



# Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
	<b>Not controlled</b>		

## Section 1. Chemical Product and Company Identification

<b>Product Name</b>	<b>RELIANCE AW HYDRAULIC OIL 32, 46, 68</b>	<b>Code</b>	490-143, RELAW32 490-144, RELAW46 490-145, RELAW68
<b>Synonym</b>	Not available.	<b>Validated on</b>	6/15/2001.
<b>Manufacturer</b>	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	<b>In case of Emergency</b>	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
<b>Material Uses</b>	These products are designed for use as heavy duty hydraulic power transmission fluids and for lubrication where good anti-wear and anti-oxidation properties are required. They would typically be used in high-pressure hydraulic systems, machine tools, presses, compressors, pumps, gear sets, and centralized bearing lubrication systems in industrial plants and at mining and woodlands sites.		

## Section 2. Composition and Information on Ingredients

			Exposure Limits (ACGIH)		
Name	CAS #	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
1) Severely hydrotreated hydrocarbon oil and additives	Mixture	100	5 mg/m <sup>3</sup> (oil mist)	10 mg/m <sup>3</sup> (oil mist)	Not established
<b>Manufacturer Recommendation</b>	Not applicable				
<b>Other Exposure Limits</b>	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

## Section 3. Hazards Identification.

<b>Potential Health Effects</b>	Non irritating to slight transient irritation to skin and eyes, but no permanent damage. Relatively non-toxic via ingestion. This product has a low vapour pressure and is not expected to present an inhalation exposure at ambient conditions. Upon heating to high temperatures, or mechanical actions which may produce vapours or mists, inhalation of product may cause irritation of the breathing passages. For more information, refer to Section 11.
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## Section 4. First Aid Measures

<b>Eye Contact</b>	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.
<b>Skin Contact</b>	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.
<b>Inhalation</b>	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention.
<b>Ingestion</b>	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.
<b>Note to Physician</b>	Not available

## Section 5. Fire-fighting Measures

<b>Flammability</b>	May be combustible at high temperature.	<b>Flammable Limits</b>	Not available.
<b>Flash Points</b>	OPEN CUP: $\geq 196^{\circ}\text{C}$ (384.8°F) (Cleveland)	<b>Auto-Ignition Temperature</b>	Not available.
<b>Fire Hazards in Presence of Various Substances</b>	Low fire hazard. This material must be heated before ignition will occur.	<b>Explosion Hazards in Presence of Various Substances</b>	Containers may explode in heat of fire. Do not cut, weld, heat, drill or pressurize empty container.
<b>Products of Combustion</b>	Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), sulphur oxides (SO <sub>x</sub> ), smoke and irritating vapours as products of incomplete combustion.		

<b>Fire Fighting Media and Instructions</b>	NAERG96, 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 CO2. 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.
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### Section 6. Accidental Release Measures

<b>Material Release or Spill</b>	NAERG96, GUIDE 171, Substances (low to moderate hazard). ELIMINATE ALL IGNITION SOURCES. Avoid contact. Stop leak if without risk. Contain spill. Absorb with inert absorbents, dry clay, or diatomaceous earth. Avoid inhaling dust of diatomaceous earth for it may contain silica in very fine particle size, making this a potential respiratory hazard. Place used absorbent in closed metal containers for later disposal or burn absorbent in a suitable combustion chamber. DO NOT FLUSH TO SEWERS, STREAMS OR OTHER BODIES OF WATER. Check with applicable jurisdiction for specific disposal requirements of spilled material and empty containers. Notify the appropriate authorities immediately.
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### Section 7. Handling and Storage

<b>Handling</b>	Avoid inhalation and skin contact especially when handling used oil. Keep away from sources of ignition. DO NOT reuse empty containers without commercial cleaning or reconditioning. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
<b>Storage</b>	Store in tightly closed containers in cool, dry, isolated, well-ventilated area, and away from incompatibles.

### Section 8. Exposure Controls/Personal Protection

<b>Engineering Controls</b>	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.
<b>Personal Protection -</b>	<b>The selection of personal protective equipment varies, depending upon conditions of use.</b>
<b>Eyes</b>	Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.
<b>Body</b>	Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.
<b>Respiratory</b>	Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.
<b>Hands</b>	Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.
<b>Feet</b>	Wear appropriate footwear to prevent product from coming in contact with feet and skin.

