MATERIAL SAFETY DATA SHEET

Date-Issued : 06/27/2006
MSDS Ref. No : Glycent 46
Date-Revised : 02/19/2009
Revision No : 3

GLYCENT 46

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: GLYCENT 46
PRODUCT DESCRIPTION: HF-C Fire-Resistant Hydraulic Fluid
PRODUCT CODE: 051110
PRODUCT FORMULATION NAME: Glycent 46

MANUFACTURER

FUCHS LUBRICANTS CANADA LTD.
Pacific Division
19829 - 99A Avenue
Langley, BC V1M 3G4
Contact: Technical Services Dept.
Product Stewardship: (604) 888-1552

SUPPLIER

FUCHS LUBRICANTS CANADA LTD.
19829 - 99A Avenue
Langley, BC V1M 3G4
Contact: (604) 888-1552
Product Stewardship: (604) 888-1552

24 HR. EMERGENCY TELEPHONE NUMBERS

(604) 888-1552

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT(S)	CAS	% BY WEIGHT
No hazardous ingredients	NA	0 - 100

See Section 8 for Exposure Limits

COMMENTS: Not a controlled product according to WHMIS regulations or OSHA regulations.

WHMIS CLASS: Not controlled under WHMIS

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: This product is a water soluble liquid.

IMMEDIATE CONCERNS: Harmful if swallowed. May be harmful if absorbed through the skin.

POTENTIAL HEALTH EFFECTS

EYES: May cause slight temporary eye irritation.

SKIN: Short term skin contact is not expected to cause skin irritation. Prolonged or repeated direct exposure may result in symptoms of irritation and redness.

SKIN ABSORPTION: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

INGESTION: Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amount may cause serious injury, even death. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. May cause nausea and vomiting. May cause abdominal discomfort and diarrhea.

INHALATION: With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapour/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.

ACUTE TOXICITY: No further data known.

CHRONIC: No further data known.

CARCINOGENICITY: This product is not listed as a known or suspected carcinogen by IARC, OSHA, or the NTP.

MUTAGENICITY: None known.

REPRODUCTIVE TOXICITY

REPRODUCTIVE EFFECTS: None known.

TERATOGENIC EFFECTS: None known.

MEDICAL CONDITIONS AGGRAVATED: None known.

ROUTES OF ENTRY: Skin contact, eye contact, inhalation, ingestion

SENSITIZATION: None known.

4. FIRST AID MEASURES

EYES: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. If symptoms persist, contact a physician.

SKIN: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If symptoms of exposure persist, contact a physician. Thoroughly wash or discard clothing and shoes before reuse.

INGESTION: Do not induce vomiting. Seek medical attention immediately. If person is fully conscious, give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3 - 1/2 cup) (90-120 ml) of hard liquor such as 80 proof whiskey.

INHALATION: Inhalation is not an expected route of exposure. If respiratory irritation occurs, remove employee to fresh air. If symptoms persist, seek immediate medical attention.

NOTES TO PHYSICIAN: This product contains a glycol. Early administration of ethanol may counter the effects of glycol ingestion. Hemodialysis or peritoneal dialysis have been of benefit.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: None

FLAMMABLE LIMITS: None

AUTOIGNITION TEMPERATURE: N. Av.

EXTINGUISHING MEDIA: Normally self-extinguishing. Carbon dioxide, foam, dry chemical, fog water spray may be used.

HAZARDOUS COMBUSTION PRODUCTS: Combustion may produce oxides of carbon, nitrogen, hydrocarbons and smoke.

EXPLOSION HAZARDS: None known.

FIRE FIGHTING PROCEDURES: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of the product use water fog, carbon dioxide, dry chemical or foam.

FIRE FIGHTING EQUIPMENT: Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage. See Section 8 of the MSDS for other PPE to be worn as conditions warrant.

SENSITIVE TO STATIC DISCHARGE: None

SENSITIVITY TO IMPACT: None

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Keep material out of storm sewers and ditches which lead to waterways.

LARGE SPILL: Prevent from entering water systems. Soak up with absorbent or contain in a closed vessel.

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Do not add nitrites or other nitrosating agents. A nitrosamine may be formed.

HANDLING: Do not take internally. Avoid contact with eyes. Avoid breathing vapour, aerosol and mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

STORAGE: Keep in tightly closed containers. Do not store with incompatible substances. Do not allow water to evaporate.

SHELF LIFE: Recommended storage period: 24 months.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient. It is recommended that ventilation be designed to maintain airborne concentrations at lowest practicable levels. Ventilation should at a minimum, prevent airborne concentrations from exceeding any exposure limits listed in Section 8 of this MSDS.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Chemical safety glasses are adequate under normal conditions. When splashing may occur, a full face-shield should be worn.

SKIN: Chemical resistent gloves such as nitrile or rubber are recommended to protect against exposure. Where splashing or soaking is likely, wear oil or chemical resistant clothing to prevent exposure.

RESPIRATORY: Not generally required. A respirator may be worn to reduce exposure to vapors, dust, or mist. Select a NIOSH approved respirator for the type of physical character of the airborne material. A self-contained breathing apparatus is recommended in all situations where airborne contaminant concentration has not been confirmed to be below safe levels. Respirator should comply with CSA Standard Z94.4-93: Selection, Use and Care of Respirators.

