





DIESEL FUEL		Page Number: 4
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.	
Other Considerations	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. Diesel engine exhaust particulate is probably carcinogenic to humans (IARC Group 2A).	

Section 12. 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 13. 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.

Section 14. Transport Information			
TDG Classification	DIESEL FUEL 3, UN1202, PGIII (CL-TDG)	Special Provisions for Transport	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	<table><tr><td></td><td>Fire Hazard</td><td>Rating</td><td>0 Insignificant</td></tr><tr><td></td><td>Reactivity</td><td>1</td><td>Slight</td></tr><tr><td></td><td></td><td>2</td><td>Moderate</td></tr><tr><td></td><td></td><td>3</td><td>High</td></tr><tr><td></td><td></td><td>4</td><td>Extreme</td></tr></table>		Fire Hazard	Rating	0 Insignificant		Reactivity	1	Slight			2	Moderate			3	High			4	Extreme
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Section 16. Other Information																															
References	Available upon request. * Marque de commerce de Petro-Canada - Trademark.																														
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Continued on Next Page Internet: www.petro-canada.ca/msds Available in French																															

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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 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 For Product Safety Information: (905) 804-4752		Prepared by Product Safety - JDW on 2/6/2004. Data entry by Product Safety - JDW.
<i>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.</i>		

Date Prepared: July 13, 2004
Supersedes: March 19, 2003
MSDS Number: 08522

1. PRODUCT INFORMATION

Product Identifier: UNLEADED GASOLINE
REGULAR UNLEADED
MIDGRADE UNLEADED
ESSO SUPER PREMIUM UNLEADED
PREMIUM UNLEADED
ESSO REGULAR UNLEADED
ESSO MIDGRADE UNLEADED
ESSO EXTRA MIDGRADE UNLEADED
ESSO PREMIUM UNLEADED
EXXON MIDGRADE UNLEADED
EXXON PREMIUM UNLEADED
INDOLENE GASOLINE
EXXON REGULAR UNLEADED
PREMIUM GASOLINE
ESSO EXTRA MIDGRADE GASOLINE
MIDGRADE GASOLINE
GASOLINE REGULAR UNLEADED
GASOLINE MIDGRADE UNLEADED MUL89 (DYED OR CLEAR)
GASOLINE REGULAR UNLEADED RUL87 (DYED OR CLEAR)
GASOLINE PREMIUM UNLEADED PUL91 (DYED OR CLEAR)
GASOLINE PREMIUM UNLEADED PUL92 (DYED OR CLEAR)
GASOLINE PREMIUM UNLEADED SUL94
SUPERSUPREME 94 PREMIUM UNLEADED GASOLINE-MTBE
GASOLINE MIDGRADE UNLEADED MUL89 (P91/R87)
GASOLINE MIDGRADE UNLEADED MUL89 DCA (P92/R87)
GASOLINE REGULAR UNLEADED RUL87 (NORTH ATL REF)
GASOLINE PREMIUM UNLEADED PUL91 (NORTH ATL REF)

Application and Use:
Motor gasoline fuel, for use in internal combustion engines only

Product Description:

A mixture of aliphatic and aromatic hydrocarbons and additives.

REGULATORY CLASSIFICATION

WHMIS:
Class D, Division 2, Subdivision A: Very Toxic Material.
Class B, Division 2: Flammable Liquids.

CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT
All components of this product are either on the Domestic
Substances List (DSL) or are exempt.

TDG INFORMATION (RAIL/ROAD):

Shipping Name: Gasoline
Class: 3



CDNX DSP

Packing Group: II
PIN Number: UN1203
Marine Pollutant: P

Please be aware that other regulations may apply.

