

**ExxonMobil****Material Safety Data Sheets**[New Search](#)[Get This Document](#)

Date Prepared: December 03, 2003  
Supersedes: May 31, 2003  
MSDS Number: 08524

**1. PRODUCT INFORMATION**

Product Identifier: TURBINE FUEL AVIATION, WIDE CUT TYPE  
ESSO TURBO FUEL B  
ESSO JET B  
JET B  
TURBO FUEL B  
TURBO FUEL B F40  
TURBO FUEL B JP4  
ESSO TURBO FUEL B (FSII)  
JET B (FSII)  
AVIATION TURBINE FUEL (JP4)  
CAN/CGSB-3.22 GRADE F40  
ESSO JET B (FSII)

Application and Use:  
Aviation turbine fuel

Product Description:

A mixture of aliphatic and aromatic hydrocarbons and additives.

**REGULATORY CLASSIFICATION**

WHMIS:

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

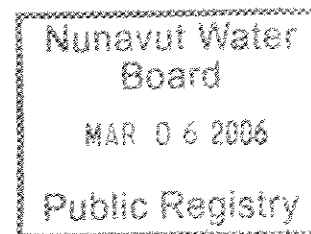
CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT

All components of this product are either on the Domestic Substances List (DSL) or are exempt.

TDG INFORMATION (RAIL/ROAD):

Shipping Name: FUEL, AVIATION, TURBINE ENGINES  
Class: 3  
Packing Group: II  
PIN Number: UN1863  
Marine Pollutant: Not applicable

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 #
Kerosene, straight run	40-70 V/V	8008-20-6 LD50:>5g/kg,oral,rat
Naphtha, full range	30-60 V/V	64741-42-0
Diethylene glycol monomethyl ether	0-0.15 V/V	111-77-3 LD50:7g/kg,orl,rat LD50:>2.0/kg,skn.rbt

## 3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid  
Specific gravity: not available  
Viscosity: 0.60 cSt at 40 deg C  
Vapour Density: 4  
Boiling Point: 40 to 270 deg C  
Evaporation rate: <1 (1= n-butylacetate)  
Solubility in water: negligible  
Freezing/Pour Point: -58 deg C ASTM D 2386  
Odour Threshold: not available  
Vapour Pressure: 21 kPa at 38 deg C  
Density: 0.78 g/cc at 15 deg C  
Appearance/odour: White or pale yellow liquid, petroleum odour

## 4. HEALTH HAZARD INFORMATION

### NATURE OF HAZARD

#### INHALATION:

Negligible hazard at normal temperatures (up to 38 deg C).  
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:**

Irritating.

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

Low toxicity.

**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:**

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.).

Contains diethylene glycol monomethyl ether (DIEGME). Prolonged and repeated exposure through inhalation or extensive skin contact with DIEGME may result in toxic effects on the kidneys, the reproductive system and/or the embryo/fetus.

**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 > 5000 mg/kg (Rat)  
Dermal : LD50 > 2000 mg/kg (Rabbit)  
Inhalation : LC50 > 2500 mg/m3 (Rat)

**OCCUPATIONAL EXPOSURE LIMIT:**

Manufacturer Recommends:  
100 ppm based on composition.

**ACGIH recommends:**

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.

Local regulated limits may vary.

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**5. FIRST AID MEASURES****INHALATION:**

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

Immediately flush with large amounts of water. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. 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.

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**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 goggles, long sleeves, and chemical-resistant gloves.

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.

Store in a cool, well ventilated place away from incompatible materials. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material.

Store and load at normal (up to 38 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.

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.

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.

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## 7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: -18 deg C COC ASTM D92

Autoignition: NA Flammable Limits: LEL: 0.6% UEL: 8.0%

#### 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.

Decomposes; flammable/toxic gases will form at elevated temperatures (thermal decomposition).

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 and traces of oxides of sulphur

In addition, small amounts of nitrogen oxides will be formed.

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## 8. REACTIVITY DATA

#### STABILITY:

This product is stable. Hazardous polymerization will not occur.

#### INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents. Use product with caution around heat, sparks, pilot lights, static electricity and open flames.

#### HAZARDOUS DECOMPOSITION:

See: Hazardous Combustion Products

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## 9. NOTES

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

#### REVISION SUMMARY:

Since 31 May 2003, this MSDS has been revised in Section(s):

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## 10. PREPARATION

Date Prepared: December 03, 2003

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

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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."








**Emergency Numbers**

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## Material Safety Data Sheet

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

### Section 1. Chemical Product and Company Identification

<b>Product Name</b>	<b>DIESEL FUEL</b>	<b>Code</b>	W104, W293 SAP: 120, 121, 122, 287
<b>Synonym</b>	Diesel 50, Diesel 50 LS, #1 Diesel, #1 Diesel LS, Diesel LC, Seasonal Diesel, Seasonal Diesel LS, Diesel AA, Domestic Marine Diesel, International marine Diesel, Seasonal Diesel Locomotive, Domestic Marine diesel LS, diesel -20°C (LS), LSD, Low Sulphur Diesel, dyed diesel, marked diesel, coloured diesel, Naval Distillate, Ultra Low Sulphur Diesel, ULS Diesel, Mining Diesel, Mining Diesel Special, Mining Diesel Special LS, High Flash Mining Diesel, Furnace Oil, Stove Oil.	<b>Validated on</b>	2/6/2004.
<b>Manufacturer</b>	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	<b>In case of Emergency</b>	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
<b>Material Uses</b>	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining Diesel has a higher flash point requirement, for safe use in underground mines.		

### Section 2. Composition and Information on Ingredients

Name	CAS #	% (V/V)	Exposure Limits (ACGIH)		
			TLV-TWA(8 h)	STEL	CEILING
1) Diesel oil.	68334-30-5	>99.9	100 mg/m <sup>3</sup> (as total hydrocarbons) *	Not established	Not established
2) Proprietary additives.	Not available	<0.1	Not established	Not established	Not established
Aromatic content is 50% maximum (benzene: nil). Sulphur content is 0-0.50%.					
<b>Manufacturer Recommendation</b>	* Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer.				
<b>Other Exposure Limits</b>	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

### Section 3. Hazards Identification.

<b>Potential Health Effects</b>	Combustible liquid. Exercise caution when handling this material. Contact with this product may cause skin and eye irritation. Prolonged or repeated contact may cause skin irritation, defatting, drying and dermatitis. Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. For more information refer to Section 11 of this MSDS.
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### Section 4. First Aid Measures

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



**Section 5. Fire-fighting Measures**

<b>Flammability</b>	Class II - combustible liquid (NFPA).	<b>Flammable Limits</b>	LOWER: 0.7%, UPPER: 6% (NFPA)
<b>Flash Points</b>	Diesel Fuel: Closed Cup: >40°C (>104°F) Marine Diesel Fuel: Closed Cup: >60°C (>140°F) Mining Diesel: Closed Cup: 52°C (126°F)	<b>Auto-Ignition Temperature</b>	225°C (437°F)
<b>Fire Hazards in Presence of Various Substances</b>	Flammable in presence of open flames, sparks, or heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces.	<b>Explosion Hazards in Presence of Various Substances</b>	Containers may explode in heat of fire. Do not cut, weld, heat, drill or pressurize empty container. Vapour explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.
<b>Products of Combustion</b>	Carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO <sub>x</sub> ), sulphur oxides (SO <sub>x</sub> ), sulphur compounds (H <sub>2</sub> S), water vapour (H <sub>2</sub> O), smoke and irritating vapours as products of incomplete combustion. See Section 11 (Other Considerations) for information regarding the toxicity of the combustion products.		
<b>Fire Fighting Media and Instructions</b>	<p>NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a moderate flash point above 40°C: Use of water spray when fighting fire may be inefficient.</p> <p>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.</p> <p>SMALL FIRES: Dry chemical, CO<sub>2</sub>, water spray or regular foam. LARGE FIRES: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.</p> <p>Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or any discolouration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.</p>		

**Section 6. Accidental Release Measures**

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

<b>Handling</b>	COMBUSTIBLE MATERIAL. Handle with care. Avoid contact with any sources of ignition, flames, heat, and sparks. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or mists. Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty containers. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated. Avoid confined spaces and areas with poor ventilation. Ensure all equipment is grounded/bonded. Wear proper personal protective equipment (See Section 8).
<b>Storage</b>	Store away from heat and sources of ignition. Store in dry, cool, well-ventilated area. Store away from incompatible and reactive materials (See section 5 and 10). Ensure the storage containers are grounded/bonded.

