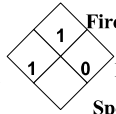


Material Safety Data Sheet

NFPA	HMIS (U.S.A.)	Rating	Protective Clothing	DOT (pictograms)
	Health Hazard (1) Fire Hazard (1) Reactivity (0) Personal Protection (B)	0 Insignificant 1 Slight 2 Moderate 3 High 4 Extreme		

Section I. Chemical Product and Company Identification

Product Name	Herculine R&O TURBINE OIL 32, 46, 68, 100	Code	HRO32 HRO46 HRO68 HRO100
Synonym	Not available	DSL	See Section 15
Manufacturer	Leahy-Wolf 1724 W. Armitage Ct. Addison, IL 60101	TSCA	See Section 15
Material Uses	These products are used for the lubrication of air and inert gas compressors of the reciprocating, rotary, screw, and rotary vane types. These compressor oils should not be used for the compression of wet or sour hydrocarbon gases and NEVER in equipment compressing pure oxygen.	In case of Emergency	ChemTrec: 800-424-9300 Poison Control Consult local telephone directory for emergency number(s).

Section II. Composition and Information on Ingredients

			Exposure Limits (ACGIH)		
Name	CAS #	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
Mixture of severely hydrotreated and hydrocracked and/or solvent-refined base oil (petroleum).	The base oil may be a mixture of the following CAS#s: 8042-47-5, 64741-95-3, 64742-01-4, 64742-46-7, 64742-52-5, 64742-54-7, 64742-62-7, 72623-83-7, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1, 178603-64-0, 178603-65-1, 178603-66-2, 445411-73-4	-	5 mg/m ³ (oil mist)	10 mg/m ³ (oil mist)	Not established
Other proprietary, non-hazardous additives.	Mixture.	-	Not applicable.	Not applicable.	Not applicable.
Manufacturer Recommendation	Not applicable				
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section III. Hazards Identification.

Potential Health Effects	Prolonged or repeated contact may cause skin irritation, defatting, drying and dermatitis. Not expected to cause more than slight skin or eye irritation. With its relatively low vapour pressure, this product is not expected to be inhaled in any appreciable quantity at ambient conditions. If heated to high temperatures or subjected to mechanical actions which produce vapors or mists, inhalation may cause respiratory tract irritation. Ingestion may produce a laxative effect. For more information refer to Section 11 of this MSDS.
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Section IV. First Aid Measures

Eye Contact	No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the chemical is removed. If irritation persists, obtain medical advice.
Skin Contact	Quickly and gently, blot or brush away excess chemical. Wash gently and thoroughly with water and non-abrasive soap for 5 minutes or until chemical is removed. Remove contaminated clothing, shoes and leather goods (e.g., watchbands, belts, etc.). If irritation persists, repeat flushing. Obtain medical advice immediately. Completely decontaminate clothing, shoes and leather goods before reuse or discard.
Inhalation	Remove source of contamination or move victim to fresh air. If irritation persists, obtain medical advice.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim drink 240 to 300 mL (8 to 10 oz) of water to dilute material in stomach. If vomiting occurs naturally, rinse mouth and repeat administration of water. Obtain medical attention.
Note to Physician	Not available

Section V. Fire-fighting Measures

Flammability	May be combustible at high temperature.	Flammable Limits	Not available
Flash Points	Open cup: $\geq 195^{\circ}\text{C}$ (383°F) (Cleveland)	Auto-Ignition Temperature	Fire Point: $\geq 227^{\circ}\text{C}$ (440.6°F)
Fire Hazards in Presence of Various Substances	Low fire hazard. This material must be heated before ignition will occur.	Explosion Hazards in Presence of Various Substances	Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire.
Products of Combustion	Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), sulphur oxides (SO _x), phosphorus compounds (PO _x), smoke and irritating vapours as products of incomplete combustion.		
Fire Fighting Media and Instructions	NAERG2004, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discolouration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. SMALL FIRE: use DRY chemicals, foam, water spray or CO ₂ . LARGE FIRE: use water spray, fog or foam. For small outdoor fires, portable fire extinguishers may be used, and self contained breathing apparatus (SCBA) may not be required. For all indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection are required for fire fighting personnel.		

