










Material Safety Data Sheet

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

Section 1. Chemical Product and Company Identification

Product Name	GASOLINE - ETHANOL	Code	GASOHOL
Synonym	SuperClean, SuperClean 94 (Montreal), GASOHOL, Regular, Mid-Grade, Plus, WinterGas, RegularClean, PlusClean, marked or dyed gasoline, Super Premium (94 RO)	Validated on	11/30/2006.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
Material Uses	Gasoline-Ethanol is used in spark ignition engines including motor vehicles, farm vehicles, inboard and outboard boat engines, small engines and recreational vehicles.		

Section 2. Composition and Information on Ingredients

			Exposure Limits (ACGIH)		
Name	CAS #	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
Complex mixture of aliphatic and aromatic hydrocarbons (C4-C12)	86290-81-5	90-97	300 ppm (gasoline)	500 ppm (gasoline)	Not established
Ethanol	64-17-5	3-10	1000 ppm	Not established	Not established
Toluene	108-88-3	0-20	50 ppm	Not established	Not established
May contain benzene.	71-43-2	0-1.5	0.5 ppm	2.5 ppm	Not established
Manufacturer Recommendation	Not applicable				
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section 3. Hazards Identification.

Potential Health Effects	Flammable liquid. Exercise caution when handling this material. May cause cancer. May cause heritable genetic effects (mutagenicity). Contact with this product may cause skin and eye irritation. This product contains an ingredient or ingredients, which have been shown to cause chronic toxic effects. 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.
---------------------------------	---

Section 4. First Aid Measures

Eye Contact	Avoid direct contact. Quickly and gently blot or brush chemical off the face. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes or until the chemical is removed, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately obtain medical attention.
Skin Contact	As quickly as possible, remove contaminated clothing, shoes and leather goods (e.g., watchbands, belts, etc.). Avoid direct contact. Wear chemical resistant protective clothing if necessary. Quickly and gently, blot or brush away excess chemical. Immediately wash with lukewarm, gently flowing water and non-abrasive soap for 15-20 minutes. Immediately obtain medical attention. Completely decontaminate clothing, shoes and leather goods before reuse or discard.
Inhalation	Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). If breathing has stopped, trained personnel should begin artificial respiration (AR) or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Quickly transport victim to an emergency care facility.
Ingestion	NEVER give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. If breathing has stopped, trained personnel should begin artificial respiration (AR) or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED). Quickly transport victim to an emergency care facility.

Note to Physician Not available

Section 5. Fire-fighting Measures

Flammability	Flammable liquid.	Flammable Limits	LOWER: 1.4%; UPPER: 7.6% (NFPA)
Flash Points	-43°C (-45°F) (NFPA)	Auto-Ignition Temperature	Not available
Fire Hazards in Presence of Various Substances	Extremely flammable in presence of heat, open flames and sparks. This product can accumulate static charge and ignite. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back.	Explosion Hazards in Presence of Various Substances	Do not cut, weld, heat, drill or pressurize empty container. Containers may explode in heat of fire. Runoff to sewer may create fire or explosion hazard.
Products of Combustion	Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), aldehydes, ketones, hydrocarbons, aromatics, phenols, polynuclear aromatic hydrocarbons, smoke and irritating vapours as products of incomplete combustion. See Section 11 (Other Considerations) for information regarding the toxicity of the combustion products.		
Fire Fighting Media and Instructions	<p>NAERG2004, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a very low flash point: Use of water spray when fighting fire may be inefficient.</p> <p>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.</p> <p>SMALL FIRES: Dry chemical, CO₂, water spray or regular foam. LARGE FIRES: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.</p> <p>Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or any discolouration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.</p>		

Section 6. Accidental Release Measures

Material Release or Spill	IN THE EVENT OF A LARGE SPILL CONSIDER THE FOLLOWING CONTROL MEASURES: Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. Evacuate non-essential personnel. Extinguish all ignition sources. Stop leak if safe to do so. Ventilate area. Avoid breathing vapours or mists of material. Avoid contact with spilled material. Dike spilled material. Ensure clean-up personnel wear appropriate personal protective equipment. Use appropriate inert absorbent material to absorb spilled product. Do not use paper or other flammable materials to absorb product. Collect used absorbent for later disposal. Do not allow spilled materials to come into contact with incompatible materials (see Section 10). Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Ground and bond all equipment used to clean up the spilled material, as it may be a static accumulator. Notify appropriate authorities immediately.
----------------------------------	--

Section 7. Handling and Storage

Handling	FLAMMABLE 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. Do not ingest this product. Wear proper personal protective equipment (See Section 8). Avoid contact with any incompatible or reactive materials. Avoid confined spaces and areas with poor ventilation. Ensure all equipment is grounded/bonded. Exercise caution when washing/drying clothing contaminated with flammable materials. 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.
Storage	Store as flammable material. 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). Keep container tightly closed. Ensure the storage containers are grounded/bonded. Avoid direct sunlight.

Section 8. Exposure Controls/Personal Protection

Engineering Controls For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.