TELEPHONE NUMBERS

Emergency 24 hr. (519) 339-2145
Technical Info. (800) 268-3183

MANUFACTURER/SUPPLIER:

IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(416) 968-4441

2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

NAME	CAS #
Gasoline	>99 V/V 86290-81-5 LD50>18ml/kg, orl, rat LD50> 5ml/kg, skn, rbt
Methyl T-Butyl Ether	0-15 V/V 1634-04-4 LD50:3.9g/Kg, ing, rat LD50:>10g/Kg, skn, rbt LC50:142Mg/L, inh, rat

3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid
Specific gravity: not available
Viscosity: 0.80 cSt at 20 deg
Vapour Density: 3.2
Boiling Point: 35 to 210 deg C
Evaporation rate: >10 (1= n-butylacetate)
Solubility in water: negligible
Freezing/Pour Point: -60 deg C less than
Odour Threshold: not available
Vapour Pressure: 76 kPa to 103 kPa at 38 deg C
Density: 0.73 g/cc at 15 deg C
Appearance/odour: Naturally occurring water white or pale yellow;
may be dyed a variety of colours for tax or other
purposes; petroleum odour.

4. HEALTH HAZARD INFORMATION

NATURE OF HAZARD

INHALATION:

High vapour concentrations are irritating to the eyes, nose, throat and lungs; may cause headaches and dizziness; may be anesthetic and may cause other central nervous system effects
Avoid breathing vapours or mists.

EYE CONTACT:

Slightly irritating, but will not injure eye tissue.

SKIN CONTACT:



CDNX-DSP

Low toxicity.
Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).

INGESTION:

Low toxicity.
Small amounts of this liquid drawn into the lungs from swallowing or vomiting may cause severe health effects (e.g. bronchopneumonia or pulmonary edema).

CHRONIC:

The International Agency for Research on Cancer (IARC) has evaluated gasoline and found it to be a possible human carcinogen. Contains benzene. Human health studies (epidemiology) indicate that prolonged and/or repeated overexposures to benzene may cause damage to the blood producing system and serious blood disorders, including leukemia. Animal tests suggest that prolonged and/or repeated overexposures to benzene may damage the embryo/fetus. The relationship of these animal studies to humans has not been fully established. Contains n-hexane. Prolonged and/or repeated exposures may cause damage to the peripheral nervous system (e.g. fingers, feet, arms etc.). Methyl Tertiary Butyl Ether (MTBE) was tested for carcinogenicity, neurotoxicity, chronic, reproductive and developmental toxicity. The NOEL for all endpoints evaluated in three animal species was 400 ppm or greater. An increase in kidney tumors/damage and liver tumors was observed in animals exposed to high concentrations of MTBE. Some embryo/fetal toxicity and birth defects were observed in the offspring of pregnant mice exposed to maternally toxic doses of MTBE, however the offspring of exposed pregnant rabbits were unaffected. The significance of the animal findings at high exposures are not believed to be directly related to potential human health hazards in the workplace.

ACUTE TOXICITY DATA:

Based on animal testing data from similar materials and products, the acute toxicity of this product is expected to be:
Oral : LD50 > 18 ml/kg (Rat)
Dermal : LD50 > 5 ml/kg (Rabbit)

OCCUPATIONAL EXPOSURE LIMIT:

Manufacturer Recommends:
For gasoline, 300 mg/m³.
For Methyl-tert-Butyl Ether, 25 ppm (90 mg/m³) 8-hour TWA and 75 ppm (270 mg/m³) 15-minute STEL.

ACGIH recommends:

For Gasoline, ACGIH recommends a TWA of 300 ppm (890 mg/m³) and categorizes it as an animal carcinogen.
For n-Hexane (skin), 50 ppm (176 mg/m³).
For Benzene, ACGIH recommends a TWA of 0.5 ppm (1.6 mg/m³), (skin), and categorizes it as a confirmed human carcinogen.
For Methyl-tert-Butyl Ether, ACGIH recommends a TLV of 50 ppm (180 mg/m³) and categorizes it as an animal carcinogen.

Local regulated limits may vary

5. FIRST AID MEASURES

INHALATION:

In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial



CDNX DSP

respiration if breathing has stopped. Keep at rest. Call for prompt medical attention

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water. Use soap if available. Remove severely contaminated clothing (including shoes) and launder before reuse. If irritation persists, seek medical attention.

