Material Safety Data Sheet

Trade Name: CITGO Antifreeze and Coolant
Commodity Code: 57-201
Synonyms: Antifreeze and Coolant
CAS No.: Mixture
Citgo Index No.: 0161

Date: June 24, 1992
Technical Contact: (918) 495-5933
Medical Emergency: (318) 491-6215
Chemtrec Emergency: (800) 424-9300

Material Hazard Evaluation

Health: WARNING: Toxic when ingested.
Precautionary Statement: WARNING: Do not ingest. Do not inhale mists or fumes. Contains Ethylene Glycol.

HMIS Rating1: Health 1 Flammability 0 Reactivity 0

1.0 Generic Composition / Components

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>%</th>
<th>Hazard Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol</td>
<td>107-21-1</td>
<td>&gt; 99</td>
<td>Oral LD50(rat): 5.8 g/kg; (hm): 105g</td>
</tr>
<tr>
<td>Dicethylene Glycol</td>
<td>111-46-6</td>
<td></td>
<td>Oral LD50(rat): 14.8g/kg</td>
</tr>
<tr>
<td>Additives including Dye</td>
<td>Mixture &lt; 1</td>
<td></td>
<td>Eye: Possible low irritant</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Inhl: Possible minor irritant</td>
</tr>
</tbody>
</table>

1 Hazard Rating: least-0; slight-1; moderate-2; high-3; extreme-4
Citgo assignment based on our evaluation per NFPA and NPCA guidelines.

CITGO Antifreeze and Coolant (57-201, June 24, 1992 CIN #: 0161)
2.0 Physical Data

Physical Hazard Classification (Per 29 CFR Part 1910.1200)

<table>
<thead>
<tr>
<th>No</th>
<th>Combustible</th>
<th>No</th>
<th>Flammable</th>
<th>No</th>
<th>Pyrophoric</th>
<th>No</th>
<th>Organic Peroxide</th>
<th>No</th>
<th>Reactivity</th>
<th>No</th>
<th>Oxidizer</th>
<th>Yes</th>
<th>Stable</th>
</tr>
</thead>
</table>

Boiling Point, 760 mmHg, °C(°F): 160(320)  
Specific Gravity (60/60°F) (H₂O = 1): 1.11-1.14  
Vapor Density (Air = 1): 2.14  
% Volatiles by Volume: < 5  
Melting Point, °C(°F): NA  
Vapor Pressure, mmHg (25°C): 18  
Solubility in H₂O, % by Weight: Soluble  
Evaporation Rate (Butyl Acetate = 1): < 0.002  
pH of Undiluted Product: 9.8-10.5  
Appearance and Odor: Blue-green, bland odor.

3.0 Fire and Explosion Data

<table>
<thead>
<tr>
<th>Flash Point, COC, °C(°F)</th>
<th>NA</th>
</tr>
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<tbody>
<tr>
<td>Flash Point, PM, °C(°F)</td>
<td>NA</td>
</tr>
<tr>
<td>Fire Point, COC, °C(°F)</td>
<td>NA</td>
</tr>
<tr>
<td>NFPA Rating²</td>
<td>Health: 1 Flammability: 0 Reactivity: 0</td>
</tr>
<tr>
<td>Flammable Limits (% by volume in air)</td>
<td>Lower: ND Upper: ND</td>
</tr>
<tr>
<td>Extinguishing Media</td>
<td>CO₂, dry chemical, foam.</td>
</tr>
<tr>
<td>Special Fire Fighting Procedure</td>
<td>None.</td>
</tr>
<tr>
<td>Unusual Fire or Explosion Hazard</td>
<td>None.</td>
</tr>
</tbody>
</table>

4.0 Reactivity Data

**Stability:** Stable  
**Conditions Contributing to Instability:** Heat.  
**Incompatibility:** Strong oxidants or acid, such as nitric or sulfuric acid.  
**Hazardous Decomposition Products:** CO₂ (CO under incomplete combustion)  
**Conditions Contributing to Hazardous Polymerization:** NA

² Hazard Rating: least-0; slight-1; moderate-2; high-3; extreme-4  
Citgo assignment based on our evaluation per NFPA guidelines.
5.0 Spill or Leak Procedures

Procedures if Material is Spilled:
- Dike for later disposal.

Waste Disposal:
- May be disposed of through controlled incineration or land burial, if in compliance with local regulations.
- It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal.
- Check before disposing to be sure you are in compliance with all applicable laws and regulations.
- Chemtrec/RCRA Emergency Hotline Number: 800-424-9346.

Protective Measures During Repair and Maintenance of Contaminated Equipment:
- Use good industrial hygiene procedure.

6.0 Health Hazard Data

Health Hazard Classification
(Per 29 CFR Part 1910.1200)

<table>
<thead>
<tr>
<th>Class</th>
<th>No Carcinogen</th>
<th>No Animal Carcinogen</th>
<th>No Suspect Carcinogen</th>
<th>No Mutagen</th>
<th>No Highly Toxic</th>
<th>No Toxic</th>
</tr>
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</table>

Product listed as Carcinogen or Potential Carcinogen by:

- NTP No
- IARC No
- OSHA No
- Other No

Toxicity Summary: Projected lethal dose for product - 1/2 pint to 1 quart.

