

# MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI and Canadian WHMIS Standards

## PART I

What is the material and what do I need to know in an emergency?

### 1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED): **GLYKOOL INHIBITOR L2™**

CHEMICAL NAME/CLASS: Heat Transfer Fluids  
SYNONYMS: Phosphate Based Inhibitor for Glycol

DISTRIBUTOR'S NAME: **Loikits Industrial Services, Inc.**  
ADDRESS: 5250 West Coplay Road  
Whitehall, PA 18052

EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)  
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DATE OF PREPARATION: March 20, 2007

### 2. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	% v/v	EXPOSURE LIMITS IN AIR					
			ACGIH		OSHA			
			TLV	STEL	PEL	STEL	IDLH	OTHER
			mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
Proprietary Phosphate Solids			NE	NE	NE	NE	NE	NE
Water			None of the ingredients has established exposure limits. All pertinent hazard information has been provided in this MSDS, per the requirements of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200) and State Equivalent Standards.					




NE = Not Established

NOTE: All WHMIS required information is included. It is located in appropriate sections based on the ANSI Z400.1-1993 format.

### 3. HAZARD IDENTIFICATION

**EMERGENCY OVERVIEW:** This product is not considered hazardous by known governmental definitions. However, continuous contact may cause skin irritation.

**HEALTH EFFECTS OR RISKS FROM EXPOSURE:** Minimally to moderately irritation to unwashed eyes and minimally to mildly irritating to washed in eyes rabbits. Skin irritation from continuous contact has been reported during manufacturing when protective measures for contact or personal hygiene procedures are not followed. Human industrial experience has shown no significant inhalation hazard or skin irritation when exposures are properly controlled. Exposure monitoring indicates that the amount of respirable dust in the product is low. There have been no medical conditions reported as being aggravated by exposure.

HAZARDOUS MATERIAL INFORMATION SYSTEM			
HEALTH		(BLUE)	0
FLAMMABILITY		(RED)	0
REACTIVITY		yellow	0
PROTECTIVE EQUIPMENT			
EYES	RESPIRATORY	HANDS	BODY
	SEE SECTION 8		
For routine industrial applications			

## PART II

*What should I do if a hazardous situation occurs?*

### 4. FIRST-AID MEASURES

**SKIN EXPOSURE:** If this product contaminates the skin, immediately begin decontamination with running water. The minimum recommended flushing time is 15 minutes.

**EYE EXPOSURE:** Flush eyes with large amounts of water. If irritation occurs and persists, obtain medical.

**INHALATION:** Remove from exposure.

**INGESTION:** Rinse mouth and dilute stomach contents with water, or preferably with milk if available.

**NOTES TO PHYSICIAN:** Large doses can cause nausea, vomiting and diarrhea. Systemic oral toxicity is extremely rare and has consisted of acidosis and hypocalcemic tetany.

### 5. FIRE-FIGHTING MEASURES

**FIRE EXTINGUISHING MATERIALS:**

Water Spray: YES (cooling only)

Carbon Dioxide: YES

Foam: YES

Dry Chemical: YES

Other: Any "ABC" Class

Halon: YES

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: Not sensitive.

SPECIAL FIRE-FIGHTING PROCEDURES: Not applicable.

DEGREE OF FIRE AND EXPLOSION HAZARD: None.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

**NFPA RATING:**

**HEALTH: 0**

**FLAMMABILITY: 0**

**REACTIVITY: 0**

**SPECIAL HAZARD: 0**

Degree of Hazard: 0= No Hazard

4= Severe Hazard

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## 6. ACCIDENTAL RELEASE MEASURES

PROCEDURE FOR RELEASE OR SPILL: Material should be swept up for salvage or disposal.

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### PART III

*How can I prevent hazardous situations from occurring?*

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## 7. HANDLING and STORAGE

HANDLING: Animal studies and manufacturing experience indicate that exposure to the product may result in eye and skin irritation under normal conditions of use. In the event of contact, immediately flush eyes with water wash off skin.

VENTILATION: Control measures such, as local exhaust ventilation may be required where excessive airborne dust loading may be present.

STORAGE: The product should be stored in a clean dry area to maintain product quality and to prevent possible contamination by other chemicals.

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## 8. EXPOSURE CONTROLS - PERSONAL PROTECTION

CONTROL MEASURES: Prevention on eye and skin contact may be required under normal use conditions. However, severe agitation or dispersion into work environment may require enclosure of the process and local exhaust ventilation at the source to prevent release into air. If work environment controls are not implemented, then personal protection for inhalation, skin and eye may be required.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY: Use approved dust respiratory protection if release of the product into the work area is expected.

EYE PROTECTION: Wear chemical goggles, when airborne dust is expected.

HAND PROTECTION: Use impervious gloves when continuous contact is expected.

BODY PROTECTION: Use long sleeve work shirt to reduce exposed skin area.

FOOTWEAR: No special requirements.

