Harland Lubricants & Chemicals
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MATERIAL SAFETY DATA SHEET

U.S. DEPARTMENT OF LABOR
May be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910, 1200. Standard must be consulted for specific requirements. Occupational Safety and Health Administration. (Non-Mandatory Form) Form Approved OMB No. 1218-0072. Revised 1-31-12

24 HOUR PROFESSIONAL EMERGENCY RESOURCE SERVICES (PERS) 1-800-633-8253

SECTION 1: PRODUCT IDENTIFICATION

Product Name: **Hartland AW Hydraulic Oils 22, 32, 46, 68, 100, 220**

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Containing Components	Amount	Limit/Quantity	Agency/Type
Lubricating Base Oil			
Severely Refined Petroleum Distillate			
	> 98.00%	5 mg/m3 (mist)	ACGIH TWA
		10 mg/m3 (mist)	ACGIH STEL
		5 mg/m3 (mist)	OSHA PEL

The BASE OIL may be a mixture of any of the following: CAS 64741884, CAS 64741895, CAS 64741964, CAS 64741975, CAS 64742014, CAS64742525, CAS 64742536, CAS 64742547, CAS 64742558, CAS 64742570, CAS 64742627, CAS 64742650 or CAS 72623837.

ADDITIVES INCLUDING THE FOLLOWING < 2.00%

ZINC ALKYL DITHIOPHOSPHATE
Chemical Name: PHOSPHORODITHIOIC ACID, O, O-DI-C1-14-ALKYL ESTERS, ZINC SALT
CAS 68649423 < 1.00% NONE NA

COMPOSITION ELEMENT:
All the components of this material are on the Toxic Substances Control Act Chemical Services Inventory.

This product fits the ACGIH definition for mineral oil mist. The ACGIH TLV is 5 mg/m3, the OSHA PEL is 5 mg/m3

SECTION 3: HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS
EYE: Not expected to cause prolonged or significant eye irritation
SKIN: Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first, but, if left untreated could result in disfigurement of the affected part.
INGESTION: Not expected to be harmful if swallowed.

INHALATION: Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit.

SECTION 4: FIRST AID MEASURES

EYE: No specific first aid measures are required because this material is not expected to cause eye irritation. As a precaution remove contact lenses, if worn, and flush eyes with water.
SKIN: No specific first aid measures are required because this material is not expected to be harmful if it contacts the skin. As a precaution, remove clothing and shoes if contaminated. Wash skin with soap and water. Wash or clean contaminated clothing and shoes before reuse.
INGESTION: No specific first aid measures are required because this material is not expected to be harmful if swallowed. Do not induce vomiting. As a precaution, give the person a glass of water or milk to drink and get medical advice. Never give anything by mouth to an unconscious person.
INHALATION: If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.
NOTE TO PHYSICIANS: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5: FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
Classification (29 CFR 1910, 1200): Not classified by OSHA as flammable or combustible.
FIRE COMMENT:
Leaks/ruptures in high pressure systems using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. Open flame, pilot lights, sparks, or electric arcs).
FLAMMABLE PROPERTIES:
FLASH POINT: (COC) 356 ºF / 180ºC Min.
AUTOIGNITION: NDA
FLAMMABILITY LIMITS: (% by volume in air): Lower: NA Upper: NA
EXTINGUISHING MEDIA: CO2, Dry Chemical, Foam, Water Fog
NFPA RATINGS: Health 0; Flammability 1; Reactivity 0.
FIRE FIGHTING INSTRUCTIONS:
This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
COMMUSTION PRODUCTS:
Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

SECTION 6: ACCIDENTAL RELEASE MEASURES

CHEMTREC EMERGENCY NUMBER (24 HR): 800-424-9300 or 703-527-3887
International Collect Calls Accepted
ACCIDENTAL RELEASE MEASURES:
Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Exposure Controls/Personal Protection. Contain liquid to prevent further contamination of soil, surface water or groundwater. Clean up small spills using appropriate techniques such as absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases.