INGESTION

DO NOT induce vomiting since it is important that no amount of the material should enter the lungs (aspiration). Keep at rest. Get prompt medical attention.

6. PREVENTIVE AND CORRECTIVE MEASURES

PERSONAL PROTECTION:

The selection of personal protective equipment varies, depending upon conditions of use. In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves. Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin/eye contact is avoided. Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces. Use explosion-proof ventilation equipment.

HANDLING, STORAGE AND SHIPPING:

Keep containers closed. Handle and open containers with care. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material.

Store and load at normal (up to 30 deg C) temperature and at atmospheric pressure. Material will accumulate static charges which may cause a spark. Static charge build-up could become an ignition source. Use proper relaxation and grounding procedures. For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere. Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

LAND SPILL

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Vapours or dust may be harmful or fatal. Warn occupants of downwind areas.

CDNX: DSP

Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.

Recover by pumping (use an explosion proof motor or hand pump), or by using a suitable absorbent.

Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

WATER SPILL:

Eliminate all sources of ignition. Vapours or dust may be harmful or fatal. Warn occupants and shipping in downwind areas.

Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: -40 deg C COC D92 less than/moins de

Autoignition: NA Flammable Limits: LEL: 1.4% UEL: 7.6%

GENERAL HAZARDS:

Extremely flammable; material will readily ignite at normal temperatures. Flammable Liquid; may release vapours that form flammable mixtures at or above the flash point.

Toxic gases will form upon combustion.

Static Discharge; material may accumulate static charges which may cause a fire.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel. Shut off fuel to fire if possible to do so without hazard. If a leak or spill has not ignited use water spray to disperse the vapours.

Either allow fire to burn out under controlled conditions or extinguish with foam or dry chemical. Try to cover liquid spills with foam.

Respiratory and eye protection required for fire fighting personnel.

Avoid spraying water directly into storage containers due to danger of boilover.

A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

HAZARDOUS COMBUSTION PRODUCTS

Smoke, carbon monoxide, carbon dioxide under thermal decomposition.

8. REACTIVITY DATA
STABILITY:

This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents



CDNX DSP

HAZARDOUS DECOMPOSITION:

none

9. NOTES

All components of this product are listed on the U.S. TSCA inventory.

REVISION SUMMARY:

Since March 19, 2003, this MSDS has been revised in Section(s):

1, 2, 4

10. PREPARATION

Date Prepared: July 13, 2004

Prepared by: Lubricants & Specialties
IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(800) 268-3183

CAUTION: " The information contained herein relates only to this product or material and may not be valid when used in combination with any other product or material or in any process. If the product is not to be used for a purpose or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty, uses other than those described in Section 1 must be reviewed with the supplier. The information contained herein is based on the information available at the indicated date of preparation. This MSDS is for the use of Imperial Oil customers and their employees and agents only. Any further distribution of this MSDS by Imperial Oil customers is prohibited without the written consent of Imperial Oil."



Material Safety Data Sheet

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

Section 1. Chemical Product and Company Identification			
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 RON)	Validated on	6/9/2004.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada, 403-296-3000 Canute: Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
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.		

Section 2. Composition and Information on Ingredients					
Name	CAS #	% (V/V)	Exposure Limits (ACGIH)		
			TLV-TWA(8 h)	STEL	CEILING
Gasoline	8006-61-9	85-100	300 ppm (890 mg/m ³)	500 ppm (1480 mg/m ³)	Not established
Methyl tert-butyl ether	1634-04-4	0-15	40 ppm (144 mg/m ³)	Not established	Not established
Note: Petro-Canada does not use MTBE in the manufacturing of its gasoline, however MTBE can be introduced from time to time through the use of external gasoline blendstocks.					
Manufacturer	Not applicable				
Recommendation					
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

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, unconsciousness 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 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