Personal Protection - *The selection of personal protective equipment varies, depending upon conditions of use.*

Eyes As a minimum, safety glasses with side shields should be worn when handling this material.

Body If this material may come in contact with the body during handling and use, we recommend wearing appropriate protective clothing to prevent contact with the skin. (Contact your PPE provider for more information.)

Respiratory A NIOSH-approved air-purifying respirator with an organic vapour cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstances where air-purifying respirators may not provide adequate protection.

Hands If this material may come in contact with the hands during handling and use, we recommend wearing gloves of the following material(s): nitrile, neoprene, fluoro-elastomer. Consult your PPE provider for breakthrough times and the specific glove that is best for you based on your use patterns. It should be realized that eventually any material regardless of their imperviousness, will get permeated by chemicals. Therefore, protective gloves should be regularly checked for wear and tear. At the first signs of hardening and cracks, they should be changed.

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

Section 9. Physical and Chemical Properties

Physical State and Appearance	Clear liquid.	Viscosity	0.6 cSt @ 40°C (104°F)
Colour	Clear, undyed liquid. May be dyed for tax exempt purposes.	Pour Point	Not available.
Odour	Hydrocarbon	Softening Point	Not applicable.
Odour Threshold	Not available.	Dropping Point	Not applicable.
Boiling Point	29-200°C (84-392°F)	Penetration	Not applicable.
Density	0.7kg/L @ 15°C (59°F)	Oil / Water Dist. Coefficient	Not available.
Vapour Density	3-4 (Air=1) (NFPA)	Ionicity (in water)	Not available.
Vapour Pressure	41 kPa to 107 kPa @ 15°C	Dispersion Properties	Not available.
Volatility	Volatile.	Solubility	Hydrocarbon components virtually insoluble. Ethyl alcohol is completely soluble in water.

Section 10. Stability and Reactivity

Corrosivity	Not available.		
Stability	The product is stable under normal handling and storage conditions.	Hazardous Polymerization	Will not occur under normal working conditions.
Incompatible Substances / Conditions to Avoid	Reactive with oxidizing agents acids and alkali metals.	Decomposition Products	May release COx, NOx, aldehydes, ketones, hydrocarbons, aromatics, phenols, polynuclear aromatic hydrocarbons, smoke and irritating vapours when heated to decomposition.

Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation and ingestion.
Acute Lethality	Acute toxicity information is not available for the product as a whole, therefore, data for some of the ingredients is provided below: <u>Gasoline (86290-81-5):</u> Acute oral toxicity (LD50): 13600 mg/kg (rat). Acute dermal toxicity (LD50): >5000 mg/kg (rabbit). <u>Ethanol (64-17-5):</u> Acute oral toxicity (LD50): 3450 mg/kg (mouse). Acute inhalation toxicity (LC50): 31623 ppm/4h (rat). <u>Toluene (108-88-3):</u> Acute oral toxicity (LD50): 636 mg/kg (rat).

Acute dermal toxicity (LD50): 12,225 mg/kg (rabbit).
Acute inhalation toxicity (LC50): 8800 ppm/4h (rat).

Benzene (71-43-2):

Acute oral toxicity (LD50): 930 mg/kg (rat).
Acute dermal toxicity (LD50): >9400 mg/kg (rabbit).
Acute inhalation toxicity (LC50): 13,229 ppm/4h (rat).

Chronic or Other Toxic Effects

Dermal Route:	This product contains a component (at >= 1%) that can cause skin irritation. Therefore, this product is considered to be a skin irritant. Prolonged or repeated contact may defat and dry skin, and cause dermatitis.
Inhalation Route:	Inhalation of this product may cause respiratory tract irritation. Inhalation of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.
Oral Route:	Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. Ingestion of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death.
Eye Irritation/Inflammation:	This product contains a component (at >= 1%) that can cause eye irritation. Therefore, this product is considered to be an eye irritant.
Immunotoxicity:	Not available.
Skin Sensitization:	Contact with this product is not expected to cause skin sensitization, based upon the available data and the known hazards of the components.
Respiratory Tract Sensitization:	Contact with this product is not expected to cause respiratory tract sensitization, based upon the available data and the known hazards of the components.
Mutagenic:	This product contains a component(s) at >= 0.1% that has been shown to cause mutagenicity in laboratory tests. Therefore, this product is considered to be a mutagen. (Ethanol, Benzene).
Reproductive Toxicity:	This product is not known to contain any components at >= 0.1% that have been shown to cause reproductive toxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a reproductive toxin.
Teratogenicity/Embryotoxicity:	There is a wealth of information about the teratogenic hazards of Toluene in the literature; however, based upon professional judgement regarding the body of evidence, WHMIS classification as a teratogen is not warranted.
Carcinogenicity (ACGIH):	This product contains the following chemical(s) at >=0.1% that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Considered to be A1 by the ACGIH. Benzene, 71-43-2) (Considered to be A3 by the ACGIH. Gasoline, 86290-81-5)
Carcinogenicity (IARC):	This product contains the following chemical(s) at >=0.1% that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Considered to be carcinogenic to humans (group 1) by IARC. Benzene, 71-43-2) (Considered to be carcinogenic to humans (group 2B) by IARC. Gasoline, 86290-81-5)
Carcinogenicity (NTP):	This product contains the following chemical(s) at >=0.1% that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Known to be a human carcinogen according to NTP. Benzene, 71-43-2)
Carcinogenicity (IRIS):	This product contains the following chemical(s) at >=0.1% that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Considered to be carcinogenic by IRIS. Benzene, 71-43-2)
Carcinogenicity (OSHA):	This product contains the following chemical(s) at >=0.1% that are listed as carcinogenic compounds. Therefore this product is considered to be carcinogenic. (Considered to be carcinogenic by OSHA. Benzene, 71-43-2)
Other Considerations	Gasoline engine exhaust is possibly carcinogenic to humans (IARC Group 2B).

