





Section 1. Ci	hemical Product and Company Identification	E	
Product Name	PETRO-CANADA SUPREME 5W-30, 10W-30, 10W-40, 20W-50 MOTOR OIL	Code	410-344, MOSP53 410-341, MOSP13 410-342, MOSP14 410-343, MOSP25
Synonym	Not available.	Validated	on 8/31/2004.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Petro-Canada: Emergency 403-296-3000 Canutec Transportation: 613-996-6666	
Material Uses	Supreme is designed for the lubrication of all gasoline, propane and CNG engines where the manufacturer recommends the use of API SM quality oils. SAE 5W-30 and 10W-30 grades also meet the requirements of ILSAC GF-4.		Poison Control Centre: Consult local telephone directory for emergency number(s).

				Ехр	sure Limits (ACGIH))
	Name	CAS#	% (W/W)	TLV-TWA(8 h)	STEL	CEILING
Mixture of severely hydrotreated and hydrocracked base oil (petroleum) and other proprietary, non-hazardous additives.		Mixture	100	5 mg/m³ (oil mist)	10 mg/m³ (oil mist)	Not established
Manufacturer Recommendation	Not applicable					
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.					

Section 3. Haz	Section 3. 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 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. Ingestion may produce a laxative effect. For more information refer to Section 11 of this MSDS.		

Section 4. First	
Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medica attention.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skir with running water and non-abrasive soap. Seek medical attention.
Inhalation	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.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.
Note to Physician	Not available

Flammability	May be combustible at high temperature.	Flammable Limits	Not available.
Flash Points	OPEN CUP: 223°C (433.4°F) (Cleveland)	Auto-Ignition Temperature	Not available
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.

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Products of Combustion	Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), calcium oxides (CaOx), compounds (POx), zinc oxides, boron oxides and molybdenum, smoke and irritating vapours as incomplete combustion.		
Fire Fighting Media and Instructions	NAERG96, GUIDE 171, Substances (low to moderate hazard). If tank, rail car or tank truck is in fire, ISOLATE for 800 meters (0.5 mile) in all directions; also, consider initial evacuation for 800 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is in withdraw from area and let fire burn out under controlled conditions. Withdraw immediately in calculation of venting safety device or any discolouration of tank due to fire. Cool containing vessels spray in order to prevent pressure build-up, autoignition or explosion. SMALL FIRE: use DRY foam, water spray or CO2. LARGE FIRE: use water spray, fog or foam. For small outdoor fires, pextinguishers may be used, and self contained breathing apparatus (SCBA) may not be required indoor fires and any significant outdoor fires, SCBA is required. Respiratory and eye protection afor fire fighting personnel.	meters (0.5 mpossible se of rising s with water chemicals portable fired. For all	

Section 6. Accidental Release Measures

Material Release or Spill

Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. 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.

Section 7. 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. 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 8. 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 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.

Body Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.

Respiratory 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.

Hands Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.

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

Section 9. Phy	sical and Chemical Propertie	es	
Physical State and Appearance	Viscous liquid.	Viscosity	5W-30: 62.3 cSt @ 40°C (104°F), 10.6 cSt @ 100°C (212°F). VI=160 10W-30: 67.4 cSt @ 40°C (104°F), 10.5 cSt @ 100°C (212°F). VI=143 10W-40: 97.2 cSt @ 40°C (104°F), 14.1 cSt @ 100°C (212°F). VI=143 20W-50: 170 cSt @ 40°C (104°F), 19.0 cSt @ 100°C (212°F). VI=127
Colour	Light amber.	Pour Point	5W-30: -36°C (-33°F) 10W-30: -36°C (-33°F) 10W-40: -30°C (-22°F) 20W-50: -24°C (-11°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.
Continued on Next P	age Intern	et: www.petro-canada.calmsds	Available in French

PETRO-CANADA SUPREME 5W-30, 10W-30, 10W-40, 20W-50 MOTOR OIL			Page Number: 3
Density	0.8566 - 0.8775 kg/L @ 15°C (59°F).	Oil / Water Dist. Coefficient	Not available.
Vapour Density	Not available.	lonicity (in water)	Not available
Vapour Pressure	Negligible at ambient temperature and pressure.	Dispersion Properties	Not available
Volatility	Non-volatile	Solubility	Insoluble in water.