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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.	Explosion Hazards in Presence of Various Substances	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, CO ₂), nitrogen oxides (NO _x), polynuclear aromatic hydrocarbons, phenols, smoke and irritating vapours as products of incomplete combustion.		
Fire Fighting Media and Instructions	NAERG96, GUIDE 128, flammable/combustible liquid (non-polar/water-immiscible). CAUTION: This product has a very low flash point, use of water spray when fighting fire may be inefficient. SMALL FIRE: Use DRY chemicals, CO ₂ , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet. If tank, rail car or tank truck is involved in a fire ISOLATE for 1600 meters (1 mile) in all directions; also consider initial evacuation for 1600 meters (1 mile) in all directions. DO NOT extinguish a leaking gas flame unless leak can be stopped. 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 discoloration of tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. Avoid flushing spilled material into sewers, streams or other bodies of water. Self-contained breathing apparatus (SCBA) will be required if approaching the fire from downwind, or to enter enclosed areas 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.		
Section 7. 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.		
Continued on Next Page		Internet: www.petro-canada.ca/msds	
		Available in French	

GASOLINE UNLEADED		Page Number: 3
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. Physical and Chemical Properties			
Physical State and Appearance	Clear liquid.	Viscosity	Not available
Colour	Clear to slightly yellow, undyed liquid. May be dyed red for taxation purposes.	Pour Point	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.	Penetration	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	<107 kPa @ 37.8°C (100°F)	Dispersion Properties	Not available.
Volatility	Volatile.	Solubility	Hydrocarbon components virtually insoluble in water. Soluble in alcohol, ether, chloroform, and benzene. Dissolves fats, oils and natural resins.

Section 10. Stability and Reactivity			
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.



Section 11. Toxicological Information	
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/m ³ 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 Effects	
Dermal Route:	This product can cause skin irritation. Prolonged or repeated contact with skin may cause dermatitis.
Inhalation Route:	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, unconsciousness and possibly death.
Oral Route:	Swallowing or vomiting of the liquid may result in aspiration into the lungs. Can cause CNS depression. (See Inhalation Route for symptoms).
Eye Irritation/Inflammation:	Can cause irritation to the eyes.
Immunotoxicity:	Not available.
Continued on Next Page Internet: www.petro-canada.ca/msds Available in French	

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.	

Section 12. Ecological Information			
Environmental Fate	Not available	Persistence/Bioaccumulation Potential	Not available
BOD5 and COD	Not available	Products of Biodegradation	Not available
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.

Section 15. Regulatory Information					
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 cause cancer. CLASS: Flammable liquid having a flash point lower than 37.8°C (100°F). CLASS: Irritating substance. CLASS: Target organ effects.		
ADR (Europe) (Pictograms)		NOT EVALUATED FOR EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN	DOT (U.S.A) (Pictograms) 		
HMIS (U.S.A.)		Health Hazard 2* Fire Hazard 4 Reactivity 0	NFPA (U.S.A.) Health  2 Fire Hazard 4 Reactivity 0		
			Rating 0 Insignificant 1 Slight 2 Moderate		

Continued on Next Page

 Internet: www.petro-canada.ca/msds

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GASOLINE UNLEADED		Page Number: 5	
Personal Protection H		Specific hazard	3 High 4 Extreme

Section 16. Other Information

References

Available upon request.

