amounts.
 This product may cause delayed neurotoxicity.

Environment: Material contains a chemical which is a Hazardous Air Pollutant (HAP), regulated by the United States Clean Air Act.

4. First-Aid Measures

Inhalation: If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air.
 If irritation persists, get medical attention.



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

Level: 3
Release Date: 2005-12-14

Skin Contact: For skin contact, wash immediately with soap and water. If irritation persists, get medical attention.

Eye Contact: In case of contact with eyes, rinse immediately with plenty of water for at least 15 minutes and seek medical attention.

Ingestion: If the material is swallowed, do not induce vomiting. Get immediate medical attention or advice -- give several glasses of water or milk. Do not give anything by mouth to an unconscious or convulsing person.

Most Important Symptoms Effects: Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Notes to a Physician: This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

5. Fire-Fighting Measures

Extinguishing Media: Dry chemical, foam, carbon dioxide, water fog.

Specific Methods: Use water to cool fire-exposed containers, structures, and to protect personnel.

Specific Hazards: Water or foam may cause frothing if the product is heated above 93 degrees C (200 degrees F). Empty container(s) may retain product residue -- solid, liquid, and/or vapor -- and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death.

Protection of Firefighters: Fire fighters should be equipped with NIOSH-approved, self-contained breathing apparatus (SCBA) and full protective clothing.

6. Accidental Release Measures

Personal Precautions: Ventilate the contaminated area. Avoid inhalation of vapors and contact with skin and eyes. Wear appropriate protective equipment and clothing during clean-up.

Environmental Precautions: Do not allow the spilled product to enter public drainage system or open water courses.

Methods for Cleaning Up: Contain the discharged material. Recover liquids by pumping (use an explosion proof or hand pump if recovering flammable liquids). Absorb the spilled material with an inert absorbent (nonflammable) material. Scrape up the spilled material and transfer to a suitable container for disposal.



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

Level: 3
Release Date: 2005-12-14

7. Handling and Storage

Handling:

Technical Measures: Keep this product from heat, sparks, or open flame.
Precautions and Advice for Safe Handling: Use this product with adequate ventilation. Do not breathe gas/fumes/vapor/spray. Do not get this material in your eyes, on your skin, or on your clothing.

Storage:

Technical Measures: Do not reuse the empty container.
Storage Conditions: Avoid freezing this material. Do not store this material in open or unlabeled containers. Keep the container tightly closed and dry. Keep this material in a cool, well-ventilated place. Store this product away from strong oxidizing agents.

8. Exposure Controls/Personal Protection

Engineering Measures: Use adequate mechanical ventilation (general and/or local exhaust) ventilation to maintain exposure below PEL(s) and/or TLV(s).

Exposure Limits:

Table with 2 columns: Chemical Name, TWA 8 hr, and References. Row 1: ETHYLENE GLYCOL, 10(ppm), ACGIH, OSHA.

Personal Protective Equipment:

Respiratory Protection: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of OSHA Respiratory Protection Standard 29 CFR 1910.134 and/or Canadian Standard CSA Z94.4.

Hand Protection: Use of impervious gloves is required, such as neoprene or nitrile rubber gloves.

Eye Protection: Wear chemical goggles.

Skin and Body Protection: Light protective clothing is recommended. Remove contaminated clothing and wash before reuse.



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

Level: 3
Release Date: 2005-12-14

Hygiene Measures: Wash thoroughly after handling.
 When using this material, do not eat, drink or smoke.

9. Physical and Chemical Properties

Specific Gravity: 1.127@20C
Physical State: LIQUID
Form: LIQUID
Odor: N.AV
Color: NA
pH: 10.2 - 11.2 100% V/V ASTM D1293
Temperature Range During which Changes in Physical State Occur:
 Boiling Point: 165.6 °C
Flash Point: 121.1 °C
Explosion Properties:
 UEL: 15.3 %
 LEL: 3.2 %
Vapor Pressure: 1.8@20°C mmHg
Vapor Density: ND
Solubility: NA
Viscosity: 20 cSt N.AP
Evaporation Rate: N.AV

10. Stability and Reactivity

Stability: This is a stable material.
 Hazardous polymerization will not occur.