Corrosivity	Copper corrosion, 3h, 121°C (ASTM D0130): 1a			
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 and acids.	Decomposition Products	May release COx, H2S, methacrylate monomers, alkyl mercaptans, smoke and irritating vapours when heated to decomposition.	

Section 11. Toxicologica	I 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 some of the ingredients is provided below: Acute oral toxicity (LD50): >5000 mg/kg (rat). Acute dermal toxicity (LD50): >2000 mg/kg (rabbit). Acute inhalation toxicity (LC50): >2500 mg/m³/4h (rat).		
Chronic or Other Toxic Effective Dermal Route:	cts 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 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 >= 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):	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.		

PETRO-CANADA SUPREME 5W-30, 10W-30, 10W-40, 20W-50 MOTOR OIL				Page Number: 4	
Section 12. Ec	ological Information				
Environmental Fate	Not available	Persistance/ Bioaccumulation Potential	Not available		
BOD5 and COD	Not available.	Products of Biodegradation	Not available.		
Additional Remarks	No additional remark.				

Section 13. Dis	posal 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.

Section 14. Transport Information		
TDG Classification Not a hazardous material for transport according to the TDG Regulations. (Canada)	Special Provisions for Transport	Not applicable.

	ulatory Information			INVICACE AU		- C +1-1 - C - 1-41-
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 fo	ormulation are liste	d on the US EPA-TS	SCA Inventory.		
	All components of this p (EINECS)	product are on the	European Inventory	of Existing Commerc	cial Cho	emical Substance
	This product has been co (CPR) and the MSDS co				led Pro	oducts Regulations
	Please contact Product	Safety for more in	ormation.			
DSD/DPD (Europe)	Not evaluated.		HCS (U.S.A.)	Does not meet the physical hazard acc Hazard Communica States)	cording	g to the OSHA -
			Control of the Contro			
ADR (Europe)	NOT EVALUATED FOR EUROPEAN TRANSPORT		DOT (U.S.A)			
ADR (Europe) (Pictograms)	NOT EVALUATED FOR EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.		DOT (U.S.A) (Pictograms)	\oslash		
180000 IN IN IN	EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE	1 NFPA (U	(Pictograms)	Ratin	ng O	Insignificant
(Pictograms)	EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.	1 NFPA (U	(Pictograms)	re Hazard Reactivity	1	Slight
(Pictograms)	EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN. Health Hazard Fire Hazard	1 NFPA (U	(Pictograms) S.A.) Health 1 0	re Hazard	1	Slight Moderate

References	Available upon request. * Marque de commerce de Petro-Canada - T	rademark
ADR - Agreement ASTM - American BOD5 - Biological CAN/CGA B149.2 CAS - Chemical Al CEPA - Canadian CERCLA - Compi and Liability Act CFR - Code of Fec CHIP - Chemicals List COD5 - Chemical CPR - Controlled F DOT - Department DSCL - Dangerous	Environmental Protection Act rehensive Environmental Response, Compensation deral Regulations Hazard Information and Packaging Approved Supply Oxygen Demand in 5 days Products Regulations	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 & Health NPRI - National Pollutant Release Inventory NSNR - New Substances Notification Regulations (Canada) NTP - National Toxicology Program OSHA - Occupational Safety & 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

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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 - Hazard Communication Standard

HMIS - Hazardous Material Information System IARC - International Agency for Research on Cancer 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

The Canadian Controlled Products Regulations (CPR) (Under the Hazardous Products Act, part of the WHMIS legislation) only apply to WHMIS Controlled (i.e., hazardous) products. Therefore, the CPR and the 3-year update rule specified therein do not apply to WHMIS Non-Controlled products. Although this is true, customarily Petro-Canada reviews and updates Non-Controlled product MSDS if a customer requests such an update. These Non-Controlled product updates are given a lower priority than Controlled products but are handled as soon as practicable. If you would like to verify if the MSDS you have is the most current, or you require any further information, please contact:

Internet: www.petro-canada.ca

Lubricants:

Western Canada, telephone: 1-800-661-1199; fax: (780) 464-9564

Ontario & Central Canada, telephone: 1-800-268-5850 and (905) 822-4222; fax:

1-800-201-6285

Quebec & Eastern Canada, telephone: 1-800-576-1686; fax: 800-201-6285

For Product Safety Information: (905) 804-4752

Prepared by Product Safety - TLM on 8/31/2004.

