

ANTI-FREEZE

Ford Motor Company



LINCOLN



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Material Safety Data Sheet

FIR No.: 184300
Version Number: US-US-2

Level: 2
Release Date: 2009-09-28

1. Product and Company Identification

Product Name: Specialty Green 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	ACGIH/OSHA WHMIS 1 SARA 313 RQ PEL/TLV-US LOCAL REV 1 HAZCOM CAA-HAP
P-TERT-BUTYL BENZOIC ACID	98-73-7	1-5	WHMIS 0.1
POTASSIUM HYDROXIDE	1310-58-3	1-5	RQ PEL/TLV-US WHMIS 1 LOCAL REV 1 ACGIH/OSHA HAZCOM
SODIUM NITRATE	7631-99-4	1-5	WHMIS 1 SARA 313

3. Hazards Identification

WARNING

Health: Harmful or fatal if swallowed.
Aspiration hazard if swallowed; can enter lungs and cause damage.
May cause skin and eye irritation.
Inhalation of mist and vapors may irritate the nose, throat, and lungs.
Excessive inhalation of this material causes headache, dizziness, nausea and incoordination.
Overexposure may affect kidneys and nervous system.



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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.

Skin Contact: Immediately take off all contaminated clothing. For skin contact flush with large amounts of 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. If irritation persists, get 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: If the affected person is not breathing, apply artificial respiration. 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. Use water to dilute spills and to disperse flammable vapors.

Specific Hazards: Vapors emitted may form a flammable mixture with air. Water or foam may cause frothing if the product is heated above 93 degrees C (200 degrees F). Empty containers may retain product residue including Flammable or Explosive vapors. Do not cut, drill, grind, or weld near full, partially full, or empty product containers.

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: Avoid inhalation of vapors and contact with skin and eyes. Surfaces may become slippery after spillage. Wear appropriate protective equipment and clothing during clean-up.



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Environmental Precautions: Do not allow the spilled product to enter public drainage system or open water courses.
 Do not allow this material to drain into sewers/water supplies.

Methods for Cleaning Up: Contain the discharged material.
 Absorb the spilled material with an inert absorbent (nonflammable) material.

7. Handling and Storage

Handling:

Technical Measures: Keep this product from heat, sparks, or open flame.

Precautions and Advice for Safe Handling: Do not get this material in your eyes, on your skin, or on your clothing. Elevated temperature or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, and lungs. Avoid breathing vapors or mist. Keep the container closed when not in use. Use with adequate ventilation.

Storage: Technical Measures: Do not allow the product to freeze.

Storage Conditions: Keep the container tightly closed and 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.

Exposure Limits:		
Chemical Name	STEL/C	References
ETHYLENE GLYCOL	C 100(mg/m3)	ACGIH
POTASSIUM HYDROXIDE	C 2(mg/m3)	ACGIH



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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:

The use of natural rubber gloves is recommended.
The use of nitrile-latex gloves is recommended.
The use of polyvinyl chloride gloves is recommended.

Eye Protection:

Wear safety glasses with side shields.
Wear chemical goggles; face shield (if splashing is possible).

Skin and Body Protection:

Remove contaminated clothing and wash before reuse.

Hygiene Measures:

When using this material, do not eat, drink or smoke.



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9. Physical and Chemical Properties

Specific Gravity: 1.13 g/m³ @20°C
Physical State: FLUID
Form: VISCOUS LIQUID
Odor: CHARACTERISTIC
Color: DARK GREEN
pH: 7.7 50% V/V
Temperature Range During which Changes in Physical State Occur:
 Boiling Point: >148.8 °C (>300F)
Flash Point: 126 °C
Auto-ignition Temperature: ND
Explosion Properties:
 UEL: ND
 LEL: ND
Vapor Pressure: ND
Vapor Density: ND
Solubility: COMPLETE IN WATER
Viscosity: 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 oxidizing agents.
 This product may react with strong acids.
 This product may react with strong alkalies.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and other low molecular weight hydrocarbons.
 Decomposition of this product may emit ammonia and/or amine.
 Decomposition of this product may yield oxides of nitrogen upon decomposition.



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11. Toxicological Information

- 107-21-1 ETHYLENE GLYCOL
Skin, adult rabbit, LD50 = 9530 mg/kg
- 111-46-6 DIETHYLENE GLYCOL
Oral, adult rat, LD50 = 12565 mg/kg
- 111-46-6 DIETHYLENE GLYCOL
Skin, adult rabbit, LD50 = 11890 mg/kg
- 98-73-7 P-TERT-BUTYL BENZOIC ACID
Oral, adult rat, LD50 = 735 mg/kg
- 107-21-1 ETHYLENE GLYCOL
Oral, adult rat, LD50 = 4700 mg/kg

Inhalation:

Vapor overexposure may cause respiratory tract irritation.

Chronic (Long Term) Toxicity:

Ethylene glycol has been fetotoxic and teratogenic in rats and mice, which has been confirmed by independent studies. The actual reproductive hazard of ethylene glycol in humans is unknown.

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 consideration given when disposed of according to local, state, and Federal regulations.



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14. Transport Information

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

This product is not regulated as a dangerous good.

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

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 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

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

HMIS and NFPA Hazard Class Information:

HMIS Hazard Class: Health: 1 (Slight) Flammability: 1 (Slight) Physical Hazard: 0 (Least)

NFPA Hazard Class: Health: 1 (Slight) Flammability: 1 (Slight) Instability: 0 (Least)

Preparation Information:

The chemical identification and properties for this material were provided by the manufacturer. For Canadian locations, a manufacture's MSDS is available upon request. Health and safety information has been evaluated by the Occupational and Environmental Health Sciences Department, Ford Motor Company, Diagnostic Service Center II, 1800 Fairlane Drive, Allen Park, MI 48101, USA.



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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.



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Attachment

Product Code	Container Size	Part of Kit	Kit Product Code
VC-10-A1	1 U.S. gal.		
VC-10-A2	1 U.S. gal.		