PROTECTIVE CLOTHING: Coveralls are sufficient. Where splashing or soaking is likely, wear oil or chemical resistent clothing to prevent exposure.

WORK HYGIENIC PRACTICES: Wash hands prior to eating or smoking.

COMMENTS: The Workplace Environmental Exposure Limit (TWA) for diethylene glycol is 10 mg/m^3.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
ODOR: Characteristic, mild ammoniacal fishy
APPEARANCE: Clear red
pH: 9 to 10
VAPOR PRESSURE: 13.2 mmHg at 20°C
VAPOR DENSITY: N. Av.
BOILING POINT: 106.3°C Calculated
POUR POINT: -57°C ASTM D97
SOLUBILITY IN WATER: Soluble
EVAPORATION RATE: < 1 (Ether = 1)
SPECIFIC GRAVITY: 1.089 @15.6°C
(VOC): 11 g/L Method 24

10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Normally unreactive; however, if water is evaporated, avoid strong oxidizing agents and materials with hydroxyl compounds. Avoid elevated temperatures.

STABILITY: Stable.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes, alcohols, ethers, hydrocarbons, ketones, organic acids, and polymer fragments.

INCOMPATIBLE MATERIALS: Strong oxidizing agents, strong acids and bases.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: The product is not expected to cause eye irritation under normal conditions of use. Symptoms of temporary eye irritation and redness may result upon direct contact or when exposed to high mist levels in poorly ventilated areas.

SKIN EFFECTS: Short term skin contact is not expected to cause skin irritation. Prolonged or repeated direct exposure may result in symptoms of irritation and redness.

SENSITIZATION: None known.

CARCINOGENICITY:

CARCINOGENICITY COMMENTS: This product is not listed as a carcinogen by IARC, NTP or OSHA.

MUTAGENICITY: None known.

REPRODUCTIVE EFFECTS: None known.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. OECD Biodegradation Tests: 57% biodegradation in 28 days as per OECD 301B Test.

ECOTOXICOLOGICAL INFORMATION: Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 > 100 mg/L in the most sensitive species tested).

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Ensure that collection, transport, treatment and disposal of waste product, containers and rinsate complies with all applicable laws and regulations. Note that use, mixture, processing or contamination of the product may cause the material to be classified as a hazardous waste. It is the responsibility of the product user or owner to determine at the time of disposal, whether the product is regulated as a hazardous waste.

RCRA/EPA WASTE INFORMATION: This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

OTHER SHIPPING INFORMATION: Not otherwise DOT regulated.

CANADA TRANSPORT OF DANGEROUS GOODS

TDG NOTE: Not Regulated by TDG.

AIR (ICAO/IATA)

NOTE: Not regulated.

VESSEL (IMO/IMDG)

NOTE: Not regulated.

15. REGULATORY INFORMATION

UNITED STATES

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: All ingredients in this mixture are in compliance with TSCA.

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

DOMESTIC SUBSTANCE LIST (INVENTORY): This product, or its components, are listed on or are exempt from the Canadian Domestic Substance List (DSL).

16. OTHER INFORMATION

APPROVED BY: JW

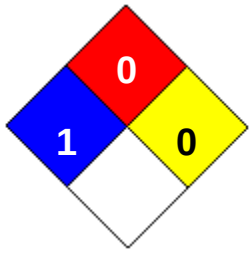
PREPARED BY: Health & Safety Dept.

REVISION SUMMARY Revision #: 2 This MSDS replaces the June 29, 2006 MSDS. Any changes in information are as follows: In Section 11 Skin Absorption (Operator) Oral LD50 Skin Absorption (Value) Skin Absorption (Unit) Oral LD50 (Value) Oral LD50 (Unit) Inhalation LC50 (Value) Inhalation LC50 (Unit) Inhalation LC50 (Operator) Oral LD50 (Operator)

HMIS RATING

HEALTH:	1
FLAMMABILITY:	0
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	X

NFPA CODES



MANUFACTURER SUPPLEMENTAL NOTES: Abbreviations used: N. Av. = Not Available, N.A. = Not Applicable, N.D. = Not Determined

ACGIH TLV (Threshold Limit Value) - A term used by the American Conference of Governmental Industrial Hygenists to express the airborne concentration of a material to which nearly all persons can be exposed day after day without adverse effects. ACGIH expresses TLVs in three ways:
- **TLV-TWA**: = The allowable Time Weighted Average concentration for a normal 8-hour workday of a 40-hour workweek.
- **TLV-STEL**: = The Short-Term Exposure Limit, or maximum concentration for a continuous 15-minutes exposure period. A maximum of four such periods per day, with at least 60 minutes between exposure periods are allowed, provided that the daily TLV is not exceeded.
- **TLV-C**: = The Ceiling exposure limit; the concentration that should not be exceeded even instantaneously.

OSHA PEL (Permissible Exposure Limits): An exposure limit established by the Occupational Safety and Health Administration. May be a time weighted average (TWA) limit or ceiling (C) exposure limit.

MANUFACTURER DISCLAIMER: The information contained herein is to the best of knowledge and believed to be accurate. However, since the condition of handling and use are beyond our control we make no guarantee of results, and assume no responsibilty for damages incurred through use of this material. It is the responsibility of the user to comply with all Federal, Provincial and local laws and regulations. Physical data is intended solely for use in evaluating the product with respect to WHMIS and does not constitute a product specification.