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Data entry by Product Safety - RS.

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.



WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
	B-2, D-2A, D-2B		<u>^</u>

Product Name	IET D AVIATION TUDDINE FUEL	Code	W219
Product Name	JET B AVIATION TURBINE FUEL	Code	SAP: 150, 151, 152
Synonym	Jet B; Jet B DI; JP-4; Jet F-40; NATO F-40; Turbine Fuel, Aviation, Wide Cut Type (CAN/CGSB-3.22).	Validated on 12/3/2001.	
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult
Material Uses	Used as aviation turbine fuel. May contain a fuel system icing inhibitor.	1	local telephone directory for emergency number(s).

				Ex	posure Limits (ACGIH)	
	Name	CAS#	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
Benzene Fuel System Icing Ir Dicthylene Glycol M Anti-static, antioxida	ant and metal deactivator additives. B DI, JP-4, Jet F-40 and NATO F-40	64741-41-9 71-43-2 111-77-3 Not applicable	>99 <0.5 <0.15 <0.1	Not established 0.5 ppm Not established Not applicable	Not established 2.5 ppm Not established Not applicable	Not established Not established Not established Not applicable
Manufacturer Recommendation	Not applicable					
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.					

Section 3. Hazards Identification.		
Potential Health Effects	Skin and eye contact can cause irritation. Inhalation of vapours can cause irritation of the respiratory tract and CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death. Aspiration into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure. This product contains a cancer causing agent. For more information, refer to Section 11.	

Section 4. First A	Section 4. First Aid Measures			
Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.			
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.			
Inhalation	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.			
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.			
Note to Physician	Not available			

Section 5. Fire-fi	ghting Measures		
Flammability	Flammable liquid (NFPA).	Flammable Limits	LOWER: 1.3% UPPER: 8% (NFPA)
Flash Points	CLOSED CUP: -31°C (-24°F) (NFPA)	Auto-Ignition Temperature	240°C (464°F) (NFPA)
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames, sparks, and 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.		Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire.
Products of Combustion	Carbon oxides (CO, CO2), nitrogen oxides (NOx), as products of incomplete combustion.	sulphur oxides (SOx),	aldehydes, ketones, smoke and irritating vapours
Continued on Next Pag	Available in French		

JET B AVIATION TU	RBINE FUEL	Page Number: 2
Fire Fighting Media and Instructions	NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a very low flash point: Use of water spray when	fighting fire may be inefficient.
	If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters evacuation for 800 meters (1/2 mile) in all directions.	(1/2 mile) in all directions; also consider initial
	SMALL FIRES: Dry chemical, CO2, water spray or regular foam. LARGE FIRES: Water spray, fog or regular foam. Do not use straight stread oit without risk.	ams. Move containers from fire area if you car
	Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distar nozzles.	nce or use unmanned hose holders or monitor
	Cool containers with flooding quantities of water until well after fire is out. from venting devices or any discolouration of tank. ALWAYS stay away unmanned hose holders or monitor nozzles; if this is impossible withdra pressure self-contained breathing apparatus (SCBA). Structural firefighte protection.	from the ends of tanks. For massive fire, use w from area and let fire burn. Wear positive

Section 6. Accidental Release Measures

Material Release

or Spill

Section 7. H	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.
Handling	Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk. DO NOT reuse empty containers without commercial cleaning or reconditioning. Ground/bond line and equipment during pumping or transfer to avoid accumulation of static charge. DO NOT ingest. Do not breathe gas/vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately. Avoid contact with skin and eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in tightly closed containers in cool, dry, isolated, well-ventilated area, and away from incompatibles. Ground all equipment containing material. Keep away from direct sunlight.

