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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:** February 21, 2006

**THIS LUBRICANTS USA PRODUCT IS:**

**DIEKAN 5W-20**

**CAS NUMBER:**

Mixture

**SYNONYMS / GENERAL NAMES:**

Hydraulic 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	>90	*
2) Petroleum additives	Mixture	<10	

\* 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**

<b>ROUTES OF ENTRY:</b>	Skin contact
<b>TARGET ORGANS:</b>	Skin
<b>IRRITANCY:</b>	EYES: This product can cause mild, transient, eye irritation with short-term contact with liquids or sprays. SKIN: This material can cause mild, transient skin irritation with short-term exposure.
<b>REPRODUCTIVE EFFECTS:</b>	N/A
<b>CANCER INFORMATION:</b>	This product does not contain any components at concentrations above 0.1% that are considered carcinogenic by OSHA, IARC, or NTP.
<b>INHALATION:</b>	No significant adverse health effects are expected to occur upon short-term exposure to this product. (Aspiration of any liquid into the lungs can cause severe lung damage or death.)
<b>INGESTION:</b>	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect.
<b>INJECTION:</b>	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.
<b>CHRONIC EXPOSURE</b>	Prolonged or repeated contact is toxic to lungs, digestive system, skin and

	eyes.
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**4. FIRST AID MEASURES**

<b>EYES:</b>	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.
<b>DERMAL:</b>	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.
<b>INGESTION:</b>	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.
<b>INHALATION:</b>	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.
<b>INJECTION:</b>	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**

<b>FLASH POINT, °C (°F):</b>	>176°C (367°F)
<b>FLAMMABLE LIMITS (% BY VOLUME):</b>	<b>LOWER:</b> NO DATA <b>UPPER:</b> NO DATA
<b>EXTINGUISHING MEDIA:</b>	Use dry chemical, foam, carbon dioxide or water fog.
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b>	N/A
<b>AUTOIGNITION TEMPERATURE:</b>	N/A
<b>EXPLOSION DATA:</b>	N/A
<b>NFPA RATING:</b>	<b>HEALTH:</b> <u>  0  </u> <b>FLAMMABILITY:</b> <u>  1  </u> <b>REACTIVITY</b> <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. This material contains phosphorus, which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

**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**

<b>ENGINEERING CONTROLS:</b>	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.
<b>GLOVES PROTECTION:</b>	Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat protective gloves when handling product at elevated temperatures.
<b>EYE PROTECTION:</b>	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 washwater available.
<b>RESPIRATORY PROTECTION:</b>	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).
<b>CLOTHING RECOMMENDATION:</b>	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.
<b>OTHER COMMENTS:</b>	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.
<b>Occupational exposure guidelines for highly-refined petroleum lubricant oils</b>	Applicable workplace exposure levels  TWA: 5 STEL; 10 (mg/M <sup>3</sup> ) from ACGIH (TLV) TWA: 5 (mg/ M <sup>3</sup> ) from OSHA (PEL) TWA: 5 STEL; 10 (mg/ M <sup>3</sup> ) from NIOSH

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE:</b>	Light amber liquid
<b>ODOR:</b>	Mild petroleum odor
<b>pH:</b>	N/A
<b>VAPOR PRESSURE, mm Hg (25°C):</b>	<0.0001
<b>VAPOR DENSITY:</b>	17+ (Air =1)
<b>MELTING POINT:</b>	Not available
<b>BOILING POINT, 760 mm Hg, °C:</b>	Not available
<b>SOLUBILITY IN WATER:</b>	Insoluble in cold water.
<b>SPECIFIC GRAVITY:</b>	0.85-0.87 (Water = 1)
<b>EVAPORATION RATE:</b>	N/A
<b>VISCOSITY 40°C (100°C)</b>	33 cSt @ 40° C (6.7 cSt @ 100 C)

<b>MOLECULAR WEIGHT:</b>	N/A
<b>PERCENT VOLATILE:</b>	Negligible volatility

**10. STABILITY AND REACTIVITY**

<b>STABILITY:</b>	Stable
<b>INCOMPATIBILITY:</b>	Strong oxidizers
<b>POLYMERIZATION:</b>	Not expected to occur
<b>THERMAL DECOMPOSITION:</b>	CO <sub>2</sub> , CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, nitrogen, phosphorus and zinc.

**11. TOXICOLOGICAL INFORMATION**

<b>TOXICITY (finished fluid):</b>	LD50 and LC 50 NOT AVAILABLE.
<b>TOXICITY DATA (components):</b>	<p>Petroleum distillates (paraffinic and naphthenic components)          ORAL LD 50           Acute &gt; 5000 mg/kg (rat)          DERMAL LD50        Acute &gt;2000 mg/kg (rabbit)</p> <p><b>Petroleum distillates—(paraffinic or naphthenic)—general information</b>          Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentration of mineral oil mists, well above applicable workplace exposure levels, include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mists at or near work place exposure levels produced no significant toxicological effects. In long-term studies (up to two years) no carcinogenic effects have been reported in any animal species tested. Analyses conducted by method IP 346 indicate that the polycyclic aromatic concentration is below 3.0 weight percent.</p> <p><b>Petroleum additives (proprietary containing zinc)</b>          Classified 3 (animal inadequate evidence) for mildly refined additive (&lt;1%); classified 1 (proven for human) by IARC for severely refined additive (&lt;1%)</p>

**12. HEALTH INFORMATION**

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

No	<b>HIGHLY TOXIC</b>	No	<b>SENSITIZER</b>
No	<b>TOXIC</b>	No	<b>REPRODUCTIVE EFFECTS</b>
No	<b>CORROSIVE</b>	No	<b>MUTAGEN</b>
No	<b>IRRITANT</b>		

**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)**

<b>PROPER SHIPPING NAME:</b>	Petroleum lubricating oil.
<b>HAZARD CLASS:</b>	Not a DOT controlled material (United States).
<b>HAZARD IDENTIFICATION NUMBER:</b>	N/A
<b>DOT PLACARD:</b>	N/A
<b>COMPATIBILITY CATEGORY:</b>	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	<b>IMMEDIATE (ACUTE) HEALTH HAZARD</b>	NO	<b>SUDDEN RELEASE OF PRESSURE HAZARD</b>
NO	<b>DELAYED (CHRONIC) HEALTH HAZARD</b>	NO	<b>REACTIVE HAZARD</b>
NO	<b>FIRE HAZARD</b>		

**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 on the U.S. TSCA Inventory or are not required to be 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**

Petroleum 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.

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