**Section 8. Exposure Controls/Personal Protection**

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

**Section 9. Physical and Chemical Properties**

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

**Section 10. Stability and Reactivity**

<b>Corrosivity</b>	Not available		
<b>Stability</b>	The product is stable under normal handling and storage conditions.	<b>Hazardous Polymerization</b>	Will not occur under normal working conditions.
<b>Incompatible Substances / Conditions to Avoid</b>	Reactive with oxidizing agents and acids.	<b>Decomposition Products</b>	May release COx, NOx, SOx, H2S, H2O, smoke and irritating vapours when heated to decomposition.

**Section 11. Toxicological Information**

<b>Routes of Entry</b>	Skin contact, eye contact, inhalation, and ingestion.
<b>Acute Lethality</b>	Acute oral toxicity (LD50): 7500 mg/kg (rat).
<b>Chronic or Other Toxic Effects</b>	
Dermal Route:	This product contains a component (at $\geq 1\%$ ) that can cause skin irritation. Therefore, this product is considered to be a skin irritant. Prolonged or repeated contact may defat and dry skin, and cause dermatitis. (See Other Considerations)
Inhalation Route:	Inhalation of this product may cause respiratory tract irritation. Inhalation of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.
Oral Route:	Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. Ingestion of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.
Eye Irritation/Inflammation:	This product contains a component (at $\geq 1\%$ ) 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 is not known to contain any components at $\geq 0.1\%$ that have been shown to cause teratogenicity and/or embryotoxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a teratogen/embryotoxin.
Carcinogenicity (ACGIH):	ACGIH A3: animal carcinogen. [Diesel oil] (See Other Considerations)
Carcinogenicity (IARC):	This product is not known to contain any chemicals at reportable quantities that are listed as Group 1, 2A, or 2B carcinogens by IARC.
Carcinogenicity (NTP):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.
Carcinogenicity (IRIS):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS.

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.
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**Section 14. Transport Information**

TDG Classification	DIESEL FUEL, 3, UN1202, PGIII (CL-TDG)	Special Provisions for Transport	See Transportation of Dangerous Goods Regulations.
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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).																																
	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.)	<table><tr><td></td><td>Fire Hazard</td><td>Rating</td><td>0 Insignificant</td></tr><tr><td>Health</td><td>Reactivity</td><td></td><td>1 Slight</td></tr><tr><td></td><td>Specific hazard</td><td></td><td>2 Moderate</td></tr><tr><td></td><td></td><td></td><td>3 High</td></tr><tr><td></td><td></td><td></td><td>4 Extreme</td></tr></table>			Fire Hazard	Rating	0 Insignificant	Health	Reactivity		1 Slight		Specific hazard		2 Moderate				3 High				4 Extreme
Health Hazard	2*																																
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Health	Reactivity		1 Slight																														
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			3 High																														
			4 Extreme																														

**Section 16. Other Information**

References	Available upon request. * Marque de commerce de Petro-Canada - Trademark
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**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)

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)

DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)

DSL - Domestic Substance List

EEC/EU - European Economic Community/European Union

EINECS - European Inventory of Existing Commercial Chemical Substances

EPCRA - Emergency Planning and Community Right to Know Act

FDA - Food and Drug Administration

FIFRA - Federal Insecticide, Fungicide and Rodenticide Act

HCS - Hazardous Communication System

HMIS - Hazardous Material Information System

IARC - International Agency for Research on Cancer

TDG - Transportation Dangerous Goods (Canada)

TDLo/TCLo - Lowest Published Toxic Dose/Concentration

TLm - Median Tolerance Limit

TLV-TWA - Threshold Limit Value-Time Weighted Average

TSCA - Toxic Substances Control Act

USEPA - United States Environmental Protection Agency

USP - United States Pharmacopoeia

WHMIS - Workplace Hazardous Material Information System

**For Copy of MSDS**

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

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

1-800-837-1228

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

For Product Safety Information: (905) 804-4752

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

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

## REGULAR UNLEADED GASOLINE

### Section 1 Chemical Product and Company Information

SUPPLIER'S NAME..... NOCO ENERGY CORP  
SUPPLIER'S ADDRESS..... 700 Grand Island Blvd., Tonawanda, NY 14150  
SUPPLIER NUMBER..... 1-800-500-6626  
SUPPLIER IDENTIFIER..... Conventional Gasoline  
EMERGENCY PHONE NUMBER ..... 1-800-424-9300 Chemtrec  
SYNONYM..... 87 Octane, 89 Octane, 93 Octane  
PRODUCT USE..... Motor Fuel

### Section 2 Composition/Information on Ingredients

Component	CAS No.	Amount (Vol%)
LIGHT PETROLEUM DISTILLATE	8006-61-9	0 - 99.9
TOLUENE	108-88-3	0 - 30
XYLENE	1330-20-7	0 - 25
CYCLOHEXANE	110-82-7	0 - 9
ETHYL BENZENE	100-41-4	0 - 5
N-HEXANE	110-54-3	0 - 5
NAPHTHALENE	91-20-3	0 - 5
1,2,4-TRIMETHYLBENZENE	95-63-6	0 - 5
BENZENE	71-43-2	0.1 - 4.9
CUMENE	98-82-8	0 - 1

### EXPOSURE GUIDELINES

	CAS No.	Governing Body	Exposure Limits	
BENZENE	71-43-2	ACGIH	STEL	2.5 ppm
BENZENE	71-43-2	OSHA	STEL	5 ppm
BENZENE	71-43-2	ACGIH	TWA	0.5 ppm
BENZENE	71-43-2	OSHA	TWA	1 ppm
CUMENE	98-82-8	ACGIH	TWA	50 ppm
CUMENE	98-82-8	OSHA	TWA	50 ppm
CYCLOHEXANE	110-82-7	ACGIH	TWA	100 ppm
CYCLOHEXANE	110-82-7	OSHA	TWA	300 ppm
ETHYL BENZENE	100-41-4	ACGIH	STEL	125 ppm
ETHYL BENZENE	100-41-4	ACGIH	TWA	100 ppm
ETHYL BENZENE	100-41-4	OSHA	TWA	100 ppm
N-HEXANE	110-54-3	ACGIH	TWA	50 ppm
N-HEXANE	110-54-3	OSHA	TWA	500 ppm
NAPHTHALENE	91-20-3	ACGIH	STEL	15 ppm
NAPHTHALENE	91-20-3	ACGIH	TWA	10 ppm
NAPHTHALENE	91-20-3	OSHA	TWA	10 ppm
TOLUENE	108-88-3	OSHA	C	300 ppm
TOLUENE	108-88-3	NIOSH	STEL	150 ppm
TOLUENE	108-88-3	ACGIH	TWA	50 ppm
TOLUENE	108-88-3	OSHA	TWA	200 ppm
XYLENE	1330-20-7	ACGIH	STEL	150 ppm
XYLENE	1330-20-7	ACGIH	TWA	100 ppm
XYLENE	1330-20-7	OSHA	TWA	100 ppm
LIGHT PETROLEUM DISTILLATE	8006-61-9	ACGIH	STEL	500 ppm
LIGHT PETROLEUM DISTILLATE	8006-61-9	ACGIH	TWA	300 ppm



# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 3 Fire and Explosion Hazard of Product

CONDITIONS OF FLAMMABILITY.....	Danger! Extremely flammable liquid! Vapors may explode!
MEANS OF EXTINCTION.....	Use dry chemical, foam or carbon dioxide to extinguish fire. Use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak. Use water to flush spills away from sources of ignition. Do not flush down public sewers.
FLASHPOINT & METHOD OF DETERMINATION.....	-37.00°C (-35°F) TCC
UPPER EXPLOSION LIMIT (% BY VOL.).....	7.6
LOWER EXPLOSION LIMIT (% BY VOL.).....	1.4
AUTO-IGNITION TEMPERATURE.....	444.00°C (833°F)
HAZARDOUS COMBUSTION PRODUCTS.....	Smoke or combustion.
EXPLOSION DATA.....	Irritating or toxic substances may be emitted upon thermal decomposition. Dangerous when exposed to heat or explosion hazard. Runoff to sewer may cause fire or explosion. Containers may explode in heat of fire.
SENSITIVITY TO STATIC DISCHARGE.....	N/A.

