










# Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
 	B-3, D-2B	   	

## Section 1. Chemical Product and Company Identification

<b>Product Name</b>	<b>DIESEL FUEL</b>	<b>Code</b>	W104, W293 SAP: 120, 121, 122, 287
<b>Synonym</b>	Diesel 50, Diesel 50 LS, #1 Diesel, #1 Diesel LS, Diesel LC, Seasonal Diesel, Seasonal Diesel LS, Diesel AA, Domestic Marine Diesel, International marine Diesel, Seasonal Diesel Locomotive, Domestic Marine diesel LS, diesel -20°C (LS), LSD, Low Sulphur Diesel, dyed diesel, marked diesel, coloured diesel, Naval Distillate, Ultra Low Sulphur Diesel, ULS Diesel, Mining Diesel, Mining Diesel Special, Mining Diesel Special LS, High Flash Mining Diesel, Furnace Oil, Stove Oil.	<b>Validated on</b>	2/6/2004.
<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>	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining Diesel has a higher flash point requirement, for safe use in underground mines.		

## Section 2. Composition and Information on Ingredients

			Exposure Limits (ACGIH)		
Name	CAS #	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
1) Diesel oil.	68334-30-5	>99.9	100 mg/m <sup>3</sup> (as total hydrocarbons) *	Not established	Not established
2) Proprietary additives.	Not available	<0.1	Not established	Not established	Not established
Aromatic content is 50% maximum (benzene: nil). Sulphur content is 0-0.50%.					
<b>Manufacturer Recommendation</b>	* Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer.				
<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>	Combustible liquid. Exercise caution when handling this material. Contact with this product may cause skin and eye irritation. Prolonged or repeated contact may cause skin irritation, defatting, drying and dermatitis. Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. For more information refer to Section 11 of this MSDS.
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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>	Class II - combustible liquid (NFPA).	<b>Flammable Limits</b>	LOWER: 0.7%, UPPER: 6% (NFPA)
<b>Flash Points</b>	Diesel Fuel: Closed Cup: >40°C (>104°F) Marine Diesel Fuel: Closed Cup: >60°C (>140°F) Mining Diesel: Closed Cup: 52°C (126°F)	<b>Auto-Ignition Temperature</b>	225°C (437°F)
<b>Fire Hazards in Presence of Various Substances</b>	Flammable in presence of open flames, sparks, or heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces.	<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. Vapour explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.
<b>Products of Combustion</b>	Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), sulphur oxides (SO <sub>x</sub> ), sulphur compounds (H <sub>2</sub> S), water vapour (H <sub>2</sub> O), smoke and irritating vapours as products of incomplete combustion. See Section 11 (Other Considerations) for information regarding the toxicity of the combustion products.		
<b>Fire Fighting Media and Instructions</b>	<p>NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a moderate flash point above 40°C: Use of water spray when fighting fire may be inefficient.</p> <p>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.</p> <p>SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam. LARGE FIRES: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.</p> <p>Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or any discolouration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.</p>		

**Section 6. Accidental Release Measures**

<b>Material Release or Spill</b>	Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. IN THE EVENT OF A LARGE SPILL CONSIDER THE FOLLOWING CONTROL MEASURES: Extinguish all ignition sources. Stop leak if safe to do so. Ventilate area. Dike spilled material. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid contact with spilled material. Avoid breathing vapours or mists of material. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Evacuate non-essential personnel. Ensure clean-up personnel wear appropriate personal protective equipment. Ground and bond all equipment used to clean up the spilled material, as it may be a static accumulator. Notify appropriate authorities immediately.
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**Section 7. Handling and Storage**

<b>Handling</b>	COMBUSTIBLE MATERIAL. Handle with care. Avoid contact with any sources of ignition, flames, heat, and sparks. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or mists. 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. Avoid confined spaces and areas with poor ventilation. Ensure all equipment is grounded/bonded. Wear proper personal protective equipment (See Section 8).
<b>Storage</b>	Store away from heat and sources of ignition. Store in dry, cool, well-ventilated area. Store away from incompatible and reactive materials (See section 5 and 10). Ensure the storage containers are grounded/bonded.

