



Material Safety Data Sheet

SECTION 1 IDENTIFICATION

Product Name: SPECTRO™ YEAR-ROUND COOLANT

Manufacturer:
Intercontinental Lubricants Corp./
Spectro Oils of America
993 Federal Road
Brookfield, CT 06804
(203) 775-1291 Fax: (203) 775-8720

MSDS Date of Preparation: 9/9/98

SECTION 2 PRODUCT COMPONENTS

INGREDIENTS	CAS#.	WT.%	EXPOSURE LIMITS
Ethylene Glycol (aerosol)	107-21-1	40-60	None Established-OSHA 100 mg/m3 Ceiling ACGIH
Propylene Glycol	57-55-6	1-5	None Established
Diethylene Glycol	111-46-6	1-5	None Established
Inhibitor Package and Water Mixture		40-60	None Established

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This product is a blue-green or fluorescent green with a sweet, characteristic odor. Slight fire hazard (Flash Point 250°F). Eye and upper respiratory irritant. May cause nausea, vomiting, headache, drowsiness, blurred vision, convulsions, coma or death if ingested or inhaled. Prolonged or repeated skin contact may cause dermatitis or skin sensitization.

HEALTH HAZARDS:

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations may produce nausea, vomiting, headache, dizziness and irregular eye movements.

SKIN CONTACT: No significant irritation is expected.

EYE CONTACT: Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.

INGESTION: May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.

CHRONIC EFFECTS OF OVEREXPOSURE: Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined. See section 11 for additional information.

SECTION 3: HAZARDS IDENTIFICATION (continued)

CARCINOGENICITY: None of the components of this product are listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with chronic kidney diseases may be at increased risk from exposure to this material.

SECTION 4 EMERGENCY and FIRST AID PROCEDURES

EYE CONTACT: Immediately flush eye with water for at least 15 minutes while lifting the upper and lower lids. Get medical attention.

SKIN CONTACT: Wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse. Get medical attention if irritation develops.

INHALATION: Remove victim to fresh air if ill effects occur and get medical attention.

INGESTION: Do not induce vomiting. Get immediate medical attention by calling a Poison Control Center or hospital emergency department.

NOTE TO PHYSICIAN: The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Hemodialysis may be required. 4-Methylpyrazole, a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

SECTION 5 FIRE and EXPLOSION HAZARD DATA

FLASH POINT: 250°F/121°C

METHOD: COC

FLAMMABLE LIMITS: (vol % in air) LEL: 3.2% UEL: 15.3%

AUTOIGNITION TEMPERATURE: Not established

EXTINGUISHING MEDIA: Water fog, alcohol foam, carbon dioxide, dry chemical.

SPECIAL FIREFIGHTING PROCEDURES: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus. Cool exposed intact containers with water. Do not use a direct stream of water.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heated vapors may form explosive mixtures with air.

SECTION 6 ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate protective equipment. Dike spill and collect into closable containers for disposal with an inert absorbent. Prevent entry in storm sewers and waterways.

SECTION 7 HANDLING and STORAGE

Avoid eye and prolonged/repeated skin contact. Do not drink antifreeze or solutions. Wash thoroughly after handling. Do not eat, drink or smoke while using this product. Use only with adequate ventilation. Keep away from excessive heat or open flames. Remove contaminated clothing and launder before re-use. Discard contaminated shoes and other items that cannot be laundered.

Protect containers from physical damage. Store in a cool, well ventilated area .
Empty containers retain product residues. Do not cut, weld, braze, etc. on or near empty containers. Follow all MSDS precautions in handling empty containers.

SECTION 8 EXPOSURE CONTROLS and PERSONAL PROTECTION

RESPIRATORY PROTECTION: None needed under normal use conditions with adequate ventilation. If the TLV is exceeded use a NIOSH approved respirator with organic vapor cartridges and a particulate pre-filter (R or P series). For higher concentrations (greater than 10 times the TLV) a NIOSH approved supplied air respirator (with escape bottle if required) or self-contained breathing apparatus may be required. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 1910.134 and good Industrial Hygiene practice.