Section VI. Accidental Release Measures

Material Release or Spill	Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Ensure clean-up personnel wear appropriate personal protective equipment. Extinguish all ignition sources. Stop leak if safe to do so. Dike spilled material. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid contact with spilled material. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Notify appropriate authorities immediately.
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Section VII. Handling and Storage

Handling	Avoid contact with any sources of ignition, flames, heat, and sparks. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or mists. Wear proper personal protective equipment (See Section 8). Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty containers. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated.
Storage	Store away from incompatible and reactive materials (See section 5 and 10). Keep container tightly closed. Store in dry, cool, well-ventilated area.

Section VIII. Exposure Controls/Personal Protection

Engineering Controls	For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection	- The selection of personal protective equipment varies, depending upon conditions of use.
Eyes	As a minimum, safety glasses with side shields should be worn when handling this material.
Body	If this material may come in contact with the body during handling and use, we recommend wearing appropriate protective clothing to prevent contact with the skin. (Contact your PPE provider for more information.)

Respiratory A minimum of NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister with a dust, fume or mist filter (R, or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. A NIOSH-approved positive-pressure, air-supplied respirator or self-contained breathing apparatus may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

Hands If this material may come in contact with the hands during handling and use, we recommend wearing gloves of the following material(s): neoprene, nitrile, polyvinyl alcohol (PVA), fluoro-elastomer. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns.

Feet Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section IX. Physical and Chemical Properties

Physical State and Appearance	Viscous liquid.	Viscosity	32: 36 cSt @ 40°C (104°F), 5.7 cSt @ 100°C (212°F), VI=97; 68: 68 cSt @ 40°C (104°F), 8.7 cSt @ 100°C (212°F), VI=99; 100: 101 cSt @ 40°C (104°F), 11.2 cSt @ 100°C (212°F), VI=97; 46: 46 cSt @ 40°C (104°F), 6.7 cSt @ 100°C (212°F), VI=93
Colour	Pale yellow.	Pour Point	32: -39°C (-38°F); 46: -33°C (-27°F); 68: -30°C (-22°F); 100: -18°C (0°F)
Odour	Mild petroleum oil like.	Softening Point	Not applicable
Odour Threshold	Not available	Dropping Point	Not applicable
Boiling Point	Not available	Penetration	Not applicable
Density	0.852 - 0.876 kg/L @ 15°C (59°F).	Oil / Water Dist. Coeff.	Not available
Vapour Density	Not available	Ionicity (in water)	Not available
Vapour Pressure	Negligible at ambient temperature and pressure.	Dispersion Properties	Not available
Volatility	Non-volatile.	Solubility	Insoluble in water.

Section X. Stability and Reactivity

Corrosivity	Not available		
Stability	The product is stable under normal handling and storage conditions.	Hazardous Polymerization	Will not occur under normal working conditions.
Incompatible Substances / Conditions to Avoid	Reactive with oxidizing agents, acids, alkalis and reducing agents.	Decomposition Products	May release CO _x , NO _x , PO _x , SiO _x , methacrylate monomers, smoke and irritating vapours when heated to decomposition.

Section XI. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation and ingestion.
Acute Lethality	Acute toxicity information is not available for the product as a whole, therefore, data for the base oils are provided below: Acute Oral toxicity (LD50): >5000 mg/kg (rat) Acute Dermal toxicity (LD50): >2000 mg/kg (rabbit)
Chronic or Other Toxic Effects	
Dermal Route:	Prolonged or repeated contact may defat and dry skin, and cause dermatitis. Short-term exposure is expected to cause only slight irritation, if any.
Inhalation Route:	With its relatively low vapour pressure, this product is not expected to be inhaled in any appreciable quantity at ambient conditions. If heated to high temperatures or subjected to mechanical actions which produce vapours or mists, inhalation may cause respiratory tract irritation.
Oral Route:	Ingestion of this product may lead to aspiration of the liquid, especially if vomiting occurs. This may result in chemical pneumonitis (inflammation of the lungs) and/or pulmonary edema (an accumulation of fluid in the lungs). May produce a laxative effect.
Eye Irritation/Inflammation:	Short-term exposure is expected to cause only slight irritation, if any.
Immunotoxicity:	Not available
Skin Sensitization:	Contact with this product is not expected to cause skin sensitization, based upon the available data and the known hazards of the components.
Respiratory Tract Sensitization:	Contact with this product is not expected to cause respiratory tract sensitization, based upon the available data and the known hazards of the components.