### Section 9. Physical and Chemical Properties

<b>Physical State and Appearance</b>	Viscous liquid	<b>Viscosity</b>	32: 32.0 cSt @ 40°C, 5.35 cSt @ 100°C, VI=99 46: 46.0 cSt @ 40°C, 6.74 cSt @ 100°C, VI=99 68: 68.0 cSt @ 40°C, 8.69 cSt @ 100°C, VI=99
<b>Colour</b>	Pale, Light green.	<b>Pour Point</b>	32: -36°C 46: -33°C 68: -30°C
<b>Odour</b>	Hydrocarbon.	<b>Softening Point</b>	Not applicable.
<b>Odour Threshold</b>	Not available.	<b>Dropping Point</b>	Not applicable.
<b>Boiling Point</b>	Not available.	<b>Penetration</b>	Not applicable.
<b>Density</b>	0.8693 to 0.8740 kg/L @ 15°C (59°F).	<b>Oil / Water Dist. Coefficient</b>	Not available.
<b>Vapour Density</b>	Not available.	<b>Ionicity (in water)</b>	Not available
<b>Vapour Pressure</b>	Negligible at ambient temperature and pressure.	<b>Dispersion Properties</b>	Not available.
<b>Volatility</b>	Non-volatile.	<b>Solubility</b>	Insoluble in water.

### Section 10. Stability and Reactivity

<b>Corrosivity</b>	Copper corrosion, 3h, 100°C (ASTM D0130): 1a		
<b>Stability</b>	The product is stable under normal handling and storage conditions.	<b>Hazardous Polymerization</b>	Will not occur under normal working conditions.
<b>Incompatible Substances / Conditions to Avoid</b>	Reactive with oxidizing agents and acids.	<b>Decomposition Products</b>	May release COx, SOx, H2S, POx, CaOx, ZnOx, methacrylate monomers, alkyl mercaptans, aldehydes, smoke and irritating vapours when heated to decomposition.

### Section 11. Toxicological Information

<b>Routes of Entry</b>	Skin contact, eye contact, inhalation and ingestion.		
<b>Acute Lethality</b>	Based on toxicity of components. Acute oral toxicity (LD50): >5000 mg/kg (rat). Acute dermal toxicity (LD50): >2000 mg/kg (rabbit).		
<b>Chronic or Other Toxic Effects</b>			
Dermal Route:	Prolonged or repeated contact may cause skin irritation characterized by dermatitis or oil acne.		
Inhalation Route:	Negligible breathing hazard at normal temperatures (up to 38°C) or recommended blending temperatures. Elevated temperatures or mechanical action may form vapours, mists or fumes. Inhalation of oil mists or vapours from hot oil may cause irritation of the upper respiratory tract.		
Oral Route:	Low toxicity; has laxative effect.		
Eye Irritation/Inflammation:	Repeated or prolonged contact may cause transient irritation, but no permanent damage.		
Immunotoxicity:	Not available.		
Skin Sensitization:	This product is not expected to be a skin sensitizer, based on the available data and the known hazards of the components.		
Respiratory Tract Sensitization:	This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.		
Mutagenic:	Based on actual test results of base oils and results of similar products, severely hydrotreated base oils give negative results when tested for: (a) Salmonella Typhimurium TA98 using the Modified Ames Assay for Petroleum Product; (b) Salmonella-Escherichia coli/Mammalian-Microsome Reverse Mutation Assay (Ames test) with a Confirmatory Assay; (c) Structural Chromosomal Aberrations in Chinese Hamster Ovary (CHO) Cells.		
Reproductive Toxicity:	This product is not expected to be a reproductive hazard, based on the available data and the known hazards of the components.		
Teratogenicity/Embryotoxicity:	This product is not expected to be a teratogen or an embryotoxin, based on the available data and the known hazards of the components.		
Carcinogenicity (ACGIH):	This product is not known to contain any chemicals at reportable quantities that are listed as 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):	Not available.		
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.		
<b>Other Considerations</b>	No additional remark.		

