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MATERIAL SAFETY DATA SHEET

EMERGENCY OVERVIEW

This slippery liquid has a mild odor. No significant immediate hazards for emergency response are known.

NFPA RATING: HEALTH: 0 FLAMMABILITY: 1 REACTIVITY: 0

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GENERIC NAME: LUBRICATING OIL

ISSUE DATE:

March 20, 2006

THIS LUBRICANTS USA PRODUCT IS:

VULCAN HEAT TRANSFER OIL

CAS NUMBER:

Mixture

SYNONYMS / GENERAL NAMES:

Circulating oil, Heat exchange oil

24 HOUR EMERGENCY TELEPHONE:

(CHEMTREC) 1-800-424-9300

TECHNICAL INFORMATION:

1-800-442-5823

2. COMPOSITION / INFORMATION ON INGREDIENTS / HAZARDOUS INGREDIENTS

COMPONENTS	CAS NO.	%	HAZARD DATA
1) Highly-refined paraffinic petroleum oils*	64741-89-5 64741-88-4	85-95	*
2) Petroleum additives	Proprietary	1-15	

* Not limited to but include these CAS numbers. Hazard data on this petroleum oil is Oral LD 50 >5000, Dermal LD 50 >2000

HAZARDOUS INGREDIENTS: NONE

HAZARDOUS PER 29 CFR 1916.1200: NO

3. HAZARDOUS IDENTIFICATION

ROUTES OF ENTRY:	Skin contact
TARGET ORGANS:	Skin
IRRITANCY:	This product can cause mild, transient, eye irritation with short-term contact with liquids or sprays.
REPRODUCTIVE EFFECTS:	N/A
CANCER INFORMATION:	This product does not contain any components at concentrations above 0.1% that are considered carcinogenic by OSHA, IARC, or NTP.

4. FIRST AID MEASURES

EYES:	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness or pain persists.
DERMAL:	Remove contaminated shoes and clothing, wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods.
INGESTION:	Do not induce vomiting unless directed to by a physician. Do not give anything to drink

	unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
INHALATION:	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, a qualified individual should administer 100 percent humidified oxygen. Seek medical attention immediately. Keep the affected individual warm and at rest.
INJECTION:	Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.

5. FIRE FIGHTING MEASURES

FLASH POINT, °C (°F):	>199°C (390°F)
FLAMMABLE LIMITS (% BY VOLUME):	LOWER: NO DATA UPPER: NO DATA
EXTINGUISHING MEDIA:	Use dry chemical, foam, carbon dioxide or water fog.
SPECIAL FIRE FIGHTING PROCEDURES:	N/A
AUTOIGNITION TEMPERATURE:	N/A
EXPLOSION DATA:	N/A
NFPA RATING:	HEALTH: <u> 0 </u> FLAMMABILITY: <u> 1 </u> REACTIVITY <u> 0 </u>

6. ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES:	Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard—do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spills as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulations.
Ecotoxicity	Ecological effects testing has not been conducted on this material. Discharges are expected to cause only localized and non-persistent environmental damage.
Environmental fate	An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway can result in a loss of marine life or create an anaerobic environment.

7. HANDLING AND STORAGE

HANDLING & STORAGE PROCEDURES:	Avoid water contamination and extreme temperatures to minimize product degradation. Keep container closed. Do not store with strong oxidizing agents. Do not store at temperatures above 120°F or in direct sunlight for extended periods of time.
	Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:	Provide exhaust ventilation or other engineering controls to keep the airborne concentration of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the workstation.
GLOVES	Use gloves constructed of chemical resistant materials such as neoprene or heavy

PROTECTION:	nitrile rubber if frequent or prolonged contact is expected. Use heat protective gloves when handling product at elevated temperatures.
EYE PROTECTION:	Safety glasses equipped with side shields should be adequate protection under most conditions of use. Wear goggles and/or face shield if splashing or spraying is likely, especially if material is heated above 125° F (or 51° C). Have suitable eye wash water available.
RESPIRATORY PROTECTION:	Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
CLOTHING RECOMMENDATION:	Avoid prolonged and/or repeated skin contact, especially after this product has been used. If splashing or spraying is expected chemical-resistant (Tyvek®, nitrile or neoprene) clothing should be worn. This might include long-sleeves, apron, slicker suit, boots and additional facial protection. If general contact occurs, promptly remove soaked clothing and take a shower.
OTHER COMMENTS:	Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since standards/control limits have not been established for this product, the exposure limits shown below are suggested as minimum control guidelines.
Occupational exposure guidelines for highly-refined petroleum lubricant oils	Applicable workplace exposure levels TWA: 5 STEL; 10 (mg/M ³) from ACGIH (TLV) TWA: 5 (mg/ M ³) from OSHA (PEL) TWA: 5 STEL; 10 (mg/ M ³) from NIOSH