#### Hazards Ratings:

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>PPI</u>
NFPA	1	3	0	
HMIS	2	3	0	X

### Section 4 First Aid Measures

#### SPECIFIC FIRST AID PROCEDURES

SKIN CONTACT.....	Remove contaminated clothing immediately. Wash area of contact thoroughly with soap and water. Get medical attention if irritation persists. High pressure injections are serious medical emergencies. Get immediate medical attention.
INGESTION.....	<u>DO NOT INDUCE VOMITING BECAUSE OF DANGER OF ASPIRATING LIQUID INTO LUNGS.</u> Get immediate medical attention. If spontaneous vomiting occurs, monitor for breathing difficulty.
INHALATION.....	Remove affected person from source of exposure. If not breathing ensure open airway and institute CPR. If breathing is difficult, administer oxygen if available. Get medical attention.
EYE CONTACT.....	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

### Section 5 Fire Fighting Measures

#### • EXTINGUISHING MEDIA

The following media may be used to extinguish a fire involving this material: Water spray; Regular foam; Dry chemical; Carbon dioxide;

#### • FIRE FIGHTING INSTRUCTIONS

Use water spray to cool fire exposed tanks and containers. Wear structural fire fighting gear. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.



# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 5 Fire Fighting Measures (continued)

#### FLAMMABLE PROPERTIES

	Typical	Minimum	Maximum	Text Result	Units	Method
<i>Flash Point</i>				-40 ESTIMATED	F	N/A
<i>Autoignition Temperature</i>				750 ESTIMATED	F	N/A
<i>Lower Explosion Limit</i>	1.5				%	N/A
<i>Upper Explosion Limit</i>	7.6				%	N/A

### Section 6 Accidental Release Measures

#### ACTIVATE FACILITY SPILL CONTINGENCY or EMERGENCY PLAN

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction: stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater. Professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if it is safe to do so. Protect bodies of water by diking, absorbents or absorbent boom. Do not flush down sewer or drainage system. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or area/equipment that require protection.

Take up with sand or other absorbent materials. Carefully shovel or sweep up into a waste container for reclamation or disposal – use caution because flammable vapors may accumulate in closed containers.

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see section 8)

### Section 7 Handling and Storage

#### • HANDLING

Use only in a well-ventilated area. Ground and bond containers when transferring material. NFPA class IA storage. Flash point is less than 73 degrees F and boiling point is less than 100 degrees F. Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling. Never siphon by mouth.

#### • STORAGE

Keep away from heat, sparks, and flame. Keep container closed when not in use. Consult NFPA and / or OSHA codes for additional information.

### Section 8 Exposure Controls and Personal Protection

Consult With a Health and Safety Professional for Specific Selections

#### • ENGINEERING CONTROLS

Use with adequate ventilation. Use explosion-proof ventilation equipment.

#### • PERSONAL PROTECTION

##### ▪ EYE PROTECTION

Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).



# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 8 Exposure Controls and Personal Protection (continued)

#### • GLOVES or HAND PROTECTION

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Viton;

#### • RESPIRATORY PROTECTION

Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

#### • OTHER

Where splashing is possible, full chemically resistant protective clothing (e.g., acid suit) and boots are required. The following materials are acceptable for use as protective clothing: Polyvinyl alcohol (PVA); Polyethylene; Neoprene; Nitrile; Viton; Polyurethane; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

### Section 9 Physical /Chemical Properties

PHYSICAL STATE.....	Not determined
ODOUR AND APPEARANCE.....	Clear liquid with a strong hydrocarbon odor
ODOUR THRESHOLD.....	Not Determined
SPECIFIC GRAVITY.....	0.72 - 0.74 @ 60°F
VAPOUR PRESSURE.....	760.00 MM HG @ 100°F
VAPOUR DENSITY (air=1).....	1.2 as Vapor
EVAPORATION RATE.....	(Water = 1); >1
BOILING POINT.....	13.0°C (55°F)
FREEZING POINT.....	Not determined
pH.....	Not determined
COEFFICIENT OF WATER/OIL DISTRIBUTION.....	Negligible
% VOLATILE.....	100 % by weight

### Section 10 Stability and Reactivity Data

CHEMICAL STABILITY.....	Stable
INCOMPATIBLE MATERIALS.....	Avoid contact with strong oxidizers.
CONDITIONS TO AVOID.....	Avoid heat, sparks, and open flame
CONDITIONS OF REACTIVITY.....	Stable under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS.....	Combustion may produce CO, CO <sup>2</sup> and reactive hydrocarbons

### Section 11 Toxicological Information

#### • POTENTIAL HEALTH EFFECTS

##### • PRE-EXISTING MEDICAL CONDITIONS

The following diseases or disorders may be aggravated by exposure to this product: Skin; Eye; Blood forming organs; Nervous system, Respiratory system; Lung (asthma-like conditions); Cardiovascular system,





# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 11 Toxicological Information (continued)

#### ■ INHALATION

High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness and even death). Excessive exposure to mists or vapors generated by heat may cause irritation to eyes, nose, throat, lungs and respiratory tract. Repeated excessive exposures may cause blood disorders such as anemia and leukemia. Contains a material that has been related to cancer in humans.

LC50 (mg/l): no data

LC50 (mg/m3): no data

LC50 (ppm): no data

#### ■ SKIN

Moderately irritating to the skin. Skin absorption of material may produce systemic toxicity. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

Draize Skin Score: 4.8 Out of 8.0

LD50 (mg/kg): no data

#### ■ EYES

Moderately irritating to the eyes.

#### ■ INGESTION

Product may be harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage. Irritating to mouth, throat, and stomach.

LD50 (g/kg): no data

### Section 12 Ecological Information

Keep out of sewers, drainage areas, and waterways. Report spills and releases under Federal and State regulations.

### Section 13 Disposal Considerations

This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however it could be hazardous if it is considered toxic, corrosive, ignitable, or reactive according to Federal definitions.

### Section 14 Transportation Information

SPECIAL SHIPPING INFORMATION.....	Ground lines and equipment used during transfer to reduce the possibility of static soaked-initiated fire or explosion
HAZARD CLASS.....	3, flammable liquid
DOT SHIPPING NAME.....	Gasoline
DOT IDENTIFICATION NUMBER.....	UN 1203
PACKING GROUP.....	PG II

### Section 15 Regulatory Information

#### US FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

This product and it's constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and or local reporting requirements. This product and/or it's constituents may also be subject to other federal, state, or local regulations. Consult the regulations applicable to your facility/operation.

#### CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to navigable waters or adjoining shorelines sufficient to cause any visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Resource Center (1-800-424-8802) or, if not practical, the U.S.



# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 15 Regulatory Information (continued)

Coast Guard with follow-up to the National Response Center as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

#### CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g. SARA Section 304 as well as the Clean Water Act, if the spill occurs on navigable waters) may still apply.

#### SARA SECTION 311/312 - HAZARD CLASSES

<u>ACUTE HEALTH</u>	<u>CHRONIC HEALTH</u>	<u>FIRE</u>	<u>SUDDEN RELEASE OF PRESSURE</u>	<u>REACTIVE</u>
X	X	X	---	---

Regulatory List	Component	CAS No.
ACGIH - Occupational Exposure Limits - Carcinogens	BENZENE	71-43-2
ACGIH - Occupational Exposure Limits - Carcinogens	ETHYL BENZENE	100-41-4
ACGIH - Occupational Exposure Limits - Carcinogens	NAPHTHALENE	91-20-3
ACGIH - Occupational Exposure Limits - Carcinogens	TOLUENE	108-88-3
ACGIH - Occupational Exposure Limits - Carcinogens	XYLENE	1330-20-7
ACGIH - Occupational Exposure Limits - TWAs	BENZENE	71-43-2
ACGIH - Occupational Exposure Limits - TWAs	CUMENE	98-82-8
ACGIH - Occupational Exposure Limits - TWAs	CYCLOHEXANE	110-82-7
ACGIH - Occupational Exposure Limits - TWAs	ETHYL BENZENE	100-41-4
ACGIH - Occupational Exposure Limits - TWAs	N-HEXANE	110-54-3
ACGIH - Occupational Exposure Limits - TWAs	NAPHTHALENE	91-20-3
ACGIH - Occupational Exposure Limits - TWAs	TOLUENE	108-88-3
ACGIH - Occupational Exposure Limits - TWAs	XYLENE	1330-20-7
ACGIH - Short Term Exposure Limits	BENZENE	71-43-2
ACGIH - Short Term Exposure Limits	ETHYL BENZENE	100-41-4
ACGIH - Short Term Exposure Limits	LIGHT PETROLEUM	8006-61-9
	DISTILLATE	
ACGIH - Short Term Exposure Limits	NAPHTHALENE	91-20-3
ACGIH - Short Term Exposure Limits	XYLENE	1330-20-7
ACGIH - Skin Absorption Designation	BENZENE	71-43-2
ACGIH - Skin Absorption Designation	N-HEXANE	110-54-3
ACGIH - Skin Absorption Designation	NAPHTHALENE	91-20-3
ACGIH - Skin Absorption Designation	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	BENZENE	71-43-2
CAA (Clean Air Act) - HON Rule - Organic HAPs	CUMENE	98-82-8
CAA (Clean Air Act) - HON Rule - Organic HAPs	ETHYL BENZENE	100-41-4
CAA (Clean Air Act) - HON Rule - Organic HAPs	N-HEXANE	110-54-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	XYLENE	1330-20-7
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	BENZENE	71-43-2
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	CUMENE	98-82-8
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	CYCLOHEXANE	110-82-7
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	ETHYL BENZENE	100-41-4
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	N-HEXANE	110-54-3
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	TOLUENE	108-88-3
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	XYLENE	1330-20-7



# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 15 Regulatory Information (continued)

CAA - 1990 Hazardous Air Pollutants	BENZENE	71-43-2
CAA - 1990 Hazardous Air Pollutants	CUMENE	98-82-8
CAA - 1990 Hazardous Air Pollutants	ETHYL BENZENE	100-41-4
CAA - 1990 Hazardous Air Pollutants	N-HEXANE	110-54-3
CAA - 1990 Hazardous Air Pollutants	NAPHTHALENE	91-20-3
CAA - 1990 Hazardous Air Pollutants	TOLUENE	108-88-3
CAA - 1990 Hazardous Air Pollutants	XYLENE	1330-20-7
Canada - WHMIS - Ingredient Disclosure	1,2,4-TRIMETHYLBENZENE	95-63-6
Canada - WHMIS - Ingredient Disclosure	BENZENE	71-43-2
Canada - WHMIS - Ingredient Disclosure	CUMENE	98-82-8
Canada - WHMIS - Ingredient Disclosure	CYCLOHEXANE	110-82-7
Canada - WHMIS - Ingredient Disclosure	ETHYL BENZENE	100-41-4
Canada - WHMIS - Ingredient Disclosure	LIGHT PETROLEUM	8006-61-9
	DISTILLATE	
Canada - WHMIS - Ingredient Disclosure	N-HEXANE	110-54-3
Canada - WHMIS - Ingredient Disclosure	NAPHTHALENE	91-20-3
Canada - WHMIS - Ingredient Disclosure	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	BENZENE	71-43-2
CERCLA/SARA - Haz Substances and their RQs	BENZENE	71-43-2
CERCLA/SARA - Haz Substances and their RQs	CUMENE	98-82-8
CERCLA/SARA - Haz Substances and their RQs	CUMENE	98-82-8
CERCLA/SARA - Haz Substances and their RQs	CYCLOHEXANE	110-82-7
CERCLA/SARA - Haz Substances and their RQs	CYCLOHEXANE	110-82-7
CERCLA/SARA - Haz Substances and their RQs	ETHYL BENZENE	100-41-4
CERCLA/SARA - Haz Substances and their RQs	ETHYL BENZENE	100-41-4
CERCLA/SARA - Haz Substances and their RQs	N-HEXANE	110-54-3
CERCLA/SARA - Haz Substances and their RQs	N-HEXANE	110-54-3
CERCLA/SARA - Haz Substances and their RQs	NAPHTHALENE	91-20-3
CERCLA/SARA - Haz Substances and their RQs	NAPHTHALENE	91-20-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	TOLUENE	108-88-3
CERCLA/SARA - Haz Substances and their RQs	XYLENE	1330-20-7
CERCLA/SARA - Haz Substances and their RQs	XYLENE	1330-20-7
CERCLA/SARA - Section 313 - Emission Reporting	1,2,4-TRIMETHYLBENZENE	95-63-6
CERCLA/SARA - Section 313 - Emission Reporting	BENZENE	71-43-2
CERCLA/SARA - Section 313 - Emission Reporting	CUMENE	98-82-8
CERCLA/SARA - Section 313 - Emission Reporting	CYCLOHEXANE	110-82-7
CERCLA/SARA - Section 313 - Emission Reporting	ETHYL BENZENE	100-41-4
CERCLA/SARA - Section 313 - Emission Reporting	N-HEXANE	110-54-3
CERCLA/SARA - Section 313 - Emission Reporting	NAPHTHALENE	91-20-3
CERCLA/SARA - Section 313 - Emission Reporting	TOLUENE	108-88-3
CERCLA/SARA - Section 313 - Emission Reporting	XYLENE	1330-20-7
CWA (Clean Water Act) - Hazardous Substances	BENZENE	71-43-2
CWA (Clean Water Act) - Hazardous Substances	CYCLOHEXANE	110-82-7
CWA (Clean Water Act) - Hazardous Substances	ETHYL BENZENE	100-41-4
CWA (Clean Water Act) - Hazardous Substances	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Hazardous Substances	TOLUENE	108-88-3
CWA (Clean Water Act) - Hazardous Substances	XYLENE	1330-20-7
CWA (Clean Water Act) - Priority Pollutants	BENZENE	71-43-2
CWA (Clean Water Act) - Priority Pollutants	ETHYL BENZENE	100-41-4
CWA (Clean Water Act) - Priority Pollutants	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Priority Pollutants	TOLUENE	108-88-3



# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 15 Regulatory Information (continued)

CWA (Clean Water Act) - Toxic Pollutants	BENZENE	71-43-2
CWA (Clean Water Act) - Toxic Pollutants	ETHYL BENZENE	100-41-4
CWA (Clean Water Act) - Toxic Pollutants	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Toxic Pollutants	TOLUENE	108-88-3
IARC - Group 1 (carcinogenic to humans)	BENZENE	71-43-2
IARC - Group 2B (Possibly carcinogenic to humans)	ETHYL BENZENE	100-41-4
IARC - Group 2B (Possibly carcinogenic to humans)	LIGHT PETROLEUM	8006-61-9
	DISTILLATE	
IARC - Group 2B (Possibly carcinogenic to humans)	NAPHTHALENE	91-20-3
IARC - Group 3 (not classifiable)	TOLUENE	108-88-3
IARC - Group 3 (not classifiable)	XYLENE	1330-20-7
Inventory - Canada - Domestic Substances List	1,2,4-TRIMETHYLBENZENE	95-63-6
Inventory - Canada - Domestic Substances List	BENZENE	71-43-2
Inventory - Canada - Domestic Substances List	CUMENE	98-82-8
Inventory - Canada - Domestic Substances List	CYCLOHEXANE	110-82-7
Inventory - Canada - Domestic Substances List	ETHYL BENZENE	100-41-4
Inventory - Canada - Domestic Substances List	LIGHT PETROLEUM	8006-61-9
	DISTILLATE	
Inventory - Canada - Domestic Substances List	N-HEXANE	110-54-3
Inventory - Canada - Domestic Substances List	NAPHTHALENE	91-20-3
Inventory - Canada - Domestic Substances List	TOLUENE	108-88-3
Inventory - Canada - Domestic Substances List	XYLENE	1330-20-7
Inventory - TSCA - Sect. 8(b) Inventory	1,2,4-TRIMETHYLBENZENE	95-63-6
Inventory - TSCA - Sect. 8(b) Inventory	BENZENE	71-43-2
Inventory - TSCA - Sect. 8(b) Inventory	CUMENE	98-82-8
Inventory - TSCA - Sect. 8(b) Inventory	CYCLOHEXANE	110-82-7
Inventory - TSCA - Sect. 8(b) Inventory	ETHYL BENZENE	100-41-4
Inventory - TSCA - Sect. 8(b) Inventory	LIGHT PETROLEUM	8006-61-9
	DISTILLATE	
Inventory - TSCA - Sect. 8(b) Inventory	N-HEXANE	110-54-3
Inventory - TSCA - Sect. 8(b) Inventory	NAPHTHALENE	91-20-3
Inventory - TSCA - Sect. 8(b) Inventory	TOLUENE	108-88-3
Inventory - TSCA - Sect. 8(b) Inventory	XYLENE	1330-20-7
OSHA - Final PELs - Ceiling Limits	BENZENE	71-43-2
OSHA - Final PELs - Ceiling Limits	TOLUENE	108-88-3
OSHA - Final PELs - Skin Notations	CUMENE	98-82-8
OSHA - Final PELs - Time Weighted Averages	BENZENE	71-43-2
OSHA - Final PELs - Time Weighted Averages	CUMENE	98-82-8
OSHA - Final PELs - Time Weighted Averages	CYCLOHEXANE	110-82-7
OSHA - Final PELs - Time Weighted Averages	ETHYL BENZENE	100-41-4
OSHA - Final PELs - Time Weighted Averages	N-HEXANE	110-54-3
OSHA - Final PELs - Time Weighted Averages	NAPHTHALENE	91-20-3
OSHA - Final PELs - Time Weighted Averages	TOLUENE	108-88-3
OSHA - Final PELs - Time Weighted Averages	XYLENE	1330-20-7
OSHA - Regulated Carcinogens	BENZENE	71-43-2
OSHA - Select Carcinogens	BENZENE	71-43-2
Pennsylvania - RTK (Right to Know) List	1,2,4-TRIMETHYLBENZENE	95-63-6
Pennsylvania - RTK (Right to Know) List	BENZENE	71-43-2
Pennsylvania - RTK (Right to Know) List	CUMENE	98-82-8
Pennsylvania - RTK (Right to Know) List	CYCLOHEXANE	110-82-7