Mutagenic:	This product is not known to contain any components at $\geq 0.1\%$ that have been shown to cause mutagenicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a mutagen.
Reproductive Toxicity:	This product is not known to contain any components at $\geq 0.1\%$ that have been shown to cause reproductive toxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a reproductive toxin.
Teratogenicity/Embryotoxicity:	This product is not known to contain any components at $\geq 0.1\%$ that have been shown to cause teratogenicity and/or embryotoxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a teratogen/embryotoxin.
Carcinogenicity (ACGIH):	This product is not known to contain any chemicals at reportable quantities that are listed as Group A1 or A2 carcinogens by ACGIH.
Carcinogenicity (IARC):	This product is not known to contain any chemicals at reportable quantities that are listed as Group 1, 2A, or 2B carcinogens by IARC.
Carcinogenicity (NTP):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.
Carcinogenicity (IRIS):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS.
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.
Other Considerations	No additional remark.

Section XII. Ecological Information

Environmental Fate Not available	Persistence/ Bioaccumulation Potential Not available
BOD5 and COD Not available	Products of Biodegradation Not available
Additional Remarks No additional remark.	

Section XIII. Disposal Considerations

Waste Disposal	Spent/ used/ waste product may meet the requirements of a hazardous waste. Consult your local or regional authorities. Ensure that waste management processes are in compliance with government requirements and local disposal regulations.
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Section XIV. Transport Information

DOT Classification Not a DOT controlled material (United States).	Special Provisions for Transport Not applicable.
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Section XV. Regulatory Information

Other Regulations	This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List). All components of this product are listed on TSCA or are exempt. A component of this product is subject to a TSCA Polymer Exemption - if you intend to import this product into the U.S. please contact Product Safety for more information. All components of this formulation are listed on EINECS or are exempt. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. Please contact Product Safety for more information.	
DSD/DPD (EEC)	Not classified under the Dangerous Substances or Dangerous Preparations Directives.	WHMIS (Canada) Not controlled
ADR (Europe) (Pictograms)		TDG (Canada) (Pictograms) 

Section XVI. Other Information**References** Available upon request.**Glossary**

ACGIH - American Conference of Governmental Industrial Hygienists	HCS - Hazardous Communication System
ADR - Agreement on Dangerous goods by Road (Europe)	HMIS - Hazardous Material Information System
ASTM - American Society for Testing and Materials	IARC - International Agency for Research on Cancer
BOD5 - Biological Oxygen Demand in 5 days	IRIS - Integrated Risk Information System
CAS - Chemical Abstract Services	LD50/LC50 - Lethal Dose/Concentration kill 50%
CEPA - Canadian Environmental Protection Act	LDLo/LCLo - Lowest Published Lethal Dose/Concentration
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act	NFPA - National Fire Prevention Association
CFR - Code of Federal Regulations	NIOSH - National Institute for Occupational Safety & Health
CHIP - Chemical Hazard Information and Packaging Approved Supply List	NPRI - National Pollutant Release Inventory
COD - Chemical Oxygen Demand	NSNR - New Substances Notification Regulations (Canada)
CPR - Controlled Products Regulations	NTP - National Toxicology Program
DOT - Department of Transportation (U.S.A.)	OSHA - Occupational Safety & Health Administration
DSCL - Dangerous Substances Classification and Labeling (Europe)	PEL - Permissible Exposure Limit
DSD/DPD - Dangerous Substance or Dangerous Preparations Directives (Europe)	RCRA - Resource Conservation and Recovery Act
DSL - Domestic Substance List (Canada)	SARA - Superfund Amendments and Reorganization Act
EEC/EU - European Economic Community/European Union	STEL - Short Term Exposure Limit (15 minutes)
EINECS - European Inventory of Existing Commercial Chemical Substances	TDG - Transportation Dangerous Goods (Canada)
EPCRA - Emergency Planning And Community Right-To-Know Act	TDLo/TCLo - Lowest Published Toxic Dose/Concentration
FDA - Food and Drug Administration	TLV-TWA - Threshold Limit Value-Time Weighted Average
FIFRA - Federal Insecticide, Fungicide, and Rodenticide Act	Tm - Median Tolerance Limit
	TSCA - Toxic Substances Control Act
	USEPA - United States Environmental Protection Agency
	USP - United States Pharmacopoeia
	WHMIS - Workplace Hazardous Material Information System

For Copy of MSDS
Internet: www.leahywolf.com

Lubricants:
708-432-0020

For Product Safety Information: (708) 432-0020

Prepared by Product Safety - JDW on 6/13/2006.

Data entry by Product Safety - JDW.

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