MATERIAL SAFETY DATA SHEET

Section I – Chemical Product and Company Information

Product Name: **Hartland Global Automotive Antifreeze Concentrate**
Revision Date: 08.29.2013
Product Use: Antifreeze Concentrate

Distributor: **Hartland Lubricants & Chemicals** .
Address: **914 Commercial Court**
Onalaska, WI 54650
Telephone: **(800) 658-9051**

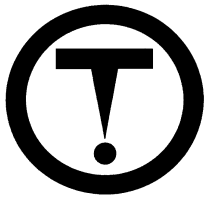
PERS 24-Hour Emergency Telephone Number: 800-633-8253

Section II – Hazardous Ingredients/Identity Information

Hazardous Components	CAS Number	%	PEL (OSHA)	TLV (ACGIH)
Ethylene Glycol*	107-21-1	70-100%	125 mg/m^3	100 mg/m^3
Diethylene Glycol**	111-46-6	0-5%	N/D	N/D

* Ethylene glycol is on the WHMIS Ingredient Disclosure List (IDSL)

** Diethylene glycol Workplace Exposure Level Environmental (WEEL) is 50 ppm total and 10 mg/m^3 aerosol only as set by the American Industrial Hygiene Association (AIHA)



WHMIS Class: Class D, Division 1, Subdivision B: Toxic Material – Acute Lethality

Class D, Division 2, Subdivision A: Very Toxic Material –
Teratogenicity and Embryotoxicity

EMERGENCY OVERVIEW: Product is very HARMFUL or FATAL if swallowed

Section III - Physical/Chemical Characteristics

Boiling Point: 227^{o}F (108^{o}C)
Specific Gravity: 1.112 @ 60^{o}F (15.5^{o}C)
Vapor Pressure @ 20^{o}C: < 0.1 mm mercury
Vapor Density: (Air =1) 2.1 (Typical)
Solubility in Water: Soluble
Appearance and Odor: Yellow liquid, mild odor
Freezing Point: -34^{o}F (-37^{o}C) @ 50% with water
pH: 10.0 – 11.0

Section IV - Fire & Explosion Data

Flash Point: 248^{o}F (120^{o}C)
Method Used: PMCC
Flammable Limits in air % by volume: Lower: 3.2
Auto-Ignition Temp;
UEL: N/A
LEL: N/A

Extinguisher Media: Carbon dioxide, dry chemical, or alcohol resistant foam

Special Firefighting Procedures: Use carbon dioxide, dry chemical alcohol resistant foam. Do not use a direct stream of water.

Unusual Fire and Explosion Hazards: Remove all individuals from area who are not properly trained in fire fighting. Material is not a flammable or combustible liquid. Material will not burn unless preheated. When in confined spaces, only enter fire space with full bunker gear (including self contained breathing apparatus) when fighting a fire involving this product. Cool surrounding equipment, fire-exposed containers and structures with water. Container areas exposed to direct flame contact should be cooled with large quantities of water (500 gallons water per minute flame impingement exposure) to prevent weakening of container structure. Keep away from extreme heat and open flame.

National Fire Protection Association (NFPA): Health: 2 Flammability: 1 Reactivity: 0
Other n/a

Hazardous Materials Identification System (HMIS): Health: 2 Flammability: 1
Reactivity: 0

Section V - Physical Hazards (Reactivity Data)

Stability: Stable

Conditions to Avoid: Contact with heat, sparks, flame and all sources of ignition.

Incompatibility: Strong acids and oxidizing agents.

Hazardous Decomposition Products: Oxides of boron, carbon, nitrogen and silicon. Ketones and Aldehydes may form at elevated temperatures.

Hazardous Polymerization: Will not occur

Section VI - Health Hazards

Signs and Symptoms of Exposure

Eyes: Will cause eye irritation. Vapors may be irritating and symptoms may include pain, tearing, reddening, swelling and impaired vision.

Skin Absorption: No acute effects known.

Skin Contact: May cause slight skin irritation.

Inhalation: Mist or vapors may irritate nose, throat and lungs. Symptoms of irritation may include coughing and difficult breathing. Breathing this material at concentrations above the recommended exposure limits for diethylene glycol and ethylene glycol may cause central nervous system effects. These effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

Ingestion: This material is toxic when ingested. May be very harmful or fatal if swallowed. Ingestion may result in vomiting; aspiration (breathing) of vomit into lungs must be avoided as even small quantities may result in aspiration pneumonitis. Contains ethylene glycol and diethylene glycol which are toxic when swallowed.

Chronic Effects: Can cause kidney damage based on repeated exposure. Contains material that may be harmful to the developing fetus based on animal data.