* 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	NFPA - National Fire Protection Association
CAS - Chemical Abstract Services	NIOSH - National Institute for Occupational Safety & Health
CEPA - Canadian Environmental Protection Act	NPRI - National Pollutant Release Inventory
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act	NSNR - New Substances Notification Regulations (Canada)
CFR - Code of Federal Regulations	NTP - National Toxicology Program
CHIP - Chemicals Hazard Information and Packaging Approved Supply List	OSHA - Occupational Safety & Health Administration
COD5 - Chemical Oxygen Demand in 5 days	PEL - Permissible Exposure Limit
CPR - Controlled Products Regulations	RCRA - Resource Conservation and Recovery Act
DOT - Department of Transport	SARA - Superfund Amendments and Reorganization Act
DSCL - Dangerous Substances Classification and Labeling (Europe)	SD - Single Dose
DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)	STEL - Short Term Exposure Limit (15 minutes)
DSL - Domestic Substance List	TDG - Transportation Dangerous Goods (Canada)
EEC/EU - European Economic Community/European Union	TDL or TCLo - Lowest Published Toxic Dose/Concentration
EINECS - European Inventory of Existing Commercial Chemical Substances	Tm - Median Tolerance Limit
EPCRA - Emergency Planning and Community Right to Know Act	TLV-TWA - Threshold Limit Value-Time Weighted Average
FDA - Food and Drug Administration	TSCA - Toxic Substances Control Act
FIFRA - Federal Insecticide, Fungicide and Rodenticide Act	USEPA - United States Environmental Protection Agency
HCS - Hazardous Communication System	USP - United States Pharmacopoeia
HMIS - Hazardous Material Information System	WHMIS - Workplace Hazardous Material Information System
IARC - International Agency for Research on Cancer	

For Copy of MSDS

Fuels & Solvents:

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

Prepared by Product Safety - JDW on 6/9/2004.

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.



Material Safety Data Sheet

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

Section 1. Chemical Product and Company Identification

Product Name	JET B AVIATION TURBINE FUEL	Code	W219 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	PF-TRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada: 403-296-3090 Canutec Transportation: 613-906-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
Material Uses	Used as aviation turbine fuel. May contain a fuel system icing inhibitor.		

Section 2. Composition and Information on Ingredients

Name	CAS #	%(V/V)	Exposure Limits (ACGIH)		
			TLV-TWA(8 h)	STEL	CEILING
1) Complex mixture of petroleum hydrocarbons (C6-C14);	64741-41-9	>99	Not established	Not established	Not established
2) Benzene	71-43-2	<0.5	0.5 ppm	2.5 ppm	Not established
3) Fuel System Icing Inhibitor (FSII) (if added*): Diethylene Glycol Monomethyl Ether	111-77-3	≤0.15	Not established	Not established	Not established
4) Anti-static, antioxidant and metal deactivator additives.	Not applicable	≤0.1	Not applicable	Not applicable	Not applicable
* Please note that Jet B DI, JP-4, Jet F-40 and NATO F-40 all contain Fuel System Icing Inhibitor (FSII).					
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, unconsciousness 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.
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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-fighting 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.	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), aldehydes, ketones, smoke and irritating vapours as products of incomplete combustion.		

Continued on Next Page

Available in French

JET B AVIATION TURBINE FUEL		Page Number: 2
Fire Fighting Media and Instructions	<p>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.</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, CO₂, 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

Material Release or Spill	<p>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 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.</p>
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Section 7. Handling and Storage

Handling	<p>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.</p>
Storage	<p>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.</p>

Section 8. Exposure Controls/Personal Protection

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

Section 9. Physical and Chemical Properties

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-Dt <-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

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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 CO _x , NO _x , SO _x , aldehydes, ketones, smoke and irritating vapours when heated to decomposition.

Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation and ingestion.		
Acute Lethality	<p>Based on toxicity of similar product</p> <p>Acute oral toxicity (LD50): >2000 mg/kg (rat).</p> <p>Acute dermal toxicity (LD50): >5000 mg/kg (rabbit).</p> <p>Acute inhalation toxicity (LC50): >5000 mg/m³/4h (rat).</p> <p>Benzene</p> <p>Acute oral toxicity (LD50): 930 mg/kg (rat).</p> <p>Acute dermal toxicity (LD50): >9400 mg/kg (rabbit).</p> <p>Acute inhalation toxicity (LC50): 13200 ppm/4h (rat).</p> <p>Diethylene Glycol Monomethyl Ether</p> <p>Acute oral toxicity (LD50): 4140-5180 mg/kg (rat).</p> <p>Acute dermal toxicity (LD50): >2000 mg/kg (rabbit).</p> <p>Acute inhalation toxicity (LC50): >50000 mg/m³/4h (rat).</p>		
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, unconsciousness 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 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:	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 hazards of the components.		
Teratogenicity/Embryotoxicity:	Fetotoxicity, embryotoxicity and/or teratogenicity have been observed in rats or rabbits following oral or dermal 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.		