PERSONAL PROTECTIVE EQUIPMENT LEVEL: D

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## 9. PHYSICAL and CHEMICAL PROPERTIES

VAPOR DENSITY (air = 1): Not Available

VAPOR PRESSURE: Not Available

CRYSTALLIZATION POINT: ~ + 5° F

BOILING POINT: Above 212° F

SPECIFIC GRAVITY (WATER =1): 1.3 @ 25°C

% VOLATILES: 50-70%(Water)

EVAPORATION RATE (BUTYL ACETATE =1): Not Available.

ODOR THRESHOLD: Not Applicable.

ROOM TEMPERATURE APPEARANCE AND STATE: Colorless & slightly cloudy. White granules will appear in the absence of water or other liquid diluents.

pH: 9.3 to 9.6

DENSITY: 10.7 lbs./gal.

PARTITION COEFFICIENT N-OCTANOL/WATER: Not available.

FLASH POINT: Non Combustible.

AUTOIGNITION TEMPERATURE: Non Combustible.

SOLUBILITY: Not Available.

EXPLOSIVE PROPERTIES: None

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## 10. STABILITY and REACTIVITY

STABILITY: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

MAJOR CONTAMINANTS THAT CONTRIBUTES TO INSTABILITY: None.

INCOMPATIBILITY: None.

HAZARDOUS DECOMPOSITION PRODUCTS: None

CONDITIONS TO AVOID: None.

MATERIALS TO AVOID: None.

SENSITIVITY TO MECH IMPACT: None.

SENSITIVITY TO STATIC DISCHARGE: None.

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## PART IV

*is there any other useful information about this material?*

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## 11. TOXICOLOGICAL INFORMATION

TOXICITY DATA: Additional toxicology information for components greater listed in Section 2 (Composition and Information on Ingredients) in concentration is provided below.

SUSPECTED CANCER AGENT: The ingredients of this product are not listed on the following lists: FEDERAL OSHA Z LIST, NTP, IARC or CAL/OSHA, and therefore are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

IRRITANCY OF PRODUCT: This product may cause irritation to contaminated tissues.

SENSITIZATION TO THE PRODUCT: The components of this product are not known to cause sensitization after prolonged or repeated exposures.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and their components on the human reproductive system.

Mutagenicity: The components of this product are not reported to cause 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.

A mutagen is a chemical, which causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical, which causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical, which causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance, which interferes in any way with the reproductive process.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: It is anticipated that mainly skin and eye disorders may be aggravated after over-exposure.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate over-exposure.

BIOLOGICAL EXPOSURE INDICES: Currently, there are no Biological Indices (BEIs) associated with the components of this product.

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## 12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

ENVIRONMENTAL FATE: Inorganic phosphates in contact with soil, subsurface or surface waters may be taken up by plants and utilized as essential nutrients. Phosphates may also form precipitates, usually with calcium or magnesium. The resultant compounds are insoluble in water and become a part of the soil or sediment. The term biodegradability, as such, is not applicable to inorganic compounds.

ENVIRONMENTAL EFFECTS: Aquatic toxicity 96HR Lc50. 100MG/L, Non-toxic (Rainbow trout, inland silversides and mysid shrimp) 48HR EC50>100MG/L, Non-toxic (Daphnia Magnz)

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## 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: This product does not present a danger or hazard for disposal, except for food applications. Salvage and return to container, process or recycle for other uses. May be disposed of in landfills according to applicable regulations.

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## 14. TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT HAZARDOUS AS DEFINED BY 49 CFR 172.101 BY THE U.S. DEPARTMENT OF TRANSPORTATION.

DOT PROPER SHIPPING NAME: None. Not Regulated.

LATA: None. Not Regulated.

IMDG: None. Not Regulated.

DOT CLASSIFICATION: Not Regulated.

DOT LABELS: Not Required.

DOT MARKING: Not Required.

DOT PLACARD: Not Required.

UN NUMBER: NONE.

49 STCC NUMBER: NONE

HAZARDOUS SUBSTANCE/RQ: Not Listed.

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (1996): Not applicable.

MARINE POLLUTANT: No component of this product is classified as a Marine Pollutant, as per Appendix B to 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: THIS MATERIAL IS NOT CONSIDERED AS DANGEROUS GOODS.

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## 15. REGULATORY INFORMATION

SARA REPORTING REQUIREMENTS: The components of this product are subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act, as follows.

COMPOUND	SECTION 302	SECTION 304	SECTION 313
Phosphate Based Ingredients	NO	NO	NO

SARA THRESHOLD PLANNING QUANTITY: Not applicable.

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## 15. REGULATORY INFORMATION (continued)

### EXPOSURE LIMITS:

Substance (s) : Phosphate Based Ingredients

TARGET ORGAN EFFECTS: Not applicable

CARCINOGENIC POTENTIAL: Phosphate based ingredients.