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Amber to light brown liquid
ODOR:	Little or no petroleum odor
pH:	N/A
VAPOR PRESSURE, mm Hg (25°C):	<0.0001
VAPOR DENSITY:	>1 (Air =1)
MELTING POINT:	Not available
BOILING POINT, 760 mm Hg, °C:	Not available
SOLUBILITY IN WATER:	Insoluble in cold water.
SPECIFIC GRAVITY:	0.88 (Water = 1)
EVAPORATION RATE:	N/A
VISCOSITY 40°C (100°C)	32-68 cSt @ 40 C
MOLECULAR WEIGHT:	N/A
PERCENT VOLATILE:	Negligible volatility

10. STABILITY AND REACTIVITY

STABILITY:	Stable
INCOMPATIBILITY:	Strong oxidizers
POLYMERIZATION:	Not expected to occur
THERMAL DECOMPOSITION:	CO ₂ , CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur and nitrogen.

11. TOXICOLOGICAL INFORMATION

EYE IRRITATION:	This product can cause mild, transient, eye irritation with short-term contact with liquid or sprays.
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DERMAL IRRITATION:	This material can cause mild, transient skin irritation with short-term exposure.
INHALATION TOXICITY:	No significant adverse health effects are expected to occur upon short-term exposure to this product. Aspiration of liquid into the lungs can cause severe lung damage or death.
INGESTION IRRITATION:	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect.
INJECTION SENSITATION:	Injection under the skin, in muscle, or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects and mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
CHRONIC EXPOSURE SYMPTOMS	None known.
OTHER REMARKS	LD50 and LC 50 NOT AVAILABLE.

12. HEALTH INFORMATION

HMIS CODE: **HEALTH:** 0 **FIRE:** 1 **REACTIVITY:** 0

No	HIGHLY TOXIC	No	SENSITIZER
No	TOXIC	No	REPRODUCTIVE EFFECTS
No	CORROSIVE	No	MUTAGEN
No	IRRITANT		

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Determine compliance status with all applicable requirements prior to disposal.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME:	Petroleum lubricating oil.
HAZARD CLASS:	Not a DOT controlled material (United States).
HAZARD IDENTIFICATION NUMBER:	N/A
DOT PLACARD:	N/A
COMPATIBILITY CATEGORY:	N/A

15. REGULATORY INFORMATION

SARA SECTION 313 - TOXIC CHEMICALS:

This product does not contain toxic chemicals under SARA Section 313 and 40 CFR Part 372.

SARA SECTION 311 - HAZARD CATEGORIES:

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

NO	IMMEDIATE (ACUTE) HEALTH HAZARD	NO	SUDDEN RELEASE OF PRESSURE HAZARD
NO	DELAYED (CHRONIC) HEALTH HAZARD	NO	REACTIVE HAZARD
NO	FIRE HAZARD		

SARA SECTION 302 - EXTREMELY HAZARDOUS WASTE:

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

CLEAN WATER ACT (CWA):

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

CERCLA HAZARDOUS SUBSTANCES:

As defined by CERCLA, the term “hazardous substance” does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance.

U.S. TSCA INVENTORY

All components of this material are listed on the U.S. TSCA Inventory.

CALIFORNIA PROPOSITION 65

This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

NEW JERSEY RIGHT-TO-KNOW LABEL

Mineral oil.

ADDITIONAL REGULATORY REMARKS

None.

16. OTHER INFORMATION

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information was prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. Lubricants USA believes this information to be reliable and up to date as of the date of publication, but makes no warranty that it is.

NFPA HAZARD RATING	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4
HMIS HEALTH RATING	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4

AP = approximately EQ = equal > = greater than < = less than NA = not applicable
 ND = no data NE = not established

ACGIH = American Conference of Governmental Industrial Hygienists.....AIHA = American Industrial Hygiene Association
 CERCLA = Comprehensive Environmental Response, Compensation and Liability Act (1980)
 EPA = Environmental Protection Agency.....HMIS = Hazardous Materials Information System
 IARC = International Agency for Research on Cancer.....NFPA = National Fire Protection Association
 NIOSH = National Institute of Occupational Safety and Health.....NLGI = National Lubricating Grease Institute
 NPCA = National Paint and Coating Manufacturers Association.....NTP = National Toxicology Program
 OSHA = Occupational Safety and Health Administration.....RQ = Reportable quantity
 SARA = Superfund Amendments and Reauthorization Act (1986).....TSCA = Toxic Substance Control Act