NAERG96, GUIDE 128, Flammable Liquids (Non-polar/ Water-immiscible). 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

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.
	The selection of personal protective equipment varies, depending upon conditions of use. 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.
Body	Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.
Respiratory	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.
Hands	Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.
Feet	Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section 9. Phys	Class liquid	Managha	Not evellable (similar to encelles)
Physical State and Appearance	Clear liquid.	Viscosity	Not available (similar to gasoline)
Colour	Clear and colourless.	Pour Point	Freezing Point: <-51°C (<-60°F) for Jet B/Jet B DI; <-58°C (<-72°F) for Jet Fuel F-40.
Odour	Gasoline like.	Softening Point	Not applicable.
Odour Threshold	Not available	Dropping Point	Not applicable.
Boiling Point	50 to 270°C (122 to 518°F)	Penetration	Not applicable.
Density	0.75 to 0.80 kg/L @ 15°C (59°F).	Oil / Water Dist. Coefficient	Not available
Vapour Density	3.5 (Air = 1)	Ionicity (in water)	Not available
Vapour Pressure	21 kPa (158 mmHg) @ 37.8°C (100°F).	Dispersion Properties	Not available
Volatility	Volatile.	Solubility	Insoluble in water. Partially miscible in some alcohols Miscible in other petroleum solvents.
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JET B AVIATION TURBINE FUEL.			Page Number: 3		
Section 10. 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 and acids.	Decomposition Products	May release COx, NOx, SOx, aldehydes, ketones, smoke and irritating vapours when heated to decomposition.		

Section 11. Toxicological Ir				
Routes of Entry	Skin contact, eye contact, inhalation and ingestion.			
Acute Lethality	Based on toxicity of similar product. Acute oral toxicity (LD50): >20000 mg/kg (rat). Acute dermal toxicity (LD50): >5000 mg/kg (rabbit). Acute inhalation toxicity (LC50): >5000 mg/m³/4h (rat).			
	Benzene Acute oral toxicity (LD50): 930 mg/kg (rat). Acute dermal toxicity (LD50): >9400 mg/kg (rabbit). Acute inhalation toxicity (LC50): 13200 ppm/4h (rat).			
	Diethylene Glycol Monomethyl Ether Acute oral toxicity (LD50): 4140-5180 mg/kg (rat). Acute dermal toxicity (LD50): >2000 mg/kg (rabbit). Acute inhalation toxicity (LC50): >50000 mg/m³/4h (rat).			
Chronic or Other Toxic Effects Dermal Route:	Skin contact can cause irritation.			
Inhalation Route:	Inhalation of vapours can cause irritation of the respiratory tract and CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death.			
Oral Route:	Aspiration into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure.			
Eye Irritation/Inflammation:	Eye contact can cause irritation.			
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 components.			
Respiratory Tract Sensitization:	This product is not expected to be a respiratory tract sensitizer, based on the available data and the know hazards of the components.			
Mutagenic:	Benzene is tumorigenic by RTECS criteria.			
Reproductive Toxicity:	This product is not expected to be a reproductive hazard, based on the available data and the known hazard of the components.			
Teratogenicity/Embryotoxicity:	Fetotoxicity, embryotoxicity and/or teratogenicity have been observed in rats or rabbits following oral or derma administration, in the absence of maternal toxicity. [Diethylene Glycol Monomethyl Ether]			
Carcinogenicity (ACGIH):	ACGIH A1: confirmed human carcinogen. [Benzene]			
Carcinogenicity (IARC):	IARC Group 1: carcinogenic to Humans. [Benzene]			
Carcinogenicity (NTP):	NTP Group 1: known to be a carcinogen. [Benzene]			
Carcinogenicity (IRIS):	Not available			
Carcinogenicity (OSHA):	Benzene is an OSHA known carcinogen.			
Other Considerations	No additional remark.			

Environmental Fate	Not available	Persistance/ Bioaccumulation Potential	Not available	INC.
BOD5 and COD	Not available	Products of Biodegradation	Not available	

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Section 13. Disposal Considerations

Waste Disposal

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. Consult your local or regional authorities.