VENTILATION: Good general room ventilation (equivalent to outdoors) should be adequate under normal conditions. If the recommended exposure limit is exceeded increased mechanical ventilation such as local exhaust may be required.

GLOVES: Chemical resistant gloves such as neoprene or PVC are recommended where prolonged or repeated skin contact is likely.

EYE PROTECTION: Safety glasses or goggles recommended.

OTHER PROTECTIVE EQUIPMENT: Impervious apron, boots and other clothing are recommended if needed to avoid prolonged/repeated skin contact. Suitable washing facilities should be available.

SECTION 9 PHYSICAL and CHEMICAL PROPERTIES

BOILING POINT (@ 760 mmHg): 240°F	MELTING POINT: Not determined
SPECIFIC GRAVITY (H₂O=1): 1.12	VOLATILE: Negligible
VAPOR PRESSURE (@ 20 C mm Hg): <0.01 mm Hg	(VAPOR DENSITY (AIR=1): 2.1
EVAPORATION RATE : Not determined	COEFFICIENT OF WATER/OIL: Not available
APPEARANCE AND ODOR: Blue-green or fluorescent green liquid, sweet, characteristic odor.	

SECTION 10 STABILITY and REACTIVITY

STABILITY: This material is stable.

CONDITIONS TO AVOID: Avoid excessive heat.

INCOMPATIBILITY: Normally unreactive, however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents, and materials reactive with hydroxyl compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY VALUES: Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg
LD50 Skin Rabbit: 9530 mg/kg
Propylene Glycol: LD50 Oral Rat: 20 gm/kg
LD50 Skin Rabbit: 20.8 gm/kg

SECTION 11 TOXICOLOGICAL INFORMATION (continued)

Diethylene Glycol: LD50 Oral Rat: 12,565 mg/kg

LD50 Skin Rabbit: 11,890 mg/kg

None of the components is listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA.

None of the components have been found to be mutagenic.

None of the components are known to cause sensitization in animals or humans.

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m³ for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans.

SECTION 12: ECOLOGICAL INFORMATION

Ethylene Glycol: LC50 Goldfish: 5,000 mg/L/24 hr. at 20 C static conditions.

Toxicity threshold (cell multiplication inhibition test): Bacterial (*Pseudomonas putida*): 10,000 mg/l, Protozoa (*Entosiphon sulcatum* and *Uronema parduczi* Chatton-Lwoff): >10,000 mg/l, Algae (*Microcystis aeruginosa*): 2,000 mg/l, Green algae (*Scenedesmus quadricauda*): >10,000 mg/l

SECTION 13: DISPOSAL INFORMATION

WASTE DISPOSAL METHOD: Dispose in accordance with all local, state and federal regulations.

SECTION 14: TRANSPORTATION INFORMATION

DOT SHIPPING DESCRIPTION : Not Regulated

DOT HAZARD CLASSIFICATION: None

DOT LABELS REQUIRED (49CFR172.101): None

UN NUMBER: None

SECTION 15: REGULATORY INFORMATION

OSHA HAZARD CLASSIFICATION: Irritant, toxic, target organ effects

EPA SARA 302: This product does not contain chemicals regulated under SARA Section 302.

EPA SARA 311 HAZARD CLASSIFICATION: Acute health, chronic health

EPA SARA 313: This product contains the following chemicals that are regulated under SARA Title III, section 313:
None

WHMIS CLASSIFICATION: Class D-2, Subdivision B (Toxic material causing other chronic effects)

EU CLASSIFICATION: Harmful (Xn)

EU RISK AND SAFETY PHRASES: R22

TOXIC SUBSTANCES CONTROL ACT: All of the components of this product are listed on the TSCA inventory.

CALIFORNIA PROPOSITION 65: This product is not known to contain any chemicals which are known to the State of California to cause cancer or reproductive harm.

SECTION 15: REGULATORY INFORMATION (continued)

Canada: All of the components of this product are listed on the Canadian Domestic Substances List (DSL).

SECTION 16: OTHER INFORMATION

NFPA Rating: Health: 1 Fire: 1 Reactivity: 0