Section 12. 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.		

JET 8 AVIATION TURBINE FUEL		Page Number: 4																					
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	Not applicable.																				
Section 15. Regulatory Information																							
Other Regulations	<p>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).</p> <p>All components of this formulation are listed on the US EPA-TSCA Inventory.</p> <p>All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).</p> <p>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.</p> <p>Please contact Product Safety for more information.</p>																						
DSD/DPD (Europe)	Not evaluated.	HCS (U.S.A.)	<p>CLASS: Contains material which may cause cancer.</p> <p>CLASS: Flammable liquid having a flash point lower than 37.8 C (100 F).</p> <p>CLASS: Toxic.</p> <p>CLASS: Irritating substances.</p> <p>CLASS: Target organ effects.</p>																				
ADR (Europe) (Pictograms)	<p>NOT EVALUATED FOR EUROPEAN TRANSPORT</p> <p>NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN</p>	DOT (U.S.A.) (Pictograms)																					
HMIS (U.S.A.)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Health Hazard</td> <td style="width: 50%;">2</td> </tr> <tr> <td>Fire Hazard</td> <td>3</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	3	Reactivity	0	Personal Protection	H	NFPA (U.S.A.)	<table style="width: 100%;"> <tr> <td style="width: 30%; text-align: center;">Health</td> <td style="width: 30%; text-align: center;">  </td> <td style="width: 30%; text-align: center;">Fire Hazard</td> <td style="width: 10%;"></td> </tr> <tr> <td></td> <td style="text-align: center;">Reactivity</td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">Specific hazard</td> <td></td> <td></td> </tr> </table>	Health		Fire Hazard			Reactivity				Specific hazard		
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<p>Glossary</p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <p>ACGIH - American Conference of Governmental Industrial Hygienists</p> <p>ADR - Agreement on Dangerous goods by Road (Europe)</p> <p>ASTM - American Society for Testing and Materials</p> <p>BOD₅ - Biological Oxygen Demand in 5 days</p> <p>CANCGAB149.2 - Propane Installation Code</p> <p>CAS - Chemical Abstract Services</p> <p>CEPA - Canadian Environmental Protection Act</p> <p>CERCLA - Comprehensive Environmental Response, Compensation and Liability Act</p> <p>CFR - Code of Federal Regulations</p> <p>CHIP - Chemical Hazard Information and Packaging Approved Supply List</p> <p>COD₅ - Chemical Oxygen Demand in 5 days</p> <p>CPR - Controlled Products Regulations</p> <p>DOT - Department of Transport</p> <p>DSDL - Dangerous Substances Classification and Labeling (Europe)</p> <p>DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)</p> <p>DSL - Domestic Substance List</p> <p>EEC/EU - European Economic Community/European Union</p> <p>EINECS - European Inventory of Existing Commercial Chemical Substances</p> <p>EPORA - Emergency Planning and Community Right to Know Act</p> <p>FDA - Food and Drug Administration</p> <p>FIFRA - Federal Insecticide, Fungicide and Rodenticide Act</p> <p>HCS - Hazardous Communication System</p> <p>HMIS - Hazardous Material Information System</p> <p>IARC - International Agency for Research on Cancer</p> </div> <div style="width: 50%;"> <p>IRIS - Integrated Risk Information System</p> <p>LD₅₀/LC₅₀ - Lethal Dose/Concentration kill 50%</p> <p>LDLo/CLo - Lowest Published Lethal Dose/Concentration</p> <p>NAERG'96 - North American Emergency Response Guide Book (1996)</p> <p>NFPA - National Fire Protection Association</p> <p>NIOSH - National Institute for Occupational Safety & Health</p> <p>NPRI - National Pollutant Release Inventory</p> <p>NSNR - New Substances Notification Regulations (Canada)</p> <p>NTP - National Toxicology Program</p> <p>OSHA - Occupational Safety & Health Administration</p> <p>PEL - Permissible Exposure Limit</p> <p>RCRA - Resource Conservation and Recovery Act</p> <p>SARA - Superfund Amendments and Reorganization Act</p> <p>SD - Single Dose</p> <p>STEL - Short Term Exposure Limit (15 minutes)</p> <p>TDG - Transportation Dangerous Goods (Canada)</p> <p>TDLo/TCLo - Lowest Published Toxic Dose/Concentration</p> <p>TLM - Median Tolerance Limit</p> <p>TLV-TWA - Threshold Limit Value-Time Weighted Average</p> <p>TSCA - Toxic Substances Control Act</p> <p>USEPA - United States Environmental Protection Agency</p> <p>USP - United States Pharmacopoeia</p> <p>WHMIS - Workplace Hazardous Material Information System</p> </div> </div>																							
For Copy of MSDS:		Prepared by Product Safety - TAR on 12/3/2001.																					
Continued on Next Page		Available in French																					

