



CITGO Petroleum Corporation
P.O. Box 3758
Tulsa, Oklahoma 74102

Material Safety Data Sheet

Trade Name: **CITGO Antifreeze and Coolant**
Commodity Code: **57-201**
Synonyms: Antifreeze and Coolant Date: June 24, 1992
CAS No.: Mixture Technical Contact: (918) 495-5933
(Refer to Section 1) Medical Emergency: (318) 491-6215
Chemtrec Emergency: (800) 424-9300
Citgo Index No.: 0161

Material Hazard Evaluation

(Per OSHA Hazard Communication
Standard [29 CFR Part 1910.1200]) (OHCS)

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

<u>Components</u>	<u>CAS #</u>	<u>%</u>	<u>Hazard Data</u>
Ethylene Glycol	107-21-1	> 99	Oral LD50(rat): 5.8 g/kg; (hm): 105g
Diethylene Glycol	111-46-6		Oral LD50(rat): 14.8g/kg
Additives including Dye	Mixture	< 1	Eye: Possible low irritant Inhl: Possible minor irritant

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

2.0 Physical Data

Physical Hazard Classification (Per 29 CFR Part 1910.1200)

No	Combustible	No	Flammable	No	Pyrophoric
No	Compressed Gas	No	Organic Peroxide	No	Reactivity
No	Explosive	No	Oxidizer	Yes	Stable

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

Flash Point, COC, °C(°F)	NA
Flash Point, PM, °C(°F)	NA
Fire Point, COC, °C(°F)	NA
NFPA Rating ²	Health: 1 Flammability: 0 Reactivity: 0
Flammable Limits (% by volume in air)	Lower: ND Upper: ND
Extinguishing Media	CO ₂ , dry chemical, foam.
Special Fire Fighting Procedure	None.
Unusual Fire or Explosion Hazard	None.

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)
(thermal, unless otherwise specified)
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.

NA - Not Applicable

ND - No Data

NE - Not Established

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)

No	Carcinogen	No	Corrosive
No	Animal Carcinogen	No	Irritant
No	Suspect Carcinogen	No	Sensitizer
No	Mutagen	No	Teratogen
No	Highly Toxic	No	Target Organ
No	Toxic		

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

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

<i>Inhalation:</i>	Remove to fresh air. Respiratory support if necessary. Seek medical aid.
<i>Dermal:</i>	Wash immediately with soap and water. Seek medical aid. Remove contaminated clothing.
<i>Eyes:</i>	Immediately flush eyes with water for at least 15 minutes. Continue treatment on way to physician.
<i>Ingestion:</i>	Seek medical aid.
<i>Injection:</i>	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	TLV-TWA	ND	OSHA - PEL	ND
Air Concentrations:	TLV-STEL	ND	OSHA-STEL	ND
Ethylene Glycol	TLV - Ceiling	50ppm (125mg/m ³)	OSHA-Ceiling	ND
			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.

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

Section 311 - Hazard Categories

<u>No</u> Not Applicable	<u>No</u> Fire Hazard
<u>Yes</u> Acute (Immediate Health Hazard)	<u>No</u> Sudden Release of Pressure Hazard
<u>Yes</u> Chronic (Delayed Health Hazard)	<u>No</u> 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).

<u>Component</u>	<u>CAS#</u>	<u>%</u>	<u>RQ lbs.</u>	<u>TPQ lbs.</u>
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

<u>Component</u>	<u>CAS#</u>	<u>%</u>	<u>RQ lbs.</u>
None	NA	NA	NA

New Jersey Worker and Community Right-to-Know Act

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

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.

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