Regulated by OSHA: No

Listed on NTP: No

LARC group 1, 2A, 2B: No

### US EPA REQUIREMENTS:

Release reporting CERCLA (40CFR 302): Not applicable.

TSCA INVENTORY STATUS: The components of this product are listed on the TSCA Inventory.

CERCLA REPORTABLE QUANTITY (RQ): Not applicable.

OTHER FEDERAL REGULATIONS: Not applicable.

STATE REGULATORY INFORMATION: Components of this product are covered under specific State regulations, as denoted below:

Alaska – Designated Toxic and Hazardous Substances: NO

California – Permissible Exposure Limits for Chemical Contaminants: NO

Florida – Substance List: NO

Illinois – Toxic Substance List: NO

Kansas – Section 302/313 List: NO

Michigan - Critical Materials Register: NO

Minnesota – List of Hazardous Substances: NO

Missouri – Employer Information/ Toxic Substance List: NO

New Jersey – Right to know Hazardous

Substance List: NO

North Dakota – List of Hazardous Chemicals, Reportable Quantities: NO

Pennsylvania – Hazardous Substance List  
Propylene Glycol

Rhode Island – Hazardous Substance List:  
Propylene Glycol

Texas – Hazardous Substance List: NO

W. Virginia–Hazardous Substance List: NO

Wisconsin – Toxic and Hazardous Substance: NO.

CALIFORNIA PROPOSITION 65: No component of this product is on the California Proposition 65 lists.

### LABELING LANGUAGE (US/CANADA):

Health: Not hazardous by neither OSHA nor Canadian WHIMS definitions.

Physical: Not Applicable.

Handling and Storage: Store in clean dry area. For food applications store away from possible contamination.

First Aid: In case of eye or skin contact, flush with plenty of water. If irritation persists, obtain medical assistance.

STATE REGULATIONS: Contains chemicals from California "PROP 65" lists of carcinogens and reproductive toxins: PPM maximum Arsenic 3, Cadmium 2 and Lead 0.7.

WHMIS SYMBOLS: Not applicable.

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## 16. OTHER INFORMATION

### **PREPARED BY:**

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The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Loikits Industrial Services, Inc. assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Loikits Industrial Services, Inc. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.

## DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these that are commonly used include the following:

**CAS #:** This is the Chemical Abstract Service Number who uniquely identifies each constituent. It is used for computer-related searching.

### EXPOSURE LIMITS IN AIR

**ACGIH** - American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits.

**TLV - Threshold Limit Value** - an airborne concentration of a substance, which represents conditions under which it is generally believed that nearly all workers, may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour **Time Weighted Average (TWA)**, the 15-minute **Short Term Exposure Limit**, and the instantaneous **Ceiling Level**. Skin adsorption effects must also be considered.

**OSHA** - U.S. Occupational Safety and Health Administration.

**PEL - Permissible Exposure Limit** - this exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL", is placed next to the PEL which was vacated by Court Order.

**IDLH - Immediately Dangerous to Life and Health** - This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury. **The DFG - MAK** is the Republic of Germany's Maximum Exposure Level, similar to the U.S. PEL. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (**OSHA**). NIOSH issue exposure guidelines called **Recommended Exposure Levels (RELs)**. When no exposure guidelines are established, an entry of **NE** is made for reference.

### FLAMMABILITY LIMITS IN AIR

Much of the information related to fire and explosion is derived from the **National Fire Protection Association (NFPA)**. **LEL** - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. **UEL** - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

### TOXICOLOGICAL INFORMATION

Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds is presented. Definitions of some terms used in this section are: **LD<sub>50</sub>** - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; **LC<sub>50</sub>** - Lethal Concentration (gases) which kills 50% of the exposed animals; **ppm** concentration expressed in parts of material per million parts of air or water; **mg/m<sup>3</sup>** concentration expressed in weight of substance per volume of air; **mg/kg** quantity of material, by weight, administered to a test subject, based on their body weight in kg. Data from several sources are used to evaluate the cancer-causing potential of the material. The sources are: **IARC** - the International Agency for Research on Cancer; **NTP** - the National Toxicology Program, **RTECS** - the Registry of Toxic Effects of Chemical Substances, **OSHA** and **CAL/OSHA**. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other measures of toxicity include **TDLo**, the lowest dose to cause a symptom and **TCLo** the lowest concentration to cause a symptom; **TDo**, **LCLO**, and **LDo**, or **TC**, **TCo**, **LCLo**, and **LCo**, the lowest dose (or concentration) to cause death. **BEI** - Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

### REGULATORY INFORMATION

This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and Transport Canada, respectively. The following laws are pertinent to the information presented in the MSDS: **Superfund Amendments and Reauthorization Act (SARA)**; the **Toxic Substance Control Act (TSCA)**; Marine Pollutant status according to the **DOT**; California's Safe Drinking Water Act (**Proposition 65**); the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund)**. This section also includes information on the precautionary warnings, which appear, on the material's package label.