### Section 12. Ecological Information

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


### Section 13. Disposal Considerations

<b>Waste Disposal</b>	Spent/used/waste oil may meet the requirements of a hazardous waste. Consult your local or regional authorities. Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations.		
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**Section 14. Transport Information**

<b>TDG Classification</b>	Not controlled under TDG (Canada).	<b>Special Provisions for Transport</b>	Not applicable.
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**Section 15. Regulatory Information**

<b>Other Regulations</b>		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 formulation are listed on the US EPA-TSCA Inventory.											
		All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).											
		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.											
<b>DSD/DPD (Europe)</b>		Not evaluated.		<b>HCS (U.S.A.)</b> Not controlled under the HCS (United States).									
<b>ADR (Europe) (Pictograms)</b>		NOT EVALUATED FOR EUROPEAN TRANSPORT  NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.		<b>DOT (U.S.A) (Pictograms)</b> 									
<b>HMIS (U.S.A.)</b>		<table><tr><td>Health Hazard</td><td>1</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr><tr><td>Personal Protection</td><td>B</td></tr></table>		Health Hazard	1	Fire Hazard	1	Reactivity	0	Personal Protection	B	<b>NFPA (U.S.A.)</b> <div><div><div>1</div><div>1</div><div>0</div></div><div>Health</div><div>Fire Hazard</div><div>Reactivity</div><div>Specific hazard</div></div> <div><div>Rating</div><div>0 Insignificant</div><div>1 Slight</div><div>2 Moderate</div><div>3 High</div><div>4 Extreme</div></div>	
Health Hazard	1												
Fire Hazard	1												
Reactivity	0												
Personal Protection	B												

**Section 16. Other Information**

<b>References</b>	Available upon request. * Marque de commerce de Petro-Canada - Trademark		
<b>Glossary</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;">           ACGIH - American Conference of Governmental Industrial Hygienists            ADR - Agreement on Dangerous goods by Road (Europe)            ASTM - American Society for Testing and Materials (            BOD5 - Biological Oxygen Demand in 5 days            CAN/CGA B149.2 Propane Installation Code            CAS - Chemical Abstract Services            CEPA - Canadian Environmental Protection Act            CERCLA - Comprehensive Environmental Response, Compensation and Liability Act            CFR - Code of Federal Regulations            CHIP - Chemicals Hazard Information and Packaging Approved Supply List            COD5 - Chemical Oxygen Demand in 5 days            CPR - Controlled Products Regulations            DOT - Department of Transport            DSCL - Dangerous Substances Classification and Labeling (Europe)            DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)            DSL - Domestic Substance List            EEC/EU - European Economic Community/European Union            EINECS - European Inventory of Existing Commercial Chemical Substances            EPCRA - Emergency Planning and Community Right to Know Act            FDA - Food and Drug Administration            FIFRA - Federal Insecticide, Fungicide and Rodenticide Act            HCS - Hazardous Communication System            HMIS - Hazardous Material Information System            IARC - International Agency for Research on Cancer         </div> <div style="width: 48%;">           IRIS - Integrated Risk Information System            LD50/LC50 - Lethal Dose/Concentration kill 50%            LDLo/LCLo - Lowest Published Lethal Dose/Concentration            NAERG'96 - North American Emergency Response Guide Book (1996)            NFPA - National Fire Prevention Association            NIOSH - National Institute for Occupational Safety &amp; Health            NPRI - National Pollutant Release Inventory            NSNR - New Substances Notification Regulations (Canada)            NTP - National Toxicology Program            OSHA - Occupational Safety &amp; Health Administration            PEL - Permissible Exposure Limit            RCRA - Resource Conservation and Recovery Act            SARA - Superfund Amendments and Reorganization Act            SD - Single Dose            STEL - Short Term Exposure Limit (15 minutes)            TDG - Transportation Dangerous Goods (Canada)            TDLo/TCLo - Lowest Published Toxic Dose/Concentration            TLM - Median Tolerance Limit            TLV-TWA - Threshold Limit Value-Time Weighted Average            TSCA - Toxic Substances Control Act            USEPA - United States Environmental Protection Agency            USP - United States Pharmacopoeia            WHMIS - Workplace Hazardous Material Information System         </div> </div>		
<b>For Copy of MSDS</b>	<b>Prepared by Product Safety - TAR on 6/15/2001.</b>  <b>Data entry by Product Safety - JDW.</b>		
<b>Lubricants:</b> <b>Western Canada, telephone: 1-800-661-1199; fax: (780) 464-9564</b> <b>Ontario &amp; Central Canada, telephone: 1-800-268-5850 and (905) 822-4222; fax: 1-800-201-6285</b> <b>Quebec &amp; Eastern Canada, telephone: 1-800-576-1686; fax: 800-201-6285</b>			
<b>For Product Safety Information: (905) 804-4752</b>			

**To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**