

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Hartland R&O Turbine Oils

SYNONYMS: Petroleum oil; Lube oil; Petroleum hydrocarbon; Lubricant

PRODUCT USE: Gear Oil

DISTRIBUTOR: Hartland Lubricants & Chemicals
2455 Commercial Drive
Sparta WI 54656
608-487-9770

EMERGENCY TELEPHONE NUMBER:

This number is for emergency use only.

PERS 24 Hour Professional Emergency Resource Services 800-633-8253.

Date Revised: October 4, 2013

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE: Dark amber fluid, petroleum odor

CAUTION!

HEALTH HAZARDS: May be harmful if swallowed. May irritate eyes and skin.

POTENTIAL HEALTH EFFECTS

INHALATION (BREATHING): This product is not likely to present an inhalation hazard at normal temperatures and pressures. However, when aerosolizing, misting, or heating of this product, high concentrations of generated vapor or mist may irritate the respiratory tract (nose, throat, and lungs).

EYES: May cause irritation.

SKIN: May cause irritation. Not likely to be absorbed through the skin in harmful amounts.

INGESTION (SWALLOWING): May be harmful if swallowed. May cause throat irritation, nausea, vomiting and diarrhea. Breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Individuals with pre-existing respiratory tract (nose, throat, and lungs) eye and/or skin disorders may have increased susceptibility to the effects of exposure.

CHRONIC: Prolonged or repeated inhalation of oil mist may cause oil pneumonia, lung tissue inflammation, and/or fibrous tissue formation. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

POTENTIAL ENVIRONMENTAL EFFECTS:

A component of this product is listed as being toxic to aquatic organisms.

May cause long-term adverse effects in the aquatic environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Wt. Percent	Component	Synonym	CAS #
0 - 100	Highly refined petroleum lubricating oil	Lubricating oil base stock	Various * ¹
0 - 0.60	Alkyl phenol	Not Available	Proprietary
0 - 0.30	Petroleum distillates	Not Available	Proprietary
0 - 0.25	Aryl amine	Not Available	Proprietary
0 - 0.25	Mineral Oil	Not Available	Mixture
0 - 0.10	Alkaryl triazole	Not Available	Proprietary

Component Related Regulatory Information

*¹Highly refined petroleum lubricating oil contains one or more CAS numbers listed as follows:

64741-88-4, 64742-52-5, 64742-54-7, 64742-55-8, 64742-65-0, 64742-57-0, 64742-01-4, 64742-62-7, 72623-83-7.

SECTION 4: FIRST AID MEASURES

INHALATION (BREATHING): Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Oxygen should only be administered by qualified personnel. Someone should stay with victim. Get medical attention if breathing difficulty persists.

EYE: If irritation or redness from exposure to vapor develops, move away from exposure into fresh air. Upon contact, immediately flush eyes with plenty of lukewarm water, holding eyelids apart, for 15 minutes. Get medical attention.

SKIN: Remove affected clothing and shoes. Wash skin thoroughly with soap and water. Get medical attention if irritation or pain develops or persists. If product is injected under pressure into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, a physician should immediately evaluate the individual as a medical emergency.

INGESTION (SWALLOWING): Do NOT induce vomiting. Immediately get medical attention. If spontaneous vomiting occurs, keep head below hips to avoid breathing the product into the lungs. Never give anything to an unconscious person by the mouth.

NOTE TO PHYSICIANS: Treat symptomatically and supportively. Treatment may vary with condition of victim and specifics of incident.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT (METHOD USED): 329°F (165°C) (minimum) (COC)

FLAMMABLE LIMITS IN AIR: Lower: Not Available Upper: Not Available

AUTOIGNITION TEMPERATURE: Not available

HAZARDOUS COMBUSTION PRODUCTS: Decomposition and combustion materials may be toxic. Burning may produce nitrogen oxides, sulfur oxides, aldehydes, ketones, carbon dioxide, carbon monoxide and unidentified organic compounds.

CONDITIONS OF FLAMMABILITY: Sparks or flame. Product may burn, but does not ignite readily.

EXTINGUISHING MEDIA: Carbon dioxide, regular foam, dry chemical, water spray, or water fog. Water or foam may cause frothing.

<u>HAZARD RATING</u>	<u>NFPA 704 HAZARD IDENTIFICATION</u>	
0= LEAST 1= SLIGHT	HEALTH HAZARD (BLUE)	1
2= MODERATE	FIRE HAZARD (RED)	1
3= HIGH	REACTIVITY (YELLOW)	0
4= EXTREME	SPECIFIC HAZARD (WHITE)	

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

FIRE FIGHTING INSTRUCTIONS: Keep storage containers cool with water spray.

FIRE AND EXPLOSION HAZARDS: Heated containers may rupture. "Empty" containers may retain residue and can be dangerous.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Wear protective equipment and provide engineering controls as specified in Section 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. Contain spill away from surface water and sewers. Contain spill as a liquid for possible recovery, or sorb with compatible sorbent

material and shovel with a clean spark-proof tool into a sealable container for disposal. Additionally, for large spills: Dike far ahead of liquid spill for collection and later disposal.

