









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 Canutec 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

			Exposure Limits (ACGIH)		
Name	CAS #	% (W/W)	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-Trimethylbenzene	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.
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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

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. 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. Vapours may form explosive mixtures with air. Sensitive to static discharge.
Products of Combustion	Carbon oxides (CO, CO ₂), acrid smoke and irritating vapours as products of incomplete combustion.		
Fire Fighting Media and Instructions	<p>NAERG2000, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a moderate flash point above 40°C: Use of water spray when fighting fire may be inefficient.</p> <p>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.</p> <p>SMALL FIRES: Dry chemical, 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	Evacuate non-essential personnel. Ventilate area. Ensure clean-up personnel wear appropriate personal protective equipment. If spilled in a confined space, ensure appropriate confined space entry protocols are followed. Extinguish all ignition sources. Stop leak if safe to do so. Avoid breathing vapours or mists of material. Avoid contact with spilled material. Use appropriate inert absorbent material to absorb spilled product. Do not use paper or other flammable materials to absorb product. Collect used absorbent for later disposal. Ground and bond all equipment used to clean up the spilled material, as it may be a static accumulator. Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Do not allow spilled material to enter sewer systems as vapours may accumulate and may cause an explosion/fire hazard. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Notify appropriate authorities immediately.
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Section 7. Handling and Storage

Handling	FLAMMABLE MATERIAL. Handle with care. Avoid contact with any sources of ignition, flames, heat, and sparks. Ensure all equipment is grounded/bonded. Avoid contact with any incompatible or reactive materials. Wear proper personal protective equipment (See Section 8). Avoid confined spaces and areas with poor ventilation. Remove severely contaminated clothing. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated. Exercise caution when washing/drying clothing contaminated with flammable materials. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or mists. Do not ingest this product. Avoid generating mists. Ensure container is securely closed when not in use. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. 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.
Storage	Store as flammable material. Store away from heat and sources of ignition. Avoid direct sunlight. Store away from incompatible and reactive materials (See section 5 and 10). Ensure the storage containers are grounded/bonded. Store in a dry, cool and 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. Use explosion-proof ventilation equipment. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection - <i>The selection of personal protective equipment varies, depending upon conditions of use.</i>	
Eyes	Chemical splash goggles should be worn when handling this material.
Body	If this material may come into contact with the body during handling and use, we recommend wearing appropriate protective clothing to prevent contact with the skin. (Contact your PPE provider for more information).
Respiratory	A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister with particulate filter (R and/or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator or self contained breathing apparatus if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.
Hands	If this material may come in contact with the hands during handling and use, we recommend wearing gloves of the following material(s): Polyvinyl alcohol (PVA), or Fluoro-elastomer. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns.
Feet	Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.	Viscosity	Not available
Colour	Yellow.	Pour Point	Not applicable.
Odour	Alcohol like.	Softening Point	Not applicable.
Odour Threshold	Not available	Dropping Point	Not applicable.
Boiling Point	83°C (181.4°F)	Penetration	Not applicable.
Density	0.79 @ 15°C	Oil / Water Dist. Coefficient	Not available
Vapour Density	>1	Ionicity (in water)	Not available
Vapour Pressure	Not available Evaporation rate: <1 (Ether=1)	Dispersion Properties	Not available
Volatility	>95% (VOCs)	Solubility	Negligible.

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, peroxides, nitric acid, strong alkalis, strong mineral acids, and oleum.	Decomposition Products	May release COx, acrid 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>Acute toxicity information is not available for the product as a whole, therefore, data for the hazardous ingredient is provided below:</p> <p><u>Stoddard Solvent (8052-41-3):</u> Acute Oral toxicity (LD50): >5000 mg/kg (rat) Acute Dermal toxicity (LD50): >3000 mg/kg (rabbit) Acute Inhalation toxicity (LC50): >1300 ppm/4h (rat)</p> <p><u>Isopropanol (67-63-0):</u> Acute Oral toxicity (LD50): 5000 mg/kg (rat) Acute Dermal toxicity (LD50): 12,800 mg/kg (rabbit) Acute Inhalation toxicity (LC50): 17,000 ppm/4h (rat)</p> <p><u>1, 2, 4-Trimethylbenzene (95-63-6):</u> Acute Oral toxicity (LD50): 5000 mg/kg (rat) Acute Inhalation toxicity (LC50): 18,000 mg/m³/4h (rat)</p> <p><u>Xylene (mixed isomers) (1330-20-7):</u> Acute Oral toxicity (LD50): 1590 mg/kg (rat) Acute Dermal toxicity (LD50): >1,700 mg/kg (rabbit) Acute Inhalation toxicity (LC50): 4785 ppm/4h (mouse)</p>
Chronic or Other Toxic Effects	
Dermal Route:	This product contains a component (at >= 1%) that can cause skin irritation. Therefore, this product is considered to be a skin irritant.
Inhalation Route:	Inhalation of this product may cause respiratory tract irritation. Inhalation of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. Frequent or prolonged inhalation of this product may lead to absorption of this product in harmful amounts which may have adverse effects on the: kidneys.
Oral Route:	Ingestion of this product may cause gastro-intestinal irritation. Ingestion of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. 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).
Eye Irritation/Inflammation:	This product contains a component (at >= 1%) that can cause eye irritation. Therefore, this product is considered to be an eye irritant.
Immunotoxicity:	Not available
Skin Sensitization:	Contact with this product is not expected to cause skin sensitization, based upon the available data and the known hazards of the components.