Section 14. Transport Information

TDG Classification

Currently: Fuel, aviation, turbine engine, 3, UN1863, PGII

As of August 15, 2002: FUEL, AVIATION, TURBINE ENGINE, 3, UN1863, PGII

Special Provisions for Transport

For Transport

Section 15. Regulatory Information This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on Other the CEPA-DSL (Domestic Substances List). Regulations 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: Contains material which may cause CLASS: Flammable liquid having a flash point lower than 37.8°C (100°F). CLASS: Toxic. CLASS: Irritating substance. CLASS: Target organ effects. DOT (U.S.A) ADR (Europe) NOT EVALUATED FOR (Pictograms) (Pictograms) NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN. Rating 0 Insignificant 2* HMIS (U.S.A.) Health Hazard NFPA (U.S.A.) Fire Hazard 1 Slight 3 Fire Hazard Reactivity Health 2 Moderate 0 Reactivity 3 High Specific hazard H 4 Extreme Personal Protection

Section 16. Other Information Available upon request. References Marque de commerce de Petro-Canada - Trademark Glossary ACGIH - American Conference of Governmental Industrial Hygienists IRIS - Integrated Risk Information System ADR - Agreement on Dangerous goods by Road (Europe) LD50/LC50 - Lethal Dose/Concentration kill 50% ASTM - American Society for Testing and Materials (LDLo/LCLo - Lowest Published Lethal Dose/Concentration BOD5 - Biological Oxygen Demand in 5 days NAERG'96 - North American Emergency Response Guide Book (1996) CAN/CGA B149.2 Propane Installation Code CAS - Chemical Abstract Services NFPA - National Fire Prevention Association NIOSH - National Institute for Occupational Safety & Health CEPA - Canadian Environmental Protection Act NPRI - National Pollutant Release Inventory CERCLA - Comprehensive Environmental Response, Compensation and Liability NSNR - New Substances Notification Regulations (Canada) NTP - National Toxicology Program CFR - Code of Federal Regulations CHIP - Chemicals Hazard Information and Packaging Approved Supply List OSHA - Occupational Safety & Health Administration PEL - Permissible Exposure Limit COD5 - Chemical Oxygen Demand in 5 days RCRA - Resource Conservation and Recovery Act CPR - Controlled Products Regulations SARA - Superfund Amendments and Reorganization Act DOT - Department of Transport SD - Single Dose DSCL - Dangerous Substances Classification and Labeling (Europe) STEL - Short Term Exposure Limit (15 minutes) TDG - Transportation Dangerous Goods (Canada) DSD/DPD - Dangerous Substances or Dangerous Preparations Directives TDLo/TCLo - Lowest Published Toxic Dose/Concentration (Europe) TLm - Median Tolerance Limit TLV-TWA - Threshold Limit Value-Time Weighted Average DSL - Domestic Substance List EEC/EU - European Economic Community/European Union TSCA - Toxic Substances Control Act EINECS - European Inventory of Existing Commercial Chemical Substances EPCRA - Emergency Planning and Community Right to Know Act FDA - Food and Drug Administration USEPA - United States Environmental Protection Agency USP - United States Pharmacopoeia WHMIS - Workplace Hazardous Material Information System FIFRA - Federal Insecticide, Fungicide and Rodenticide Act ICS - Hazardous Communication System HMIS - Hazardous Material Information System IARC - International Agency for Research on Cancer

For Copy of MSDS

Prepared by Product Safety - TAR on 12/3/2001.

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JET B AVIATION TURBINE FUEL	Page Number: 5	
Western Canada, telephone: 403-296-4158; fax: 403-296-6551 Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228 Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385 For Product Safety Information: (905) 804-4752	Data entry by Product Safety - JDW.	

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.



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
(b) (7)	B-2, D-2A, D-2B		

Product Name	GASOLINE, UNLEADED	Code W102E
Synonym	Regular, Unleaded Gasoline (US Grade), Mid-Grade, Plus, Super, WinterGas, SummerGas, Supreme, SuperClean WinterGas, RegularClean, PlusClean, Premium, marked or dyed gasoline, Super Premium (94 RO)	Validated on 6/9/2004.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Petro-Canada: Emergency403-296-3000 Canutec Transportation: 613-996-6666
Material Uses	Unleaded gasoline is used in spark ignition engines including motor vehicles, inboard and outboard boat engines, small engines such as chain saws and lawn mowers, and recreational vehicles.	

				Expos	ure Limits (ACGIH)	
	Name	CAS#	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
manufacturing of its g	does not use MTBE in the asoline, however MTBE can be to time through the use of	8006-61-9 1634-04-4	85-100 0-15	300 ppm (890 mg/m³) 40 ppm (144mg/m³)	500 ppm (1480 mg/m³) Not established	Not established Not established
Manufacturer Recommendation	Not applicable				-	
Other Exposure Limits	Consult local, state, provincial	or territory au	thorities for	acceptable exposure l	imits.	