**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><i>The selection of personal protective equipment varies, depending upon conditions of use.</i></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>	Bright oily liquid.	<b>Viscosity</b>	1.3 - 4.1 cSt @ 40°C (104°F)
<b>Colour</b>	Clear to yellow / brown (may be dyed for taxation purposes).	<b>Pour Point</b>	Variable, -50°C to 0°C (-58°F to -32°F)
<b>Odour</b>	Petroleum oil like.	<b>Softening Point</b>	Not applicable.
<b>Odour Threshold</b>	Not available	<b>Dropping Point</b>	Not applicable.
<b>Boiling Point</b>	150 - 371°C (302-700°F)	<b>Penetration</b>	Not applicable.
<b>Density</b>	0.80 - 0.85 kg/L @ 15°C (59°F)	<b>Oil / Water Dist. Coefficient</b>	Not available
<b>Vapour Density</b>	4.5 (Air = 1)	<b>Ionicity (in water)</b>	Not applicable.
<b>Vapour Pressure</b>	Not available	<b>Dispersion Properties</b>	Not available
<b>Volatility</b>	Semivolatile to volatile.	<b>Solubility</b>	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.

**Section 10. Stability and Reactivity**

<b>Corrosivity</b>	Not available		
<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, NOx, SOx, H2S, H2O, 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>	Acute oral toxicity (LD50): 7500 mg/kg (rat).
<b>Chronic or Other Toxic Effects</b>	
Dermal Route:	This product contains a component (at >= 1%) that can cause skin irritation. Therefore, this product is considered to be a skin irritant. Prolonged or repeated contact may defat and dry skin, and cause dermatitis. (See Other Considerations)
Inhalation Route:	Inhalation of this product may cause respiratory tract irritation. Inhalation of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.
Oral Route:	Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. Ingestion of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.
Eye Irritation/Inflammation:	This product contains a component (at >= 1%) that can cause eye irritation. Therefore, this product is considered to be an eye irritant.
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 >= 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 >= 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 >= 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):	ACGIH A3: animal carcinogen. [Diesel oil] (See Other Considerations)
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.

<b>DIESEL FUEL</b>		<b>Page Number: 4</b>
<b>Carcinogenicity (OSHA):</b>	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.	
<b>Other Considerations</b>	<p>Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer.</p> <p>Diesel engine exhaust particulate is probably carcinogenic to humans (IARC Group 2A).</p>	

<b>Section 12. Ecological Information</b>			
<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.		

<b>Section 13. Disposal Considerations</b>	
<b>Waste Disposal</b>	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.

<b>Section 14. Transport Information</b>			
<b>TDG Classification</b>	DIESEL FUEL, 3, UN1202, PGIII (CL-TDG)	<b>Special Provisions for Transport</b>	See Transportation of Dangerous Goods Regulations.

Section 15. 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 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.											
DSD/DPD (Europe)		Not evaluated.	HCS (U.S.A.)  CLASS: Irritating substance. CLASS: Target organ effects. CLASS: Combustible liquid having a flash point between 37.8°C (100°F) and 93.3°C (200°F).										
ADR (Europe) (Pictograms)		NOT EVALUATED FOR EUROPEAN TRANSPORT  NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.	DOT (U.S.A) (Pictograms)  										
HMIS (U.S.A.)		<table><tr><td>Health Hazard</td><td>2*</td></tr><tr><td>Fire Hazard</td><td>2</td></tr><tr><td>Reactivity</td><td>0</td></tr><tr><td>Personal Protection</td><td>H</td></tr></table>	Health Hazard	2*	Fire Hazard	2	Reactivity	0	Personal Protection	H	NFPA (U.S.A.)  Health    Fire Hazard Reactivity Specific hazard  Rating 0 Insignificant 1 Slight 2 Moderate 3 High 4 Extreme		
Health Hazard	2*												
Fire Hazard	2												
Reactivity	0												
Personal Protection	H												

<b>Section 16. Other Information</b>	
<b>References</b>	Available upon request. * Marque de commerce de Petro-Canada - Trademark
<b>Glossary</b>	<div> 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) </div> <div> 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) </div>
<b>Continued on Next Page</b>	<b>Internet: <a href="http://www.petro-canada.ca/msds">www.petro-canada.ca/msds</a></b> <b>Available in French</b>

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

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

**For Copy of MSDS**

Internet: [www.petro-canada.ca/msds](http://www.petro-canada.ca/msds)

Western Canada, Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228

Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385

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Prepared by Product Safety - JDW on 2/6/2004.

Data entry by Product Safety - JDW.

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