SECTION 7: HANDLING AND STORAGE

Keep away from excessive heat, sparks or flame. Where flammable mixtures may be present, equipment safe for such locations should be used. Use clean tools. When transferring large volumes of product, metal containers, including trucks and tank cars, should be grounded and bonded. This product has a low vapor pressure and is not expected to present an inhalation hazard under normal temperatures and pressures. However, when aerosolizing, misting, or heating this product, do not breathe vapor or mist. Use in a well-ventilated area. Avoid contact with eyes, skin, clothing and shoes.

Keep container tightly closed when not in use and during transport. Store containers in a cool, dry place. Do not pressurize, cut, weld, braze, solder, drill, or grind containers. Keep containers away from flame, sparks, static electricity, or other sources of ignition. Empty product containers may retain residue and can be dangerous.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE GUIDELINES

Component Exposure Limits

Highly Refined Petroleum Lubricating Oil

ACGIH: 5mg/m³ TWA (sampled by method that does not collect vapor) (related to Oil mist, mineral)
10 mg/m³ STEL (sampled by method that does not collect vapor) (related to Oil mist, mineral)

OSHA Final: 5 mg/m³ TWA (related to Oil mist, mineral)

OSHA Vacated: 5 mg/m³ TWA (related to Oil mist, mineral)

NIOSH: 5 mg/m³ TWA (related to Oil mist, mineral)
10 mg/m³ STEL (related to Oil mist, mineral)

Mineral Oil

ACGIH: 5mg/m³ TWA (sampled by method that does not collect vapor) (related to Oil mist, mineral)
10 mg/m³ STEL (sampled by method that does not collect vapor) (related to Oil mist, mineral)

OSHA Final: 5 mg/m³ TWA (related to Oil mist, mineral)

ENGINEERING CONTROLS: Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: No respiratory protection is normally required. Use NIOSH-certified P- or R-series particulate filter and organic vapor cartridges when concentration of vapor or mist exceeds applicable exposure limits. Protection provided by air purifying respirators is limited. Do not use N-rated respirators. Selection and use of respiratory protective equipment should be in accordance in the USA with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

EYE PROTECTION: Where eye contact is likely, wear safety glasses; contact lens use is not recommended.

SKIN PROTECTION: Where skin contact is likely, wear neoprene, nitrile or equivalent protective gloves; use of natural rubber or equivalent gloves is not recommended. When product is heated and skin contact is likely, wear heat-insulating gloves, boots, and other protective clothing.

To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant face shield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

PERSONAL HYGIENE: Use good personal hygiene. Wash thoroughly with soap and water after handling product and before eating, drinking, or using tobacco products.

Clean affected clothing, shoes, and protective equipment before reuse. Discard leather articles, such as shoes, saturated with these products.

OTHER PROTECTIVE EQUIPMENT: Where spills and splashes are likely, facilities storing or using these products should be equipped with emergency eyewash and shower, both equipped with clean water, in the immediate work area.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE, APPEARANCE: Amber liquid

ODOR: Petroleum odor

ODOR THRESHOLD: Not available

MOLECULAR WEIGHT: Not applicable

SPECIFIC GRAVITY: (water=1) (approximately)	ISO 100	ISO 150	ISO 220
Estimated	0.874	0.880	0.883

VAPOR DENSITY: >1 (Air = 1)

VAPOR PRESSURE: less than 0.1 mm Hg at 68°F (20°C)

RELATIVE DENSITY: At 60°F (15.5°C)	ISO 100	ISO 150	ISO 220
	0.874g/cm ³	0.880g/cm ³	0.883g/cm ³

INITIAL BOILING POINT: Not Available

BOILING RANGE: Not Available

FREEZING/MELTING POINT: Not Available

pH: Not Applicable

EVAPORATION RATE: Not Available

SOLUBILITY IN WATER: Insoluble

FLASH POINT: 329°F (165°C) (minimum) Cleveland Open Cup

FLAMMABILITY: Not available

FLAMMABLE LIMITS IN AIR: LOWER: Not Available UPPER: Not Available

AUTOIGNITION TEMPERATURE: Not Available

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable under normal temperatures and pressures.

INCOMPATIBILITY: Avoid oxidizing agents.

REACTIVITY: Polymerization is not known to occur under normal temperatures and pressures. Not reactive with water.

CONDITIONS TO AVOID: Avoid heat, sparks and open flame.

HAZARDOUS DECOMPOSITION PRODUCTS: None under normal temperatures and pressures. Also see Section 5: HAZARDOUS COMBUSTION PRODUCTS.

SECTION 11: TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE: Skin, Eyes, Ingestion, and Inhalation.