# Material Safety Data Sheet

## REGULAR UNLEADED GASOLINE

### Section 15 Regulatory Information (continued)

Pennsylvania - RTK (Right to Know) List	THYL BENZENE	100-41-4
Pennsylvania - RTK (Right to Know) List	N-HEXANE	110-54-3
Pennsylvania - RTK (Right to Know) List	NAPHTHALENE	91-20-3
Pennsylvania - RTK (Right to Know) List	TOLUENE	108-88-3
Pennsylvania - RTK (Right to Know) List	XYLENE	1330-20-7
Pennsylvania - RTK - Special Hazardous Substances	BENZENE	71-43-2
TSCA - Sect. 12(b) - Export Notification	CYCLOHEXANE	110-82-7
TSCA - Sect. 12(b) - Export Notification	N-HEXANE	110-54-3
TSCA - Section 8(a) - PAIR Reporting List	NAPHTHALENE	91-20-3

### Section 16 Other Information

Precautionary labeling for pumps, portable containers, and drums is required. A "hazardous when empty" pictogram and D.O.T. flammable liquid label are also required for drums. Details available upon request. Because benzene is present in this product above 0.1%, the OSHA Standard for benzene is applicable to work locations upstream of final discharge from terminals. Consult 29CFR1910.1028 for details. Prolonged and repeated excessive exposures to benzene can result in blood disorders ranging from anemia to leukemia. Sun recommends that exposures to benzene be kept below 1.0 ppm for 8-hours; 5.0 ppm for 15-min. Normal service station operations are below these values. For use as motor fuel only. Do not use for any other purpose. Catecholamines and similar adrenergic drugs are generally contraindicated because of potential for increased sensitivity of the heart from hydrocarbon overexposure and subsequent ventricular fibrillation. EKG monitoring may be indicated and bronchodilators should be selected with care. Following injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss. COMPONENT TOXICITY: Overexposure to naphthalene, a minor component of this product, may cause skin, eye and respiratory tract irritation, anemia, loss of vision, nervous system effects and kidney and thymus damage. Also, exposure to naphthalene has produced "respiratory tract" tumors in laboratory animals.

### Preparation Date of Material Safety Data Sheet

DATE PREPARED..... 03/06/96  
REVISION DATE ..... 08/20/04

DISCLAIMER: Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing here in is to be construed as recommending any practice or the use of any product in violation of any patent or in violation of any law or regulation. It is the users' responsibility to determine the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained by using any material and since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of material supplied by us.



**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

**Inhalation:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

## SECTION 5 FIRE FIGHTING MEASURES

**FLAMMABLE PROPERTIES:**

**Flashpoint:** (Cleveland Open Cup) 215 °C (419 °F) (Min)

**Autoignition:** No Data Available

**Flammability (Explosive) Limits (% by volume in air):** Lower: Not Applicable Upper: Not Applicable

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

### PROTECTION OF FIRE FIGHTERS:

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities as appropriate or required.

## SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** Keep out of the reach of children.

**General Handling Information:** Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**GENERAL CONSIDERATIONS:**

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the

personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**ENGINEERING CONTROLS:**

Use in a well-ventilated area.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: 4H (PE/EVAL), Nitrile Rubber, Silver Shield, Viton.

**Respiratory Protection:** No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

**Occupational Exposure Limits:**

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m3	10 mg/m3	--	--

NOTE ON OCCUPATIONAL EXPOSURE LIMITS: Consult local authorities for acceptable provincial values in Canada. Consult the Canadian Standards Association Standard 94.4-2002 Selection, Use and Care of Respirators.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Attention: the data below are typical values and do not constitute a specification.

**Color:** Brown

**Physical State:** Liquid

**Odor:** Petroleum odor

**pH:** Not Applicable

**Vapor Pressure:** <0.01 mmHg @ 37.8 °C (100 °F)

**Vapor Density (Air = 1):** >1

**Boiling Point:** >315 °C (599°F)

**Solubility:** Soluble in hydrocarbons; insoluble in water

**Freezing Point:** Not Applicable

**Melting Point:** Not Applicable

**Specific Gravity:** 0.89 @ 15.6 °C (60.1°F) / 15.6°C (60.1°F)

**Viscosity:** 11.7 cSt @ 100 °C (212°F) (Min)

**Odor Threshold:** No Data Available

**Coefficient of Water/Oil Distribution:** No Data Available

**SECTION 10 STABILITY AND REACTIVITY**

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** None known (None expected)

**Hazardous Polymerization:** Hazardous polymerization will not occur.

**Sensitivity to Mechanical Impact:** No.

**SECTION 11 TOXICOLOGICAL INFORMATION****IMMEDIATE HEALTH EFFECTS**



**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** No product toxicology data available.

**Acute Dermal Toxicity:** LD50: >5g/kg (rabbit). The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** LD50: >5 g/kg (rat) The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components. For additional information on the acute toxicity of the components, call the technical information center.

#### **ADDITIONAL TOXICOLOGY INFORMATION:**

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as: carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

During use in engines, contamination of oil with low levels of cancer-causing combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

### **SECTION 12 ECOLOGICAL INFORMATION**

#### **ECOTOXICITY**

The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

#### **ENVIRONMENTAL FATE**

This material is not expected to be readily biodegradable.

### **SECTION 13 DISPOSAL CONSIDERATIONS**

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods. (See B.C. Reg. GY/92 Waste Management Act; R.R.O. 1990, Reg. 347 General-Waste Management; C.C.S.M.c. W40 The Waste Reduction and Prevention Act; N.S. Reg. 51/95 and N.S. Reg. 179/96 for examples of Provincial legislation.)

### **SECTION 14 TRANSPORT INFORMATION**

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**TC Shipping Description:** NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER TDG REGULATIONS

**DOT Shipping Description:** PETROLEUM LUBRICATING OIL

### **SECTION 15 REGULATORY INFORMATION**

#### **REGULATORY LISTS SEARCHED:**

01-1=IARC Group 1

01-2A=IARC Group 2A

01-2B=IARC Group 2B

35=WHMIS IDL

No components of this material were found on the regulatory lists above.

**CHEMICAL INVENTORIES:**

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), KECI (Korea), PICCS (Philippines), TSCA (United States).

One or more components does not comply with the following chemical inventory requirements: IECSC (China).

**WHMIS CLASSIFICATION:**

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3,s.2).

**MSDS PREPARATION:**

This Material Safety Data Sheet has been prepared by the Toxicology and Health Risk Assessment Unit, ERTC, P.O. Box 1627, Richmond, CA 94804, (888)676-6183.

Revision Date: 09/30/2004

**SECTION 16 OTHER INFORMATION**

**HMIS RATINGS:** Health: 1 Flammability: 1 Reactivity: 0

**LABEL RECOMMENDATION:**

Label Category : ENGINE OIL 1

**REVISION STATEMENT:** This is a new Material Safety Data Sheet.

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - ChevronTexaco	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its



## Material Safety Data Sheet

MSDS ID NO.: 0133SPE012  
Revision date: 01/30/2004

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

**Product name:** SSA Propane  
**Synonyms:** Liquefied Petroleum Gas, SSA; LPG, SSA; Propane, SSA; SSA Liquefied Petroleum Gas  
**Chemical Family:** Aliphatic Hydrocarbon  
**Formula:** CH<sub>3</sub>CH<sub>2</sub>CH<sub>3</sub>

**Supplier:**  
Speedway/Superamerica LLC  
P O BOX 1500  
ENON OH 45501

**Other information:** 419-421-3070  
**Emergency telephone number:** 877-627-5463

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Propane is an aliphatic petroleum hydrocarbon. Ethyl mercaptan (15-25 ppm) is added as an odorant. The odor threshold of the mercaptan is 1 ppb.