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		Data entry by Product Safety - JDW.
For Product Safety Information: (905) 804-4752		
<i>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.</i>		

Material Safety Data Sheet



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

Section 1. Chemical Product and Company Identification			
Product Name	FUEL SYSTEM TREATMENT	Code	FST
Synonym	Not available	Validated on	5/12/2004.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada: 403-296-3000 Canotec Transportation: 613-996-6666 Poison Control Centre. Consult local telephone directory for emergency number(s).
Material Uses	A fuel system treatment that cleans fuel systems to improve performance in gasoline engines.		

Section 2. Composition and Information on Ingredients					
Name	CAS #	% (WW)	Exposure Limits (ACGIH)		
			TLV-TWA(8 h)	STEL	CEILING
1) Stoddard Solvent	8052-41-3	30-60%	100ppm	Not established	Not established
2) Isopropanol	67-63-0	30-60%	200ppm	400ppm	Not established
3) 1, 2, 4-Triethylbenzene	95-63-6	0.01-0.1%	Not established	Not established	Not established
4) Xylene (mixed isomers)	1330-20-7	0.01-0.1%	100ppm	150ppm	Not established
Manufacturer	Not applicable				
Recommendation					
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section 3. Hazards Identification	
Potential Health Effects	Flammable liquid. Exercise caution when handling this material. Contact with this product may cause skin irritation. 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. May cause teratogenicity/embryotoxicity. For more information refer to Section 11 of this MSDS.

Section 4. First Aid Measures	
Eye Contact	Quickly and gently blot or brush away chemical. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the chemical is removed, while holding the eyelid(s) open. Obtain medical attention immediately.
Skin Contact	Quickly and gently blot or brush away excess chemical. Wash gently and thoroughly with warm water and non-abrasive soap for 5 minutes or until the chemical is removed. Remove contaminated clothing, shoes, and leather goods (e.g. watchbands, belts, etc.). If breathing is stopped, trained personnel should begin artificial respiration (AR) or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Immediately transport victim to an emergency care facility.
Inhalation	If breathing is stopped, trained personnel should begin artificial respiration (AR) or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Immediately transport victim to an emergency care facility.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. 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, have victim lean forward to reduce risk of aspiration. If breathing is stopped, trained personnel should begin artificial respiration (AR) or, if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Immediately transport victim to an emergency care facility.
Note to Physician	Not available

Section 5. Fire-fighting Measures		
Flammability	Flammable	Flammable Limits LOWER: 0.9% UPPER: 12%
Flash Points	CLOSED CUP: 13°C (55.4°F) (TCC)	Auto-ignition Temperature Unknown
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Internet: www.petro-canada.ca/msds		
Available in French		