ACUTE EFFECTS: May be harmful if swallowed. May irritate eyes and skin. May cause throat irritation, nausea, vomiting and diarrhea. Aspiration hazard: breathing product into the lungs during ingestion or vomiting may cause lung injury and possible death.

REPEATED DOSE EFFECTS: Prolonged or repeated inhalation of oil mist may cause oil pneumonia, lung tissue inflammation, and/or fibrous tissue formation. Prolonged or repeated eye contact may cause inflammation of the membrane lining the eyelids and covering the eyeball (conjunctivitis). Prolonged or repeated skin contact may cause drying, cracking, redness, itching, and/or swelling (dermatitis).

SENSITIZATION: Based on best current information, there is no known human sensitization associated with this product.

MUTAGENICITY: Based on best current information, there is no known mutagenicity associated with this product.

CARCINOGENICITY: Based on best current information, there is no known carcinogenicity as regulated by OSHA; as categorized by ACGIH A1 or A2 substances; as categorized by IARC Group 1 Group 2A, or Group 2B agents as either known carcinogens or substances for which there is limited evidence of carcinogenicity in humans or sufficient evidence of carcinogenicity in experimental animals.

REPRODUCTIVE TOXICITY: Based on best current information, there is no known reproductive toxicity associated with this product.

TERATOGENICITY: Based on best current information, there is no known teratogenicity associated with this product.

NEUROTOXICITY: High vapor / aerosol concentrations (attainable only at elevated temperatures) may cause central nervous system effects such as dizziness, drowsiness or headaches.

TOXICITY DATA:

Component Analysis — LD₅₀/LC₅₀

Mineral Oil

Dermal LD₅₀ Rabbit >5000 mg/kg
Oral LD₅₀ Rat >5000 mg/kg

Aryl amine

Oral LD₅₀ Rat >1000 mg/kg
Dermal LD₅₀ Rabbit >2000 mg/kg

Alkaryl triazole

Oral LD₅₀ Rat 500-1000 mg/kg
Dermal LD₅₀ Rabbit >2000 mg/kg
Inhalation LC₅₀ Rat >1730 mg/m³ (1 hour)

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: Components of product are expected to be harmful to aquatic organisms. May cause long term adverse effects in the aquatic environment.

PERSISTENCE/ DEGRADABILITY: Not readily biodegradable.

BIOACCUMULATIVE POTENTIAL: No information available for the product.

MOBILITY IN ENVIRONMENTAL MEDIA: Base oil component(s) — Low solubility and floats; expected to migrate from water to the land.

OTHER ADVERSE EFFECTS: Not available.

OCTANOL/WATER PARTITION COEFFICIENT: Not available.

VOLATILE ORGANIC COMPOUNDS: Negligible

AQUATIC RELEASE: Advise authorities if product has entered or may enter watercourses or sewer drains.

SECTION 13: DISPOSAL CONSIDERATIONS

DISPOSAL: Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. The responsibility for proper waste disposal lies with the owner of the waste.

USEPA WASTE CODES: This product, if discarded, is not expected to be a characteristic or listed hazardous waste. If recycled in the USA, it must be managed in accordance with 40 CFR Part 279. Processing, use, or contamination by user may change the waste code(s) applicable to the disposal of this product.

SECTION 14: TRANSPORT INFORMATION

LAND (DOT): (Shipping Name) Not regulated as a hazardous material for Land Transport.

LAND (TDG): (Shipping Name)

Not regulated as a dangerous good for Land Transport.

EMERGENCY RESPONSE GUIDE NUMBER: Not applicable.
Reference North American Emergency Response Guidebook

SECTION 15: REGULATORY INFORMATION

SARA SECTIONS 302, 304

Based on the ingredients listed in SECTION 3, this product does not contain any "extremely hazardous substances" listed pursuant to Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Section 302 or Section 304 as identified in 40 CFR Part 355, Appendix A and B.

SARA SECTIONS 311 AND 312 REPORTING

This product poses the following health hazard(s) as defined in 40 CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of Superfund Amendments and Reauthorization Act of 1986 (SARA):

Immediate (Acute) Health Hazard	Yes
Delayed (Chronic) Health Hazard	Yes
Physical Fire	No
Physical Sudden Release of Pressure	No
Physical Reactive	No

SARA SECTION 313 This product does not contain any chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

RQ (Reportable quantity) CERCLA: Hazardous substances: Naphthalene: 100 lbs. (45.36 kg);
1-Naphthylamine: 100 lbs. (45.36 kg.)
2-Naphthylamine: 10 lbs. (4.536 kg.)
Aniline: 5,000 lbs. (2268 kg.)

CALIFORNIA: This product contains a component that list the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm: 1-Naphthylamine; 2-Naphthylamine; Aniline; Napthalene.

TSCA: All components listed in **SECTION 3** are listed on, or are exempted from the requirements.

SECTION 16: OTHER INFORMATION

The information in this Safety Sheet was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT. This safety sheet was prepared and is to be used only for this product. If the product is used as a component in another product, this safety sheet information may not be applicable.