#### Product information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
SSA Propane	74-98-6	100	= 2500 ppm TWA	= 1000 ppm TWA = 1800 mg/m <sup>3</sup> TWA	

#### Component Information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Propane	74-98-6	90-100	= 2500 ppm TWA	= 1000 ppm TWA = 1800 mg/m <sup>3</sup> TWA	
Propylene	115-07-1	1-5			ACGIH Simple asphyxiant
Ethane	74-84-0	000.5000 - 003.0000			ACGIH Simple asphyxiant
Butane & Heavier	Mixture	0-2.5			
Sulfur	7704-34-9	< 000.0100			

#### Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

PROPANE IS A COLORLESS GAS OR LIQUID STENCHED WITH A FOUL SULFUR SMELLING ODORANT. IT IS SHIPPED OR TRANSPORTED AS A LIQUIFIED GAS UNDER PRESSURE. THIS PRODUCT IS EXTREMELY FLAMMABLE AND EXPLOSIVE. AT HIGH CONCENTRATIONS THIS PRODUCT IS A SIMPLE ASPHYXIANT, WHICH DISPLACES OXYGEN FROM THE BREATHING ATMOSPHERE. MAY CAUSE SKIN AND EYE BURNS UPON LIQUID CONTACT. LARGE RELEASES CAN CREATE A FLAMMABLE VAPOR CLOUD.

**OSHA WARNING LABEL:**

**DANGER!**  
**EXTREMELY FLAMMABLE.**  
**LIQUID AND GAS UNDER PRESSURE.**  
**LIQUID CAN CAUSE FROST BURNS.**

**CONSUMER WARNING LABEL:**

**A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.**

**Inhalation:** Product is an anesthetic at high concentrations, producing dizziness, headache, incoordination and narcosis; extremely high concentrations can cause asphyxiation and death by displacement of oxygen from the breathing atmosphere.

**Ingestion:** Ingestion not likely.

**Skin contact:** Vapor is generally non-irritating to skin. Direct contact with liquified product can cause "cold burn" or frostbite.

**Eye contact:** Vapor is generally non-irritating to eyes. Direct contact with liquified product can cause "cold burn" or frostbite.

**Carcinogenic Evaluation:**

**Product information**

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
SSA Propane 74-98-6	NE			

**Notes:** The International Agency for Research on Cancer (IARC) has not evaluated this product.

**Component Information**

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Propylene 115-07-1			A4 - Not Classifiable as a Human Carcinogen	

**Notes:** The International Agency for Research on Cancer (IARC) has concluded that propylene is not classifiable as to its carcinogenicity to humans (Group 3).

**4. FIRST AID MEASURES**

**Inhalation:** If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician.

**Skin contact:** If liquified product has caused a "frost burn", remove contaminated clothing. Thaw frostbitten areas slowly with lukewarm water or by wrapping affected areas with blankets. Do not rub affected areas. Let circulation reestablish itself naturally, exercising area if possible. Call a physician.

**Ingestion:** Ingestion not likely. If swallowed, immediately call a physician.

**Eye contact:** Liquid: Flush with large amounts of tepid water for at least 15 minutes. Immediately call a physician.  
Gas: Call a physician if symptoms or irritation occur.

**Medical conditions aggravated by exposure:** Inhalation of high vapor concentrations of components of this product in animals has produced cardiac sensitization. Such sensitization may cause changes in heart rhythms. This latter effect was shown to be enhanced by oxygen deficiency or the injection of adrenalin-like agents.

## 5. FIRE FIGHTING MEASURES

**Suitable extinguishing media:** For small fires, Class B fire extinguishing media such as CO<sub>2</sub>, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

**Specific hazards:** This product has been determined to be a flammable gas/liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. For additional fire related information see NFPA 30 or North American Emergency Response Guide 115.

**Special protective equipment for firefighters:** BLEVE's (boiling liquid expanding vapor explosions) can occur when a liquid in a pressurized container in close proximity to a fire reaches a temperature well above its boiling point. Its effect could lead to a catastrophic failure of the vessel resulting in flying equipment fragments, a shock wave and a fireball causing serious damage and death. Isolate hazard area. If safe to do so, stop the flow of gas and allow fire to burn out. Extinguishing the flame before shutting off the supply can cause the formation of explosive mixtures. In some cases it may be preferred to allow the flame to continue to burn. Use extreme caution when fighting liquefied petroleum gas fires. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid use of solid water streams. Contact with water and liquified product can cause increased vaporization.

**Flash point:** -156 F

**Autoignition temperature:** 871 F

**Flammable limits in air - lower (%):** 2.1

**Flammable limits in air - upper (%):** 9.5

**NFPA rating:**

Health: 1	<b>HMIS classification:</b>
Flammability: 4	Health: 1
Reactivity: 0	Flammability: 4
Other: -	Reactivity: 0
	Special: *See Section 8 for guidance in selection of personal protective equipment.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Leaking containers should be moved outdoors or to well-ventilated area and contents transferred to a suitable container. Product vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer.

## 7. HANDLING AND STORAGE

### Handling:

Product is stored as a liquid but used in the gaseous state. Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Avoid overpressurizing or overfilling cylinders. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### PERSONAL PROTECTIVE EQUIPMENT

- Engineering measures:** Local or general exhaust required in an enclosed area or with inadequate ventilation.
- Respiratory protection:** Use atmosphere supplying respirators in the event of oxygen deficiency, when material produces vapors that exceed permissible limits or when excessive vapors are generated. Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting.
- Skin and body protection:** Wear insulated gloves to prevent skin contact and frostbite.
- Eye protection:** Use goggles or face-shield if there is a potential for splashing.
- Hygiene measures:** Use mechanical ventilation equipment that is explosion-proof.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

<b>Appearance:</b>	Colorless Liquified Gas
<b>Physical state (Solid/Liquid/Gas):</b>	Liquid
<b>Substance type (Pure/Mixture):</b>	Pure
<b>Color:</b>	Colorless
<b>Odor:</b>	Rotten-egg.
<b>Molecular weight:</b>	Not determined.
<b>pH:</b>	No data available.
<b>Boiling point/range:</b>	-43.7 F
<b>Melting point/range:</b>	-305.8 F
<b>Decomposition temperature:</b>	Not applicable.
<b>Specific gravity:</b>	.51 Liquid
<b>Density:</b>	4.4 lbs/gal @ 32 F
<b>Bulk density:</b>	No data available.
<b>Vapor density:</b>	1.56
<b>Vapor pressure:</b>	7600 mm Hg @ 80 F 147 PSI @ 80 F
<b>Evaporation rate:</b>	No data available.
<b>Solubility:</b>	Moderate 6.5%
<b>Solubility in other solvents:</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>VOC content(%):</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. STABILITY AND REACTIVITY

### Stability:

The material is stable at 70 F, 760 mm pressure.

**Polymerization:**

Will not occur.

**Hazardous decomposition products:**

Combustion produces carbon monoxide.

**Materials to avoid:**

Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.

**Conditions to avoid:**

Sources of heat or ignition.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:**

### Product information

Name	CAS Number	Inhalation:	Dermal:	Oral:
SSA Propane	74-98-6	>4000,000 ppm for 6 hr [Rat]	n/a	n/a

Some of the major components of this product are considered to be simple asphyxiant gases without significant potential for systemic toxicity. At high concentrations these gases act as asphyxiants by diluting and displacing oxygen. Symptoms of persons exposed to oxygen deficient atmospheres include headache, dizziness, incoordination, cyanosis and narcosis. Extremely high concentrations can produce unconsciousness followed by death.

At extremely high concentrations and excessive exposure conditions components of this product may produce cardiac sensitization.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects:**

Liquid product is not toxic to aquatic life or waterfowl. The aquatic 96 hour TLM for propane is >100 ppm.

## 13. DISPOSAL CONSIDERATIONS

**Cleanup Considerations:**

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "ignitable" hazardous waste (D001). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. Bleeding off small amounts of this product into the atmosphere or controlled incineration of large amounts are potential disposal methods provided all regulatory requirements are met.

## 14. TRANSPORT INFORMATION

49 CFR 172.101:

**DOT:**

**Transport Information:**

This material when transported via US commerce would be regulated by DOT Regulations.

**Proper shipping name:**

Propane

**UN/Identification No:**

UN 1978

**Hazard Class:**

2.1

MSDS ID NO.: 0133SPE012

Product name: SSA Propane

Packing group:  
DOT reportable quantity (lbs):

Not applicable.  
Not applicable.

**TDG (Canada):**

Proper shipping name:  
UN/Identification No:  
Hazard Class:  
Packing group:  
Regulated substances:

Propane  
UN 1978  
2.1  
Not applicable.  
Not applicable.