Emergency and First Aid Procedures

Eyes: Flush with large amounts of cold water for at least 15 minutes. Do not let victim rub eyes. If irritation develops, contact a physician immediately.

Skin: Wash affected area with soap and water. Do not reuse clothing soaked with this product until laundered. Discard all leather articles which have been soaked with this product. If irritation develops, contact a physician immediately.

Inhalation: If inhaled, move to fresh air. If victim has stopped breathing give artificial respiration, preferably, mouth to mouth. Contact a physician immediately.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below the hips to prevent aspiration of material into the lungs. Contact a physician immediately.

Oral LD 50: N/D

Note to Physician: Ethylene glycol (EG) and diethylene glycol (DEG) intoxication may cause significant renal, respiratory and central nervous system toxicity. May cause significant acidosis. Consider: Gastric lavage with protected airway, administration of alcohol dehydrogenase inhibitors such as alcohol. Contact a Poison Control Center or toxicologist for guidance.

Section VII - Special Precautions/ Spill & Leak Procedures

Handling: Avoid breathing this material and getting it in contact with your skin and eyes. ash hands after handling and before eating. Avoid container damage while handling. Keep out of the reach of children and animals.

Storage: Store in closed, labeled containers in a cool, dry well ventilated area. Maintain closure of bungs. Keep this product away from open flames, sources of heat and ignition sources. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking. Keep face clear of tank or tank car openings. Store at temperatures below 60^{o}C (140^{o}F). Do not reuse container. Avoid container damage while storing.

Spill & Leak Response: Eliminate all sources of ignition in vicinity of spilled material. Do not allow spilled material to enter sewers or streams. Add dry material (such as diatomaceous earth, dry clay or sand) to absorb (if large spill, dike to contain). Using recommended protective equipment, pick up bulk of spill and containerize for recovery or disposal. Flush area with water to remove residues.

Waste Disposal: All recovered material should be packaged, labeled, transported and disposed or reclaimed in conformance with Good Engineering Practices. Comply with all applicable governmental regulations. Avoid land filling of liquids. Reclaim where possible.

Reporting: U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity to the U.S. Coast Guard's National Response Center at 1-800-424-8802.

Section VIII - Special Protection Information

Respiratory Protection: If mists are generated, observe the TLV exposure limit of 100 mg/m^3. If workplace exposure limit is exceeded, use NIOSH approved respirator (either a disposable dust/mist mask breathing apparatus or supplied-air respirator depending upon conditions) for entry into confined space in the absence of proper environmental control.

Protective Gloves: Wear neoprene rubber gloves.

Eye Protection: Chemical goggles or a full face shield. Do not wear contact lenses.

Other Protective Wear: Wear impervious, protective clothing including rubber safety shoes to avoid prolonged or repeated skin contact.

Work Practices: Read label for instructions in use of product.

Section IX - Other Hazard Information

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty breathing and decreased urine output. When EG was heated above the boiling point of water, vapors are formed which reportedly caused unconsciousness, increased lymphocyte count and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

Carcinogenicity:

NTP: No
IARC: No
ACGIH: No

Section X - Transport Information

US Department of Transportation Classification:
Proper Shipping Name: Other Regulated Substance, Liquid N.O.S.
Technical Name(s): Contains Ethylene Glycol
Hazard Class/Division: 9 (Miscellaneous)
Identification Number: NA3082
Packing Group: III
Reportable Quantity: 5000 lbs. (2270 kg)
Emergency Response Guide: 171

Canadian TDG Classification: This product is not regulated under the Canadian Transportation of Dangerous Goods Regulations for transport by road and rail

Section XI - Additional Regulatory Information

OSHA (Occupational Safety, and Health Administration)
29 CFR 1910.1200 Hazardous Chemical: yes

SARA (Superfund Amendment and Reauthorization Act)

Section 311: Hazardous Chemical - yes
Immediate - yes
Delayed - yes
Fire - no
Sudden Release - no
Reactive - no

Section 313: Toxic Chemical
Ethylene glycol: CAS # 107-21-1: 70-100%

CERCLA Reportable Quantities (RQ) SARA 302 Threshold Planning Quantities (TPQ)
Ethylene Glycol: Component RQ: 5,000 lbs

TSCA (Toxic Substance Control Act)
All of the ingredients in this product are listed on the TSCA Inventory.

DSL (Domestic Substances List)
All of the ingredients in this product are listed on the Canadian DSL.

California Proposition 65
This product contains no listed substances known to the State of California to cause cancer, birth defects, or other reproductive harm, at levels which would require a warning under the statute.

Disclaimer: Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable and is accurate and reliable to the best of our knowledge. Nothing herein is to be construed as recommending any practice or the use of any product in violation of any patent or in violation of any law or regulation. It is the users' responsibility to determine the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.