SECTION 7: HANDING AND STORAGE

DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat flame, sparks, static electricity, or to other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum re-conditioner, or properly disposed of. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

GENERAL CONSIDERATIONS:
Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment if engineering controls or work practices are not adequate to prevent exposure to harmful levels or this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.
ENGINEERING CONTROLS:
Use in a well-ventilated area. If user operations generate an oil mist, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommends mineral oil mist exposure limits.
PERSONAL PROTECTIVE EQUIPMENT
EYE / FACE PROTECTION:
No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.
SKIN PROTECTION:
No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances. Suggested materials for protective gloves include <Nitrile> <Silver Shield> <Viton>
RESPIRATORY PROTECTION:
No respiratory protection is normally required. If user operations generate an oil mist, determine if airborne concentrations are below the recommended mineral oil mist exposure limits. If not wear a NIOSH approved respirator that provides adequate protection from measured concentrations of this material. Use the following elements for air-purifying respirators: particulate.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION:
Pale Yellow Liquid.
pH: NA
VAPOR PRESSURE: <0.01 mm Hg at 100ºF
VAPOR DENSITY:
(Air=1): Heavier than air.
BOILING POINT: >600ºF (>315ºC)
FREEZING POINT: NA
MELTING POINT: NA
SOLUBILITY: Soluble in hydrocarbon solvents; insoluble in water.
SPECIFIC GRAVITY: 0.86 – 0.90 @ 15.6/15.6C
VISCOSITY: 22 -198 cSt @ 40ºC (Min.)

SECTION 10: STABILITY AND REACTIVITY

HAZARDOUS DECOMPOSITION PRODUCTS:
H2s may be released at high temperatures.
CHEMICAL STABILITY: Stable
CONDITIONS TO AVOID: No data available
INCOMPATIBILITY WITH OTHER MATERIALS: May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
HAZARDOUS POLYMERIZATION: Polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE EFFECTS: The eye irritation hazard is based on data for a similar material.
SKIN EFFECTS: The skin irritation hazard is based on data for a similar material.
ACUTE ORAL EFFECTS: The acute oral toxicity is based on data for a similar material.
ACUTE INHALATION EFFECTS: The acute respiratory toxicity is based on data for a similar material.
ADDITIONAL TOXICOLOGY INFORMATION: This product contains petroleum base oils which may be refined by various processes including sever solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CRF 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B).

This product contains zinc alkyl dithiophosphates (ZDDPs). Several ZDDPs have been reported to have weak mutagenic activity in cultured mammalian cells but only at concentrations that were toxic to the test cells. We do not believe that there is any mutagenic risk to workers exposed to ZDDPs.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: This material is not expected to be harmful to aquatic organisms.
ENVIRONMENTAL FATE: This material is not expected to be readily biodegradable.

SECTION 13: DISPOSAL CONSIDERATIONS

Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14: TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: None
DOT HAZARD CLASS: None
DOT IDENTIFICATION NUMBER: None
DOT PACKING GROUP: n/a
ADDITIONAL INFORMATION: Petroleum Lubricating Oil – Not Hazardous by U.S. DOT.
ADR/RID Hazard Class – Not Applicable

SECTION 15: REGULATORY INFORMATION

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects: NO
2. Delayed (Chronic) Health Effects: NO
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01=SARA 313	11=NJ RTK	22=TSCA Sect 5(a)(2)
02=MASS RTK	12=CERCLA 302.4	23=TSCA Sect 6
03=NTP Carcinogen	13=MN RTK	24=TSCA Sect 12 (b)
04=CA Prop 65-Carcin	14=ACGIH TWA	25=TSC Sect 8 (a)
05=CA prop 65-Repro Tox	15=ACGIH STEL	26=TSCA Sect 8 (d)
06=IARC Group 1	16=ACGIH Calc TLV	27=TSCA Sect 4 (a)
07=IARC Group 2A	17=OSHA PEL	28=Canadian WHMIS
08=IARC Group 2B	18=DOT Marine Pollutant	29=OSHA CEILING
09=SARA 302/304	19=Chevron TWA	30=Chevron STEL
10=PA RTK	20=EPA Carcinogen	

The following components of this material are found on the regulatory lists indicated.

PHOSPHORODITHIOIC ACID, O, O-DI-C1-14-ALKYL ESTERS, ZINC SALTS is found on lists: 01,11
SEVERLY REFINED PETROLEUM DISTILLLATE is found on lists: 14,15,17

NEW JERSEY RTK CLASSIFICATION: Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. Seq., the product is to be identified as follows:
PETROLEUM OIL
WHMIS CLASSIFICATION: This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16: OTHER INFORMATION

NFPA RATINGS: Health 0; Flammability 1; Reactivity 0
HMIS RATINGS: Health 1; Flammability 1; Reactivity 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE: Personal Protection Equipment Index recommendation, *-Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).