MATERIAL SAFETY DATA SHEET

Delphi 151 Heat Transfer Fluid as used in Liquid Cooling System (LCS)

SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION

Material Identification

PRODUCT NAME: Delphi 151 Heat Transfer Fluid as used in Liquid Cooling System (LCS)
PART NUMBER: 52407269
CHEMICAL FAMILY: Mixture
QUANTITY: Not to exceed 6 fl. ounces

Company Identification

MANUFACTURER:
Delphi Harrison Thermal
200 Upper Mountain Rd
Bldg 6
Lockport, NY 14094

TELEPHONE NUMBERS:
Product Information: 716.439.3098
Transport Emergency: INFOTRAC 800.535.5053
Medical Emergency: INFOTRAC 800.535.5053

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	CAS Number	Wt. %	OSHA PEL (TWA)	ACGIH TLV (TWA)	EU Classification
PROPYLENE GLYCOL	57-55-6	< 2.0%	NE	NE	NE
DI WATER	7732-18-5	> 45%	NE	NE	NE

NE = Not Established

See Section 16 for Definitions of Terms Used.

NOTE (1): Small quantities of Delphi 151 Heat Transfer Fluid, as used in LCS, are fully enclosed in sealed housing and are not accessible unless the unit is damaged or altered.
NOTE (2): ALL WHMIS required information is included in appropriate sections based on the ANSI Z400.1-1993 format.
NOTE (3): Information on this product is being claimed as proprietary. All pertinent hazard information has been provided, per the Trade Secret requirements of U.S. Federal Occupational Safety and Health Administration Standards (29 CFR 1910.1200) and Canadian WHMIS (CPR 12 and 19). Information on this mixture will be released when the conditions specified in these Standards are met.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical Appearance:

Odorless, light green liquid

Immediate Concerns:

Health effects from this product are not anticipated to occur from normal use in the LCS unit. The primary health hazard associated with direct contact to the small amount of fluid inside the sealed unit is the potential for irritation of skin and eyes. This product is not flammable or reactive under typical emergency response conditions.

Acute Health Effects

Eye: Although not an anticipated route of exposure under normal conditions of use, contact of the liquid in the sealed unit with the eyes will cause irritation and possibly burning, which is generally alleviated when the product is rinsed from the eyes.

Skin: Although not an anticipated route of exposure under normal conditions of use, direct contact with liquid may cause local redness or irritation of the skin following prolonged exposure. This condition is generally alleviated by washing skin with soap and water.

Ingestion: Ingestion of this product, while not likely to occur under normal conditions of use, may cause irritation of the mouth and throat, gastric disturbances, upset stomach, cramps, nausea and vomiting.

Inhalation: Inhalation of the mists or vapors of this product are not expected to be significant routes of exposure for this product as contained within this LCS system under normal conditions of use.

Chronic Health Effects

Prolonged or repeated skin exposures to large quantities of the fluid within the sealed unit can lead to dermatitis (dry, chapped skin). Refer to Section 11 (Toxicological Information) for additional information.

Carcinogenicity

The components present in this material at concentrations equal to or greater than 0.1% are not listed as carcinogens by IARC, NTP, OSHA or ACGIH.

Medical Conditions Aggravated by Exposure:

Pre-existing skin conditions may be aggravated by exposure to the fluid contained in the sealed unit.

SECTION 4: FIRST AID MEASURES

Inhalation

Although not an anticipated route of exposure, if vapors or mists are inhaled, remove the victim to fresh air. If symptoms persist, seek medical attention.

Skin Contact

Although not an anticipated route of exposure, if the fluid contacts the skin, flush skin with plenty of soap and water. Take care not to contaminate eyes. Get medical attention if irritation or redness develops.

Eye Contact

Although not an anticipated route of exposure, if the product enters the eyes, open victim's eyes under gentle running water. Have victim "roll" eyes. Flush eyes for at least 15 minutes. Seek immediate medical attention.

Ingestion

Although not an anticipated route of exposure, if the product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER. If professional advice is not available, do not induce vomiting. Patient should drink milk, egg whites, or large quantities of water.

Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who is unable to swallow. Get immediate medical attention. Take copy of the MSDS to physician or health professional with victim.