## 15. REGULATORY INFORMATION

### Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b):

This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard:

This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

### EPA Superfund Amendment & Reauthorization Act (SARA):

#### SARA Section 302:

This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Propane	NA
Propylene	NA
Ethane	NA
Butane & Heavier	NA
Sulfur	NA

#### SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Propane	NA
Propylene	NA
Ethane	NA
Butane & Heavier	NA
Sulfur	NA

#### SARA Section 311/312:

The following EPA hazard categories apply to this product:

Acute Health Hazard.  
Fire Hazard.  
Sudden Release Of Pressure.

#### SARA Section 313:

This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Propane	None
Propylene	= 1.0 percent de minimis concentration
Ethane	None
Butane & Heavier	None
Sulfur	None

### State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

MSDS ID NO.: 0133SPE012

Product name: SSA Propane



## Propane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1594
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1594
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

## Propylene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1609
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1609
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

## Ethane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 0834
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree

New Jersey - Environmental Hazardous  
Substances List:  
Illinois - Toxic Air Contaminants  
New York - Reporting of Releases Part 597 -  
List of Hazardous Substances:

SN 0834; NJ uses UN1035 for reporting purposes

Not Listed

Not Listed

#### Butane & Heavier

Louisiana Right-To-Know:  
California Proposition 65:  
New Jersey Right-To-Know:  
Pennsylvania Right-To-Know:  
Massachusetts Right-To-Know:  
Florida substance List:  
Rhode Island Right-To-Know:  
Michigan critical materials register list:  
Massachusetts Extraordinarily Hazardous  
Substances:

Not Listed

Not Listed

Not Listed.

Not Listed.

Not Listed.

Not Listed.

Not Listed

Not Listed.

Not Listed

California - Regulated Carcinogens:  
Pennsylvania RTK - Special Hazardous  
Substances:

Not Listed

Not Listed

New Jersey - Special Hazardous Substances:  
New Jersey - Environmental Hazardous  
Substances List:

Not Listed

Not Listed

Illinois - Toxic Air Contaminants  
New York - Reporting of Releases Part 597 -  
List of Hazardous Substances:

Not Listed

Not Listed

#### Sulfur

Louisiana Right-To-Know:  
California Proposition 65:  
New Jersey Right-To-Know:  
Pennsylvania Right-To-Know:  
Massachusetts Right-To-Know:  
Florida substance List:  
Rhode Island Right-To-Know:  
Michigan critical materials register list:  
Massachusetts Extraordinarily Hazardous  
Substances:

Not Listed

Not Listed

sn 1757

[present]

Present

Not Listed.

Flammable

Not Listed.

Not Listed

California - Regulated Carcinogens:  
Pennsylvania RTK - Special Hazardous  
Substances:

Not Listed

Not Listed

New Jersey - Special Hazardous Substances:  
New Jersey - Environmental Hazardous  
Substances List:

Not Listed

Not Listed

Illinois - Toxic Air Contaminants  
New York - Reporting of Releases Part 597 -  
List of Hazardous Substances:

Not Listed

Not Listed

#### Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDSL).

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Propane	A; B1	
Propylene	A; B1	
Ethane	A; B1	
Sulfur	B4	

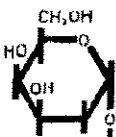
## 16. OTHER INFORMATION

**Additional Information:** No data available.

**Prepared by:** Craig M. Parker Manager, Toxicology and Product Safety

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**End of Safety Data Sheet**



**Poly-Drill Drilling Systems**  
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Calgary, Alberta, Canada T2W-OA8  
(403) 259-5112 FAX (403) 255-7185  
email: polydril@telus.net  
[www.poly-drill.com](http://www.poly-drill.com)

**poly-drill.com**

## MATERIAL SAFETY DATA SHEET/FICHE SIGNALÉTIQUE

### 1. PRODUCT IDENTIFICATION

PRODUCT TRADE NAME: Poly-Drill 133-X  
PRODUCT DESCRIPTION: LIQUID ANIONIC POLYMER  
CHEMICAL DESCRIPTION: Polymer, Surfactant(s), Water, Hydrocarbon solvent  
UPDATED: March 15, 2004

#### NFPA704M/HMIS RATING

HEALTH: 0/1 FLAMMABILITY: 1/1 REACTIVITY: 0/0 OTHER:  
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

### 2. COMPOSITION

A liquid polymer; Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations. None of the substances in this product are hazardous.

### 3. PHYSICAL DATA

Flash Point: >100°C (PMCC)  
Specific Gravity (@ 25°C.): 1.08  
Solubility in Water: Emulsifiable  
pH: 8.1 (1.0% solution)  
Freeze Point: -10 °C (14 Degrees F)  
Density (g/ml): 1.08 at 25 °C  
Physical State: Liquid  
Appearance: Blue liquid  
Odor: Hydrocarbon

Note: These physical properties are typical values for this product.

### 4. FIRE AND EXPLOSION DATA

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. Chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, oxides of carbon (COx), oxides of nitrogen (NOx) may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

### 5. FIRE FIGHTING MEASURES

FLASH POINT: >100°C (PMCC)

**EXTINGUISHING MEDIA:** Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For larger fires, use water spray or fog, thoroughly drenching the burning material.

**UNSUITABLE EXTINGUISHING MEDIA:**  
Do not use water unless flooding amounts are available.

**UNUSUAL FIRE AND EXPLOSION HAZARD:** May evolve oxides of nitrogen (NOx) under fire conditions.

## **6. HEALTH HAZARD DATA**

### **EMERGENCY OVERVIEW:**

**CAUTION:** May cause irritation to skin and eyes. Avoid contact with skin, eyes and clothing. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

**PRIMARY ROUTE(S) OF EXPOSURE:** Eye & Skin

**EYE CONTACT:** Can cause mild to moderate irritation

**SKIN CONTACT:** Can cause mild, short-lasting irritation

**SYMPTOMS OF EXPOSURE:** A review of available data does not identify any symptoms from exposure not previously mentioned.

**AGGRAVATION OF EXISTING CONDITIONS:** A review of available data does not identify any worsening of existing conditions.

## **7. EMERGENCY AND FIRST AID PROCEDURES**

**SKIN:** Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.

**EYE:** Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.

**INHALATION:** Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.

**INGESTION:** Do not induce vomiting: Call a physician immediately.

**CAUTION:** If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water. Call for medical assistance immediately.

## **8. HANDLING, ACCIDENTAL RELEASE MEASURES & DISPOSAL CONSIDERATIONS**

**Storage:** Keep container tightly closed when not in use.

### **DISPOSAL:**

In Ontario, the waste class under Regulation 347 is: 233L

### **SMALL SPILLS:**

Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area.

### **LARGE SPILLS:**

Contain liquid using absorbent material, by digging trenches or by dyking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated.

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

**ENVIRONMENTAL PRECAUTIONS**

This product should NOT be directly discharged into lakes, ponds, streams, waterways or public water supplies.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state, provincial and federal regulations.

**9. INDUSTRIAL HYGIENE CONTROL MEASURES****OCCUPATIONAL EXPOSURE LIMITS:**

This product does not contain any substance that has an established exposure limit.

Respiratory Protection: None normally required.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

Ventilation: General ventilation is recommended.

Eye Protection: Safety glasses, if personally preferred

Gloves: Generally not necessary. Personal preference. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton, and butyl (compatibility studies have not been performed).

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

**10. TOXICOLOGICAL PROPERTIES****SENSITIZATION:**

This product is not expected to be a sensitizer.

A "LC50-96" Pass/Fail Bioassay test. This test determines the lethality of a fluid on young aquatic organisms. The fluid fails if 50% or more of the animals are dead after 96 hours in the fluid.

96 hour static acute LC50 to Rainbow Trout = Greater than 1,000 mg/L

96 hour no observed effect concentration = 125 mg/L based on no mortality or abnormal effects

96 hour static acute LC50 to Sheepshead Minnow = Greater than 1,000 mg/L

96 hour no observed effect concentration = 1,000 mg/L (highest concentration tested) based on no mortality or abnormal effects.

96 hour static acute LC50 to Mysid Shrimp = 400 mg/L

96 hour no observed effect concentration = 180 mg/L based on no mortality or abnormal effects.

96 hour static acute LC50 to Daphnia Magna = 400 mg/L

96 hour no observed effect concentration = 56 mg/L (lowest concentration tested) based on no mortality or abnormal effects.

**Microtoxicity**

The Microtox bioassay has been established as the reference test for mud additive toxicity testing.

Test Method: Luminescent Bacteria, IC50@ 15 min

Reference: Appendix 1: Microtox Bioassay Procedure, Drilling Waste Management, Guide G50. 1993. Alberta Energy and Utilities Board, Calgary, AB, Canada.