Section 3. Haz	Section 3. Hazards Identification.			
Potential Health Effects	Possible cancer hazard. Inhalation of vapours can be irritating to respiratory tract and cause CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconciousness and possibly death. Skin and eye contact can cause irritation. Toxic if ingested. For more information, refer to Section 11.			

Section 4. First	Aid Measures			
Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention if irritation persists.			
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated with running water and non-abrasive soap. Seek medical attention.			
Inhalation	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.			
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.			
Note to Physician	Not available			

GASOLINE, UNLEAR	Page Number: 2					
Section 5. Fire-fighting Measures						
Flammability	Flammable liquid (NFPA).	Flammable Limits	Lower: 1.3%; Upper: 7.6% (NFPA).			
Flash Points	Closed Cup: -50 to -38°C (-58 to -36°F), ASTM D56 Standard Test Method for Flash Point by Tag Closed Tester.	Auto-Ignition Temperature	257°C (495°F) (NFPA).			
Fire Hazards in Presence of Various Substances	Extremely flammable in presence of open flames, sparks, and heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. Rapid escape of vapour may generate static charge causing ignition.	In Leavising City City	Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire. Vapours may form explosive mixtures with air.			
Products of Combustion	Carbon oxides (CO, CO2), nitrogen oxides (NOx), polynuclear aromatic hydrocarbons, phenols, smoke an irritating vapours as products of incomplete combustion.					
Fire Fighting Media and Instructions	has a very low flash point, use of water spray chemicals, CO2, water spray or foam. LARG If tank, rall car or tank truck is involved in a consider initial evacuation for 1600 meters (1 unless leak can be stopped. Shut off fuel to withdraw from area and let fire burn out und sound from venting safety device or any discipancy in order to prevent pressure build-up,	y when fighting fire EFIRE: Use wat fire, ISOLATE fo mile) in all directi fire if it is possible er controlled cond plouration of tank autoignition or e Self-contained br	ar/water-immiscible). CAUTION: This product a may be inefficient. SMALL FIRE: Use DRY er spray, fog or foam. DO NOT use water jet. or 1600 meters (1 mile) in all directions; also, ions. DO NOT extinguish a leaking gas flame to do so without hazard. If this is impossible, itions. Withdraw immediately in case of rising due to fire. Cool containing vessels with water xplosion. Avoid flushing spilled material into eathing apparatus (SCBA) will be required if or buildings.			

Section 6. Accidental Release Measures

Material Release or Spill

NAERG96, GUIDE 128, flammable/combustible liquid (non-polar/water-immiscible). Evacuate in a downwind direction for at least 300 meters (1000 feet). ELIMINATE ALL IGNITION SOURCES. Ventilate closed spaces before entering. By forced ventilation, maintain concentration of vapour below the range of explosive mixture. Avoid contact, fully-encapsulating, vapour-protective clothing should be worn for spills and leaks with no fire. Stop leak if without risk. Use vapour suppressing foam or water spray to reduce vapours; it may reduce vapour, but it may not prevent ignition in closed spaces; isolate area until vapour has dispersed. Contain spill. Absorb with inert absorbents such as dry clay, or diatomaceous earth, or recover using electrically grounded explosion-proof pumps. Avoid inhaling dust of diatomaceous earth for it may contain silica (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.

	Handling and Storage
Handling	Keep away from heat, spark and other sources of ignition. Empty container may contain flammable/explosive residues or vapours. DO NOT reuse empty containers without commercial cleaning or reconditioning Ground/bond line and equipment during pumping or transfer to avoid accumulation of static charge. DO NOT USE AS CLEANING FLUID OR SIPHON BY MOUTH. Wear proper protective equipment. Avoid inhalation and contact with skin or eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in cool, dry, isolated, well-ventilated area, and away from direct sunlight, sources of ignition and incompatibles. Flammable materials should be stored in a separate safety storage cabinet or room. Ground all equipment containing material.

Section 8. 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 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.

Body Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.

