



1. Chemical product and company identification

Product name	Castrol Automotive Antifreeze
MSDS #	463999
Historic MSDS #:	0000001737
Code	463999-US06
Product use	Automotive coolant system (antifreeze/anticorrosion) concentrate. For specific application advice see appropriate Technical Data Sheet or consult your Castrol representative
Manufacturer	BP Lubricants USA Inc. 1500 Valley Road Wayne, NJ 07470 Telephone: (973) 633-2200 Telecopier: (973) 633-7475
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Composition/information on ingredients

Ingredient name	CAS #	%
Ethylene glycol; ethanediol	107-21-1	90 - 95
Diethylene glycol	111-46-6	1 - 5

3. Hazards identification

Physical state	Liquid.
Color	Green.
Emergency overview	DANGER! HARMFUL IF SWALLOWED. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS, AND NAUSEA, AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES EYE IRRITATION. CAUSES SKIN IRRITATION. Do not ingest. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Wash thoroughly after handling.
Routes of entry	Skin contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	Causes eye irritation.
Skin	Causes skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

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Inhalation	Over-exposure by inhalation may cause respiratory irritation. Inhalation causes headaches, dizziness, drowsiness, and nausea, and may lead to unconsciousness.
Ingestion	Harmful if swallowed. Symptoms similar to alcohol intoxication. Contains material which may cause damage to the following organs: kidneys. See toxicological information (section 11).
Medical conditions aggravated by over-exposure	None identified.
See toxicological information (section 11).	

4. First aid measures

Eye contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

5. Fire-fighting measures

Flammability of the product	May be combustible at high temperature.
Auto-ignition temperature	398 °C
Flash point	119 °C (Closed cup) Setaflash.
Explosion limits	Lower: 3.2 % Upper: 15.3 %
Products of combustion	These products are carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide).
Unusual fire/explosion hazards	Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge.
Fire-fighting media and instructions	In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. Do not use water jet.
Protective clothing (fire)	Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.
Special remarks on fire hazards	Containers may rupture from pressure build-up.

6. Accidental release measures

Personal precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (See Section: "Exposure controls/personal protection"). Follow all fire fighting procedures (See Section: "Fire-fighting measures").
Environmental precautions and clean-up methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilled material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.

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Personal protection in case of a large spill

Chemical splash goggles. Chemical resistant protective suit. Boots. Chemical resistant gloves. Vapor respirator or a self-contained breathing apparatus. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

7. Handling and storage

Handling

Do not ingest. Avoid contact with skin and clothing. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling.

Storage

Keep container tightly closed. Keep container in a cool, well-ventilated area. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name

Occupational exposure limits

Ethylene glycol; ethanediol

ACGIH TLV (United States, 1/2006).

CEIL: 100 mg/m³ Form: Aerosol

Diethylene glycol

None assigned.

Some states may enforce more stringent exposure limits.

Control Measures

Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the work-station location.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

Personal protection

Eyes

Avoid contact with eyes. Chemical splash goggles.

Skin and body

Avoid contact with skin and clothing. Wear suitable protective clothing.

Respiratory

Use only with adequate ventilation. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable.

Hands

Wear suitable gloves.

Chemical resistant gloves.

Recommended: Butyl gloves.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or S.O.P. for special handling directions

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state

Liquid.

pH

10.5 to 11 (Basic.) at 50%

Odor

Mild.

Color

Green.

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Heat of combustion	Not available.
Boiling point / Range	171 to 175°C (339.8 to 347°F)
Melting point / Range	-18°C (-0.4°F)
Specific gravity	1.12
Vapor pressure	<0.013 kPa (<0.1 mm Hg)
Vapor Density (Air = 1)	2.1
Volatility	97% (v/v)
Solubility	Easily soluble in cold water.

10. Stability and reactivity

Stability and reactivity	The product is stable.
Conditions to avoid	Keep away from heat, sparks and flame.
Incompatibility with various substances	Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	carbon oxides (CO, CO ₂) (carbon monoxide, carbon dioxide)
Hazardous polymerization	Will not occur.

11. Toxicological information

Acute toxicity Harmful or fatal if swallowed.
 Ethylene glycol: Ingestion of ethylene glycol can cause metabolic acidosis, kidney damage, central nervous system depression, convulsions and death. The estimated human lethal dose is approximately 1 ml/kg (about 1/2 cup for an adult). Vapor from hot operations or an aerosol can cause eye and respiratory irritation. Birth defects were reported in laboratory animals fed ethylene glycol repeatedly in large amounts. Based on these studies, there may be a potential for birth defects following ingestion of ethylene glycol by pregnant women.

Product/ingredient name	Result	Species	Dose	Exposure
Diethylene glycol	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12565 mg/kg	-
	LD50 Oral	Rabbit	4400 mg/kg	-

Conclusion/Summary Not available.

Chronic toxicity

Carcinogenic effects No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

Mutagenic effects No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.

Reproductive effects No component of this product at levels greater than or equal to 0.1% is classified by established regulatory criteria as a reproductive toxin.

Teratogenic effects See toxicological Information (section 11).

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12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability Readily biodegradable

Mobility Spillages may penetrate the soil causing ground water contamination.

Soil/water partition coefficient (K_{oc}) This product is not likely to partition to organic material in the environment because its Log (K_{ow}) is: -1.30

Bioaccumulative potential This product shows a low bioaccumulation potential.

Other ecological information Miscible in water. Spills on water will disperse throughout the water phase. Unlikely to be harmful to aquatic organisms unless glycol concentration is high.

13. Disposal considerations

Waste information Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of in accordance with all applicable local and national regulations.

Consult your local or regional authorities.

14. Transport information

Nonbulk Shipping Information

D O T Nonbulk Shipping Information	Not regulated. (Quantities <5000 lbs. (2268 kg))
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15. Regulatory information

U.S. Federal regulations **United States inventory (TSCA 8b):** All components are listed or exempted.

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Castrol Automotive Antifreeze: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Ethylene glycol; ethanediol	107-21-1	90 - 94.99
Supplier notification	Ethylene glycol; ethanediol	107-21-1	90 - 94.99

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: Ethylene glycol; ethanediol: 5000 lbs. (2268 kg);

State regulations

Massachusetts Substances

Massachusetts RTK: The following components are listed: ETHYLENE GLYCOL

New Jersey Hazardous Substances

New Jersey Hazardous Substances: The following components are listed: ETHYLENE GLYCOL

Pennsylvania RTK Hazardous Substances

Pennsylvania RTK: The following components are listed: 1,2-ETHANEDIOL;ETHANOL, 2,2'-OXYBIS-

California Prop 65: No products were found

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Inventories

Canada inventory: All components are listed or exempted.

Europe inventory: All components are listed or exempted.

Australian Inventory Status: All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory (ENCS): At least one component is not listed.

Korea inventory (KECI): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

16. Other information

Label requirements

DANGER!

HARMFUL IF SWALLOWED.
INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS, AND NAUSEA, AND MAY LEAD TO UNCONSCIOUSNESS.
CAUSES EYE IRRITATION.
CAUSES SKIN IRRITATION.

HMIS® Rating :

Health * 2
Flammability 1
Physical Hazard 0
Personal protection X

National Fire Protection Association (U.S.A.)



History

Date of issue

03/20/2007.

Date of previous issue

No Previous Validation.

Prepared by

Product Stewardship

Notice to reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

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