SECTION 5: FIRE FIGHTING MEASURES

Flammable properties

Delphi 151 fluid, as contained in the LCS, is not flammable. However, residues remaining after evaporation of liquid residues may be combustible.

FLASH POINT: Not applicable
AUTOIGNITION TEMPERATURE: Not applicable

FLAMMABLE LIMITS:
LEL: Not applicable
UEL: Not applicable

HAZARDOUS COMBUSTION PRODUCTS: May include, but not be limited to, carbon dioxide, carbon monoxide, and potassium compounds. Under fire conditions partial combustion and decomposition can produce smoke and gases containing unidentified toxic and/or irritating compounds.

Extinguishing Media

Water, foam, dry chemical, carbon dioxide

Fire Fighting Instructions

In case of fire, Delphi 151 fluid as used in individual LCS should not require special fire fighting procedures.
Larger quantities of Delphi 151 fluid as typically seen in industrial or warehouse environments would require the following procedures in the event of a fire: Emergency responders should wear eye protection, self-contained breathing apparatus and full protective equipment. Prevent run-off water from fires involving large amounts of the fluid from entering storm drains, bodies of water, or other environmental areas. Decontaminate fire-response equipment with soap and water solution if necessary. Evacuate personnel to a safe area. Keep personnel away and upwind of the fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill and Leak Response

Small Spill

Cover with absorbent material (floor absorbent, vermiculite, etc,). Soak up spill and place material in properly labeled container for disposal.

Large Spill

Not likely for this product as contained within this LCS system under normal conditions of use.

SECTION 7: HANDLING AND STORAGE

Handling

Take care not to damage/alter the sealed housing that contains the heat transfer fluid. If contact occurs with the liquid, wash thoroughly with soap and water. Do not eat, drink, smoke or apply cosmetics while handling this material.

Storage

Inspect all incoming LCS units before storage, to ensure they are not damaged.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

No special protection needed when used as intended.

Personal Protective Equipment

EYE/FACE PROTECTION: No special protection needed when used as intended.

RESPIRATORY PROTECTION: None needed for normal circumstances of use (handling of sealed units containing the material).

PROTECTIVE CLOTHING: No special protection needed for normal circumstances of use (handling of sealed units containing the material). If the housing unit is damaged, wear rubber or neoprene gloves to prevent skin contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Note: The following data apply to the Delphi 151 fluid within the sealed LCS Unit.

BOILING POINT:	>100ºC (>212ºF)
VAPOR DENSITY (AIR=1):	Not available
VAPOR PRESSURE @ 20ºC:	23 mbar
SPECIFIC GRAVITY (water = 1):	1.25
EVAPORATION RATE (n-BuAc=1):	Similar to water.
SOLUBILITY IN WATER:	Soluble
pH:	7.4 –7.6
FREEZING/MELTING POINT:	<-30ºC (<-22ºF)
ODOR THRESHOLD:	Not available
PHYSICAL STATE:	Liquid
COLOR:	light green liquid
ANALYTICAL VOC:	Not available
THEORETICAL VOC:	Not available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Conditions to Avoid

Avoid exposing the Delphi 151 fluid to extremely high temperatures (>350 C)

Incompatibility with Other Materials

Strong Oxidizers

Decomposition

Decomposes with extreme heat (>350 C), possibly releasing hazardous gases or vapors, potentially including carbon monoxide, carbon dioxide, potassium compounds, and other compounds of unknown composition.

Hazardous Polymerization

Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

General Toxicity Information

Testing of materials similar in composition to the Delphi 151 indicates that this material should be considered non-toxic based on recommendations of the Hazardous Substances Labeling Act.

Testing of similar substances indicate that Delphi 151 is not expected to be acutely toxic.

Reproductive Toxicity Information

Listed below is information concerning the effects of this product and its components on the human reproductive system.

Mutagenicity: This product is not reported to produce mutagenic effects in humans.
Embryotoxicity: This product is not reported to produce embryotoxic effects in humans.
Teratogenicity: This product is not reported to cause teratogenic effects in humans.
Reproductive Toxicity: This product is not reported to cause reproductive effects in humans.

Carcinogenicity

The components present in this material at concentrations equal to or greater than 0.1% are not listed as a carcinogen by IARC, NTP, OSHA or ACGIH.