Major Route(s) of Entry: Inhalation, ingestion.
Acute Exposure Symptoms

Inhalation: Slight pulmonary irritant.
Dermal Contact: Mild irritation.
Eye Contact: Blurred vision and blindness following ingestion have been recorded, associated with CNS depression and coma.
Ingestion: Produces alcohol-like intoxication, progressing to dizziness, vomiting, coma and death, unless treated immediately.
Injection: Irritation, erythema, edema.

Chronic Exposure

Chronic exposure rare in industry, unless exposure to repeated, massive vapor concentrations, from heating of fluid above 100°C.

Other Special Effects

None expected.

Medical Conditions Aggravated by Exposure

None known.

First Aid and Emergency Procedures for Acute Effect

Inhalation: Remove to fresh air. Respiratory support if necessary. Seek medical aid.
Dermal: Wash immediately with soap and water. Seek medical aid. Remove contaminated clothing.
Eyes: Immediately flush eyes with water for at least 15 minutes. Continue treatment on way to physician.
Ingestion: Seek medical aid.
Injection: Presents a medical emergency, seek medical aid.

Notes to Physician: Following ingestion, immediate treatment is crucial. The antidote is 95% Ethanol. For accidental injection, special surgical debridement procedure may be employed. If not familiar with technique, seek advice. Product contains ethylene glycol.
7.0 Special Protection Information

Ventilation Requirements: Use local and general ventilation.

Permitted Threshold Air Concentrations: TLV-TWA ND OSHA - PEL ND
Ethylene Glycol TLV - STEL ND OSHA- STEL ND
Ethylene Glycol TLV - Ceiling 50ppm OSHA-Ceiling ND
(125mg/m³) OSHA - Peak ND

Specific Personal Protective Equipment:
Respiratory: Approved organic respirator above the TLV.
Eyes: Safety goggles with splash shields.
Dermal: Heavy gloves. Neoprene for liquid contact.
Other Clothing or Equipment: None.

8.0 Transportation and Special Precautions

Storage: Store below 120°F. Do not apply heat or flame to container. Keep separate from strong oxidizing agents.

Caution: When empty, this container may still be hazardous. Because containers, even after they have been emptied, still retain product residues (vapor, liquid or solid), all labeled hazard precautions must be observed.

Consult appropriate Federal, State and Local authorities before reusing, reconditioning, re-claiming, recycling or disposing of empty containers and/or waste residues of this product.

DOT Information

DOT/UN Shipping Name: Ethylene Glycol
DOT Hazard Class: Non-Hazardous
DOT/UN Hazard Identification Number: None assigned
DOT Placard: None
Compatibility Category: 20
9.0 Environmental Data

Product Name: CITGO Antifreeze and Coolant
Commodity Code: 57-201

SARA TITLE III

Section 313 - Toxic Chemicals

This product contains toxic chemicals of Section 313 of Title III of Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372.

Components | CAS# | %
--- | --- | ---
Ethylene Glycol | 107-21-1 | 95 - > 99
Diethylene Glycol | 111-46-6 |

Section 311 - Hazard Categories

| | No | Fire Hazard |
--- | --- | --- |
| Yes | Acute (Immediate Health Hazard) | No | Sudden Release of Pressure Hazard |
| Yes | Chronic (Delayed Health Hazard) | No | Reactive Hazard |

Section 302/(A) - Extremely Hazardous Substances

(RQ = Reportable Quantity)
(TPQ = Threshold Planning Quantity)

This product does not contain Extremely Hazardous Substances of Section 302/(A).

| Component | CAS# | % | RQ lbs. | TPQ lbs. |
--- | --- | --- | --- | --- |
None | - | - | - | - |

Clean Water Act

Discharges to surface waters may be reportable. Consult State and Federal regulations for guidance.
National Response Center: 800-424-8802.

Comprehensive Environmental, Response, Compensation & Liability Act (CERCLA) - Section 102 Hazardous Substances

| Component | CAS# | % | RQ lbs. |
--- | --- | --- | --- |
None | NA | NA |

New Jersey Worker and Community Right-to-Know Act

| Component | CAS# |
--- | --- |
Ethylene Glycol | CAS#: 107-21-1 |
Diethylene Glycol | CAS#: 107-46-6 |
Water | CAS#: 7732-58-3 |

NA - Not Applicable
ND - No Data
NE - Not Established

CITGO Antifreeze and Coolant (57-201, June 24, 1992 CIN #: 0161)
10.0 Labeling

**WARNING**

Harmful or fatal if swallowed.

Contains Ethylene Glycol.

Do not drink antifreeze or solution.

If swallowed, induce vomiting immediately and call physician.

Do not store in open or unlabeled containers.

Keep out of reach of children and animals.