Sample: Poly Drill 1330, sample #97324-1 for test #970723, 97/05/09 by D. Lintott

Preparation: Sample was diluted to 2 g/L, which formed thick, slightly cloudy liquid. The sample was then centrifuged for 1 hour.

## Test Results:

SAMPLE	TREATMENT	%CTL	IC20%	IC50	RESULT
97324-1	None	N/A	14 (9-22)	>91	PASS

The following results are for a 1% aqueous solution of product.

**CARCINOGENICITY:**

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Government Industrial Hygienists (ACGIH).

**HUMAN HAZARD CHARACTERIZATION:**

Based on our Hazard Characterization, the potential human hazard is: LOW

**ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION:**

Based on our Hazard Characterization, the potential environmental hazard is: LOW.

**11. DEPARTMENT OF TRANSPORTATION INFORMATION**

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES: PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Shipping Name: Liquid Drilling Additive

Hazard Class: Not hazardous

Cautionary Labeling: None required

**14. OTHER INFORMATION**

This information contained herein is given in good faith, but no warranty, expressed or implied is made



# Material Safety Data Sheet

## Section 1. Product and Company Identification

<b>Product Name</b>	Calcium Chloride, Dihydrate	<b>Product Code</b>	CX0134
<b>Manufacturer</b>	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	<b>Effective Date</b>	8/20/2004
<b>For More Information Call</b>	856-423-6300 Technical Service Monday-Friday: 8:00 AM - 5:00 PM	<b>In Case of Emergency Call</b>	800-424-9300 CHEMTREC (USA) 613-996-6666 CANUTEC (Canada) 24 Hours/Day: 7 Days/Week
<b>Synonym</b>	CALCIUM CHLORIDE		
<b>Material Uses</b>	Analytical reagent.		
<b>Chemical Family</b>	Inorganic salt.		

## Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
CALCIUM CHLORIDE, DIHYDRATE	10035-04-8	100

## Section 3. Hazards Identification

**Physical State and Appearance** Solid. (Powder or flakes solid. Granular solid.)

**Emergency Overview** CAUTION!  
CAUSES EYE IRRITATION.  
MAY CAUSE SKIN IRRITATION.

**Routes of Entry** Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

**Potential Acute Health Effects**  
**Eyes** Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.  
**Skin** May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.  
**Inhalation** No known acute effects of this product resulting from inhalation.  
**Ingestion** Irritating to mouth, throat and stomach. Ingestion can cause nausea and vomiting.

**Potential Chronic Health Effects**  
**Carcinogenic Effects** This material is not known to cause cancer in animals or humans.

**Additional information** See Toxicological Information (section 11)

**Medical Conditions Aggravated by Overexposure:** Repeated or prolonged exposure is not known to aggravate medical condition.

## Section 4. First Aid Measures

**Eye Contact** Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact** In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Inhalation** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

## Section 5. Fire Fighting Measures

**Flammability of the Product** May be combustible at high temperature.

**Auto-ignition Temperature** Not available.



<b>Flash Points</b>	Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	These products are carbon oxides (CO, CO <sub>2</sub> ), halogenated compounds. Some metallic oxides.
<b>Fire Hazards in Presence of Various Substances</b>	Not available.
<b>Explosion Hazards in Presence of Various Substances</b>	<b>Risks of explosion of the product in presence of static discharge:</b> No.
<b>Fire Fighting Media and Instructions</b>	<b>Risks of explosion of the product in presence of mechanical impact:</b> No. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
<b>Protective Clothing (Fire)</b>	Be sure to use an approved/certified respirator or equivalent.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Not available.

## Section 6. Accidental Release Measures

<b>Small Spill and Leak</b>	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
<b>Large Spill and Leak</b>	Use a shovel to put the material into a convenient waste disposal container.
<b>Spill Kit Information</b>	No specific spill kit required for this product.

## Section 7. Handling and Storage

<b>Handling</b>	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not ingest. Do not breathe dust.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8. Exposure Controls/Personal Protection

<b>Engineering Controls</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
<b>Personal Protection</b>	<p><b>Eyes</b> Splash goggles.</p> <p><b>Body</b> Lab coat.</p> <p><b>Respiratory</b> Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.</p> <p><b>Hands</b> Gloves.</p> <p><b>Feet</b> Not applicable.</p>

**Protective Clothing (Pictograms)**



**Personal Protection in Case of a Large Spill** Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

<b>Product Name</b>	<b>Exposure Limits</b>
CALCIUM CHLORIDE, DIHYDRATE	Not available.

## Section 9. Physical and Chemical Properties

<b>Odor</b>	Not available.
<b>Color</b>	White.
<b>Physical State and Appearance</b>	Solid. (Powder or flakes solid. Granular solid.)
<b>Molecular Weight</b>	147.02 g/mole
<b>Molecular Formula</b>	CaCl <sub>2</sub> · 2H <sub>2</sub> O
<b>pH</b>	Not available.
<b>Boiling/Condensation Point</b>	Not available.
<b>Melting/Freezing Point</b>	Not available.
<b>Specific Gravity</b>	Not available.
<b>Vapor Pressure</b>	Not available.
<b>Vapor Density</b>	Not available.
<b>Odor Threshold</b>	Not available.
<b>Evaporation Rate</b>	Not available.
<b>LogKow</b>	Not available.
<b>Solubility</b>	Soluble in water.

**Section 10. Stability and Reactivity**

<b>Stability and Reactivity</b>	The product is stable.
<b>Conditions of Instability</b>	Not available.
<b>Incompatibility with Various Substances</b>	Reactive with metals, moisture.
<b>Rem/Incompatibility</b>	Not available.
<b>Hazardous Decomposition Products</b>	These products are halogenated compounds.
<b>Hazardous Polymerization</b>	Will not occur.

**Section 11. Toxicological Information**

RTECS Number:

Calcium Chloride, Dihydrate EV9810000

**Toxicity**LD50: Not available.  
LC50: Not available.**Chronic Effects on Humans** Not available.**Acute Effects on Humans** Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.**Synergetic Products (Toxicologically)**

Not available.

**Irritancy**

Draize Test: Not available.

**Sensitization**

Not available.

**Carcinogenic Effects**

This material is not known to cause cancer in animals or humans.

**Toxicity to Reproductive System**

Not available.

**Teratogenic Effects**

Not available.

**Mutagenic Effects**

Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).

**Section 12. Ecological Information****Ecotoxicity** Not available.**BOD5 and COD** Not available.**Toxicity of the Products of Biodegradation** The products of degradation are more toxic than the product itself.**Section 13. Disposal Considerations****EPA Waste Number**

Not available.

**Treatment**

Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

**Section 14. Transport Information****DOT Classification**

Proper Shipping Name: CHEMICALS, N.O.S.

RQ: Not applicable.

**TDG Classification**

Not available.

**IMO/IMDG**

Proper Shipping Name: CHEMICALS, N.O.S.

**Classification**

RQ: Not applicable.

**ICAO/IATA**

Not available.

**Classification****+ Section 15. Regulatory Information****U.S. Federal Regulations**

TSCA 8(b) inventory: Calcium Chloride, Dihydrate  
 SARA 302/304/311/312 extremely hazardous substances: No products were found.  
 SARA 302/304 emergency planning and notification: No products were found.  
 SARA 302/304/311/312 hazardous chemicals: Calcium Chloride, Dihydrate  
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Calcium Chloride, Dihydrate: Immediate (Acute) Health Hazard  
 SARA 313 toxic chemical notification and release reporting: No products were found.  
 Clean Water Act (CWA) 307: No products were found.  
 Clean Water Act (CWA) 311: No products were found.  
 Clean air act (CAA) 112 accidental release prevention: No products were found.  
 Clean air act (CAA) 112 regulated flammable substances: No products were found.

**WHMIS (Canada)**

Clean air act (CAA) 112 regulated toxic substances: No products were found.

Class D-2B: Material causing other toxic effects (TOXIC).

CEPA DSL: CALCIUM CHLORIDE

This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

**International Regulations****EINECS**

Not available.

**DSCL (EEC)**

R38- Irritating to skin.

R41- Risk of serious damage to eyes.

**International Lists**

Australia (NICNAS): Calcium Chloride, Dihydrate

Japan (MITI): Calcium Chloride, Dihydrate

Philippines (RA6969): Calcium Chloride, Dihydrate

China: No products were found.

**State Regulations**

No products were found.

California prop. 65: No products were found.

**Section 16. Other Information**

**National Fire  
Protection  
Association  
(U.S.A.)**

	0	Fire Hazard
Health	0 0	Reactivity
		Specific Hazard

Changed Since Last  
Revision

+

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