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GASOLINE, UNLEADER	Page Number: 3
Respiratory	Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and thos applicable to your area) and where engineering, work practices or other means of exposure reduction are no adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.
Hands	Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistar and insulated.
Feet	Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Physical State and Appearance	Clear liquid.	Viscosity	Not available		
Colour	Clear to slightly yellow, undyed liquid. May be dyed red for taxation purposes.		Not applicable.		
Odour	Gasoline. MTBE has a terpene-like odour.	Softening Point	Not applicable.		
Odour Threshold	Less than 1 ppm.	Dropping Point	Not applicable.		
Boiling Point	25 to 220°C (77 to 428°F) Initial boiling point by ASTM D86 Standard Test Method.		Not applicable.		
Density	0.7 kg/L @ 15°C (59°F).	Oil / Water Dist. Coefficient	Not available		
Vapour Density	3 to 4 (Air = 1) (NFPA).	Ionicity (in water)	Insoluble in water.		
Vapour Pressure	/apour Pressure <107 kPa @ 37.8°C (100°F)		Not available		
Volatility Volatile.		Solubility	Hydrocarbon components virtually insoluble in water. Soluble in alcohol, ether, chloroform, and benzene. Dissolves fats, oils and natural resins.		

Corrosivity	Non corrosive.				
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.	Decomposition Products	May release COx, NOx, phenols, polynuclear aromatic hydrocarbons, smoke and irritating vapours when heated to decomposition.		

Routes of Entry	Skin contact, eye contact, inhalation, and ingestion.
Acute Lethality	Gasoline: Acute oral toxicity (LD50): 13 600 mg/kg (rat). Acute dermal toxicity (LD50): >5000 mg/kg (rabbit). Acute inhalation toxicity (LC50): >300 000 mg/m³/4h (rat).
	MTBE: Acute oral toxicity (LD50): 29630 mg/kg (rat). Acute dermal toxicity (LD50): >6800 mg/kg (rabbit). Acute inhalation toxicity (LC50): 23 576 ppm/4h (rat).
Chronic or Other Toxic Eff	ects
Dermal Route:	This product can cause skin irritation. Prolonged or repeated contact with skin may cau dermatitis.
Inhalation Route:	Inhalation of vapours can be irritating to repiratory tract and cause CNS depression with sympton of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination unconciousness and possibly death.
Oral Route:	Swallowing or vomiting of the liquid may result in aspiration into the lungs. Can cause Cl depression. (See Inhalation Route for symptoms).
Eye Irritation/Inflammation:	Can cause irritation to the eyes.
Immunotoxicity:	Not available
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GASOLINE, UNLEADED	Page Number: 4
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:	This product is not considered to be a mutagen, based on the available data and the known hazards of the components.
Reproductive Toxicity:	This product is not considered to be a reproductive hazard, based on the available data and the known hazards of the components.
Teratogenicity/Embryotoxicity:	This product is not considered to be a teratogen or an embryotoxin, based on the available data and the known hazards of the components.
Carcinogenicity (ACGIH):	ACGIH A3: animal carcinogen. [Gasoline, MTBE]
Carcinogenicity (IARC):	IARC Group 2B: possibly carcinogenic to humans. [Gasoline]
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.
Other Considerations	Unleaded gasoline caused kidney effects in male rats and liver effects in female mice.

Environmental Fate	Not available	Persistance/ Bioaccumulation Potential	Not available	
BOD5 and COD	Not available	Products of Biodegradation	Not available	- 200
Additional Remarks	Not available			

Section 13. Disposal Considerations			
Waste Disposal	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. Consult your local or regional authorities.		

Section 14. Transport Information		
TDG Classification GASOLINE, 3, UN1203, PGII (CL-TDG)	Special Provisions for Transport	See Transportation of Dangerous Goods Regulations.

Other Regulations	CEPA: 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). EPA: All components of this formulation are listed on the US EPA-TSCA Inventory. 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: Contains material which may cancer. CLASS: Flammable liquid having a fl point lower than 37.8°C (100°F). CLASS: Irritating substance. CLASS: Target organ effects.		uid having a flash C (100°F). tance.	
ADR (Europe) (Pictograms)	NOT EVALUATED FOR EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.			DOT (U.S.A) (Pictograms)	B		
HMIS (U.S.A.)	Health Hazard	2*			Fire Hazard Reactivity		0 Insignificant
	Fire Hazard	4					1 Slight 2 Moderate
	Reactivity	0		XX			~ moderate