Respiratory Tract Sensitization:	Contact with this product is not expected to cause respiratory tract sensitization, based upon the available data and the known hazards of the components.
Mutagenic:	This product is not known to contain any components at $\geq 0.1\%$ that have been shown to cause mutagenicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a mutagen.
Reproductive Toxicity:	This product is not known to contain any components at $\geq 0.1\%$ that have been shown to cause reproductive toxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a reproductive toxin.
Teratogenicity/Embryotoxicity:	This product contains a component(s) at $\geq 0.1\%$ that has been shown to cause teratogenicity and/or embryotoxicity in some laboratory tests at non-maternally toxic doses. Therefore, this product is considered 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, A2, or A3 carcinogens by ACGIH.
Carcinogenicity (IARC):	This product is not known to contain any chemicals at reportable quantities that are listed as Group 1, 2A, or 2B carcinogens by IARC.
Carcinogenicity (NTP):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.
Carcinogenicity (IRIS):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS.
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.
Other Considerations	No additional remark.

Section 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.
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Section 14. Transport Information

TDG Classification	FLAMMABLE LIQUIDS, N.O.S. (Isopropanol), Class 3, UN 1993, PGII (CL-TDG)	Special Provisions for Transport	This product may be shipped as a Limited Quantity if the volume is $\leq 1\text{L}$ and in accordance with the Limited Quantity Provisions, (CL-TDG).
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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).																											
		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: Combustible liquid. 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.)		<table><tr><td>Health Hazard</td><td>(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>n, p, u</td></tr></table>	Health Hazard	(2*)	Fire Hazard	(3)	Reactivity	(0)	Personal Protection	n, p, u	NFPA (U.S.A.)		<table><tr><td rowspan="4">Health</td><td rowspan="4"></td><td>Fire Hazard</td><td rowspan="4">Rating</td><td>0 Insignificant</td></tr><tr><td>Reactivity</td><td>1 Slight</td></tr><tr><td></td><td>2 Moderate</td></tr><tr><td>Specific hazard</td><td>3 High</td></tr><tr><td></td><td></td><td></td><td></td><td>4 Extreme</td></tr></table>	Health		Fire Hazard	Rating	0 Insignificant	Reactivity	1 Slight		2 Moderate	Specific hazard	3 High					4 Extreme
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Section 16. Other Information**References**

Available upon request.

* Marque de commerce de Petro-Canada - Trademark

Glossary

ACGIH - American Conference of Governmental Industrial Hygienists
 ADR - Agreement on Dangerous goods by Road (Europe)
 ASTM - American Society for Testing and Materials
 BOD5 - Biological Oxygen Demand in 5 days
 CAN/CGA B149.2 Propane Installation Code
 CAS - Chemical Abstract Services
 CEPA - Canadian Environmental Protection Act
 CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
 CFR - Code of Federal Regulations
 CHIP - Chemicals Hazard Information and Packaging Approved Supply List
 COD5 - Chemical Oxygen Demand in 5 days
 CPR - Controlled Products Regulations
 DOT - Department of Transport
 DSCL - Dangerous Substances Classification and Labeling (Europe)
 DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
 DSL - Domestic Substance List
 EEC/EU - European Economic Community/European Union
 EINECS - European Inventory of Existing Commercial Chemical Substances
 EPCRA - Emergency Planning and Community Right to Know Act
 FDA - Food and Drug Administration
 FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
 HCS - Hazardous Communication System
 HMIS - Hazardous Material Information System
 IARC - International Agency for Research on Cancer

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
 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 MSDSInternet: www.petro-canada.ca/msds

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 1-800-837-1228

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Prepared by Product Safety - TLM on 5/12/2004.

Data entry by Product Safety - RS.

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