Section 12. Ecological Information

Environmental Fate	Not available	Persistence/Bioaccumulation Potential	Not available
BOD5 and COD	Not available.	Products of Biodegradation	Not available.
Additional Remarks No additional remark.			

Section 13. Disposal Considerations

Waste Disposal	Spent/ used/ waste product may meet the requirements of a hazardous waste. Consult your local or regional authorities. Ensure that waste management processes are in compliance with government requirements and local disposal regulations.
-----------------------	--

Section 14. Transport Information

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

Section 15. Regulatory Information

Other Regulations		This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List).																			
		All components of this formulation are listed on the US EPA-TSCA Inventory.																			
		All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).																			
		This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.																			
		Please contact Product Safety for more information.																			
DSD/DPD (Europe)		Not evaluated.		HCS (U.S.A.) HCS Class: Flammable liquid having a flash point lower than 37.8°C (100°F). HCS Class: May cause cancer. HCS Class: Target organ effects. HCS Class: Irritating substance.																	
ADR (Europe) (Pictograms)		NOT EVALUATED FOR EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.		DOT (U.S.A) (Pictograms) Not evaluated for transport Non évalué pour le transport																	
HMIS (U.S.A.)		<table><tr><td>Health Hazard</td><td>3*</td></tr><tr><td>Fire Hazard</td><td>3</td></tr><tr><td>Reactivity</td><td>0</td></tr><tr><td>Personal Protection</td><td>H</td></tr></table>		Health Hazard	3*	Fire Hazard	3	Reactivity	0	Personal Protection	H	NFPA (U.S.A.) Health <table><tr><td>3</td><td>Fire Hazard</td></tr><tr><td>2</td><td>Reactivity</td></tr><tr><td>0</td><td>Specific hazard</td></tr></table>		3	Fire Hazard	2	Reactivity	0	Specific hazard	Rating 0 Insignificant 1 Slight 2 Moderate 3 High 4 Extreme	
Health Hazard	3*																				
Fire Hazard	3																				
Reactivity	0																				
Personal Protection	H																				
3	Fire Hazard																				
2	Reactivity																				
0	Specific hazard																				

Section 16. Other Information

References	<p>Available upon request.</p> <p>* Marque de commerce de Petro-Canada - Trademark</p>
-------------------	--

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
 CAS - Chemical Abstract Services
 CEPA - Canadian Environmental Protection Act
 CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
 CFR - Code of Federal Regulations
 CHIP - Chemical Hazard Information and Packaging Approved Supply List
 COD - Chemical Oxygen Demand
 CPR - Controlled Products Regulations
 DOT - Department of Transportation (U.S.A.)
 DSCl - Dangerous Substances Classification and Labeling (Europe)
 DSD/DPD - Dangerous Substance or Dangerous Preparations Directives (Europe)
 DSL - Domestic Substance List (Canada)
 EEC/EU - European Economic Community/European Union
 EINECS - European Inventory of Existing Commercial Chemical Substances
 EPCRA - Emergency Planning And Community Right-To-Know Act
 FDA - Food and Drug Administration
 FIFRA - Federal Insecticide, Fungicide, and Rodenticide Act

HCS - Hazardous Communication System
 HMIS - Hazardous Material Information System
 IARC - International Agency for Research on Cancer
 IRIS - Integrated Risk Information System
 LD50/LC50 - Lethal Dose/Concentration kill 50%
 LDLo/LCLo - Lowest Published Lethal Dose/Concentration
 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
 STEL - Short Term Exposure Limit (15 minutes)
 TDG - Transportation Dangerous Goods (Canada)
 TDLo/TCLo - Lowest Published Toxic Dose/Concentration
 TLV-TWA - Threshold Limit Value-Time Weighted Average
 TLM - Median Tolerance Limit
 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**Prepared by Product Safety - JDW on 11/30/2006.**

Internet: www.petro-canada.ca/msds

Canada-wide: telephone: 1-800-668-0220; fax: 1-800-837-1228

For Product Safety Information: (905) 804-4752

Data entry by Product Safety - DSR.

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.