Conditions and Materials to Avoid: This product may react with strong oxidizing agents (bleach--sodium hypochlorite, calcium hypochlorite, hydrogen peroxide, permanganate, nitric acid, concentrated OXYGEN, perchlorates).

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and other low molecular weight hydrocarbons.
 Irritating and toxic gases or fumes may be released during a fire.



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

Level: 3
Release Date: 2005-12-14

11. Toxicological Information

- 111-46-6 DIETHYLENE GLYCOL
Oral, adult rat, LD50 = 12565 mg/kg
- 107-21-1 ETHYLENE GLYCOL
Oral, adult rat, LD50 = 4700 mg/kg
- 111-46-6 DIETHYLENE GLYCOL
Skin, adult rabbit, LD50 = 11890 mg/kg
- 107-21-1 ETHYLENE GLYCOL
Skin, adult rabbit, LD50 = 9530 mg/kg

Inhalation: Excessive inhalation of this material causes headache, dizziness, nausea and incoordination.

Skin Contact: Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis.

Chronic (Long Term) Toxicity: This material contains an ingredient which is a possible reproductive hazard based on tests with laboratory animals.

12. Ecological Information

No specific aquatic data available for this product.

13. Disposal Considerations

Waste from Residues: Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulation. Empty containers may contain hazardous residues (vapors, liquid, and/or solid). Do not reuse the empty container without commercial cleaning or reconditioning.

Contaminated Packaging: No available information.



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

Level: 3
Release Date: 2005-12-14

14. Transport Information

U.S. Department of Transportation (DOT) 49 - CFR 172.101

Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s. (ETHYLENE GLYCOL)
 UN Number: UN3082
 Hazard Class / Division: 9
 Packing Group: III

Reportable Quantity (per packaging):

CAS	RQ	Name
107-21-1	5539	ETHYLENE GLYCOL

Regulated Quantity:

Bulk	Non-Bulk	Limited Quantity
X		

Label: CLASS 9

Canadian Transportation of Dangerous Goods (T.D.G.) - TDGR Schedule II

This product is not regulated as a dangerous good.

Secretary of Communication and Transportation (SCT) - NOM-002-SCT2/1994 (Mexico)

This product is not regulated as a dangerous good.

International and Domestic Air Transportation - ICAO & IATA Section 4.2

This product is not regulated as a dangerous good.

International Water Transportation - IMDG Code Amendment 31-02

This product is not regulated as a dangerous good.

15. Regulatory Information

This product contains a toxic chemical or chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

The components of this product are listed on the TSCA Inventory

This product contains an ingredient(s) considered to be a hazardous substance by the State of Pennsylvania (Pennsylvania Worker and Community Right to Know Act).

This product contains an ingredient(s) considered to be an environmental hazardous substance(s) by the State of New Jersey.

This product contains an ingredients(s) considered to be a hazardous substance(s) by the State of New Jersey.

16. Other Information

Key/Legend: N.AP = Not applicable; N.AV = Not available; ND = Not determined or No data; TLV = Threshold limit value; TWA = Time-weighted average; STEL = Short-term exposure limit; C = Ceiling limit



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

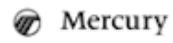
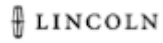
Level: 3
Release Date: 2005-12-14

Preparation Information:

The chemical identification and properties for this material were provided by the manufacturer. For Canadian locations, a manufacturer's MSDS is available upon request. Health and safety information has been evaluated by the Occupational and Environmental Health Sciences Department, Ford Motor Company, National Parts General Office, MD74, 29500 Plymouth Road, Livonia, MI 48150, USA.

Disclaimer:

The information on this data sheet represents our current data and is accurate to the best of our knowledge as to the proper handling of this product under normal conditions and in accordance with the application specified on the packaging and/or technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.



Material Safety Data Sheet

FIR No.: 164315
Version Number: US-US-2

Level: 3
Release Date: 2005-12-14

Attachment

Product Code	Container Size	Part of Kit	Kit Product Code
VC-5	1 U.S. gal		
VC-5 (Obsolete)	1 U.S. gal		
VC-5-A1	1 U.S. gal		
VC-5-B	55 U.S. gal		
VC-5-B (Obsolete)	55 U.S. gal		