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate & Ecotoxicity Data

No data available for this product. Based on the manner of use, this product is not expected to be acutely toxic to aquatic organisms, waste treatment microorganisms, and the germination and early growth of plants.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal

Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority.

SECTION 14: TRANSPORT INFORMATION

Shipping Information

This material is not hazardous as defined by 49 CFR 172.101 by the U.S. Department of Transportation.

Proper Shipping Name:	Not applicable.
Hazard Class Number and Description	Not applicable.
UN Identification Number	Not applicable.
Packing Group	Not applicable.
DOT Label(s) Required	Not applicable.

Canada Transportation of Dangerous Goods Regulation: This material is not considered dangerous goods.

Mexico Transportation Regulation:

Instituto Nacienal de Ecologia (INE#):	Not applicable
CRETIB Code:	Not applicable

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

A: General Product Information

No additional information available.

B: Component Analysis

The components of this product are not subject to the reporting requirements of SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

C: Component Marine Pollutants

No component of this product is listed as a Marine Pollutant (49 CFR 172.101, Appendix B).

D: Hazardous Air Pollutants

The components of this material are not considered hazardous air pollutants under the US Clean Air Act.

State Regulations

A: General Product Information

Other state regulations may apply. Check individual state requirements.

B: Component Analysis - WHMIS IDL

No components of this material are identified under the Canadian Hazardous Products Act Ingredient Disclosure List (IDL).

Labeling according to EEC Directive

A: Contains

Propylene Glycol

B: Symbols

None

C: R-phrases

R36/R38: Irritating to eyes, irritating to skin

D: S-phrases

S13:	Keep away from food, drink, and animal feedstuffs
S15:	Keep away from heat
S24/S25:	Avoid contact with skin, avoid contact with eyes
S26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S37:	Wear suitable gloves
S39:	Wear eye/face protection

E: Ozone Depleting Chemicals

No ozone depleting chemicals are present or used in manufacture.

Additional Regulatory Information

A: General Product Information

Components of this product have been checked against the non-confidential TSCA inventory by CAS Registry Number.

B: Component Analysis – Inventory

All components of this product are listed or exempt from the following chemical inventories: TSCA, DSL, EINECS, ECL, ENCS, and AICS.

SECTION 16: OTHER INFORMATION

NFPA Hazard Ratings

Health:	1
Flammability	0
Instability	0

The information and recommendations set forth herein are taken from sources believed to be accurate as of the date of preparation; however, Delphi Corporation makes no warranty with respect to the accuracy or suitability of the recommendations, and assumes no liability to any use thereof.

Date of Preparation: 12/05/2003
Revision: 07/28/2004

Key/Legend
ppm = parts per million; mg/m^3 = milligrams per cubic meter of air; mppcf = million of particles per cubic foot of air; f/cc = fibers per cubic centimeter of air; OSHA = Occupational Safety and Health Administration; ACGIH = American Conference of Governmental Industrial Hygienists; TLV = Threshold Limit Value; TWA = 8-hour, time-weighted average; STEL = short-term exposure limit; EPA = Environmental Protection Agency; TSCA = Toxic Substances Control Act; DSL = Canada Domestic Substances List; EINECS = European Inventory of Existing Commercial Chemical Substances; ECL = Korea Existing and Evaluated Chemical Substances Inventory; ENCS = Japan Existing and New Chemical Substances Inventory; PICCS = Philippines Inventory of Chemicals and Chemical Substances; AICS = Australia Inventory of Chemical Substances; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; PMN = Premanufacture Notification; DSL = Domestic Substances List; NFPA = National Fire Protection Association; WHMIS = Workplace Hazardous Materials Identification System; HEPA = High Efficiency Particulate Air; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act; NJTSR = New Jersey Trade Secret Registry; EPCRA= Emergency Planning and Community Right-to-Know Act (SARA, Title III); 302 = Extremely Hazardous Substance; HAP = Clean Air Act Hazardous Air Pollutant; TPQ = Threshold Planning Quantity; RQ = Reportable Quantity; NA = Not Available; NR = Not Regulated

END OF DATA SHEET
FSG-ETS File MS159