

Material Safety Data Sheet



GASOLINE - ETHANOL BLENDED

1. Product and company identification

Product name	: GASOLINE - ETHANOL BLENDED	
Synonym	: Unleaded Gasoline, Gasoline, Regular Gasoline, Premium Gasoline, Premium Unleaded Gasoline, Mid Grade Gasoline, Gasoline (Export), Petroleum Naphtha, Alkylate.	
Material uses	: Motor Fuel.	
Supplier/Manufacturer	Supplier Federated Co-operatives Limited P. O. Box 1050; 401 - 22nd Street East Saskatoon, SK S7K 3M9 Canada (306) 244-3447	Manufacturer Consumers' Co-operative Refineries Limited P.O. Box 260; 9th Avenue North Regina, SK S4P 3A1 Canada (306) 721-5353
Code	: 2738	
Responsible name	: Atrion Regulatory Services, Inc.	
In case of emergency	: CANUTEC (613) 996-6666	

2. Hazards identification

Physical state	: Liquid. [Clear.]
Odor	: Gasoline-like.
Emergency overview	: DANGER! EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. CAUSES EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. Extremely flammable liquid. May be harmful if swallowed. Irritating to eyes and skin. Inhalation of vapors may cause headaches, nausea, dizziness, narcosis and act as a severe central nervous system depressant; vapors may also be irritating to the eyes, nose, throat and lungs. Keep away from heat, sparks and flame. Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Contains material that can cause target organ damage. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.
Potential acute health effects	
Inhalation	: Vapors may cause drowsiness and dizziness.
Ingestion	: Harmful if swallowed. Low oral toxicity; vomiting may present an aspiration hazard.
Skin	: Irritating to skin.
Eyes	: Irritating to eyes.
Potential chronic health effects	
Chronic effects	: Contains material that can cause target organ damage. Prolonged or repeated liquid contact will dry and defat the skin leading to irritation and dermatitis.
Carcinogenicity	: Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure. This product contains benzene which is a known carcinogen. Human health studies show that benzene may cause damage to the blood producing system as well as serious blood disorders, including leukemia. Animal tests suggest prolonged or repeated overexposure may damage the embryo/fetus.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.



2. Hazards identification

- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which causes damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, bone marrow, central nervous system (CNS), eye, lens or cornea.
Lab test studies with rats and mice indicate long term inhalation may cause kidney and liver damage.
- Over-exposure signs/symptoms**
- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:
irritation
redness
Drying of skin.
Defatting to the skin.
- Eyes** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	%
Gasoline	86290-81-5	60 - 100
Ethanol	64-17-5	5 - 10
Benzene	71-43-2	1 - 5

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Immediately flush affected eyes with warm, running water for at least 15 minutes while holding eyelids open to ensure thorough flushing. Check for and remove any contact lenses. Get medical attention immediately.
- Skin contact** : Remove contaminated clothing, launder before reusing. Wash skin thoroughly with plenty of soap and water. Discard contaminated leather articles. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If breathing is difficult, give oxygen. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Give 1/2 glass of milk. Give two glasses of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.



4 . First aid measures

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Extremely flammable liquid. Heat will greatly increase fire and explosion hazards. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
Hydrocarbons, aromatics, oxides of nitrogen, lead and other trace elements, phenols, polynuclear aromatic hydrocarbons.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on explosion hazards : Liquid can accumulate static charge by flow or agitation.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Launder contaminated clothing before reuse. Empty container may contain hazardous residue. **DO NOT SIPHON BY MOUTH OR USE AS A CLEANING AGENT!**
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Canada

Product name

Gasoline

Exposure limits

ACGIH TLV (United States, 1/2007).

TWA: 300 ppm 8 hour(s).

TWA: 890 mg/m³ 8 hour(s).

STEL: 500 ppm 15 minute(s).

STEL: 1480 mg/m³ 15 minute(s).

Ethanol

ACGIH TLV (United States, 1/2007).

TWA: 1880 mg/m³ 8 hour(s).

TWA: 1000 ppm 8 hour(s).

Benzene

ACGIH TLV (United States, 1/2007). Skin

STEL: 8 mg/m³ 15 minute(s).

STEL: 2.5 ppm 15 minute(s).

TWA: 1.6 mg/m³ 8 hour(s).

TWA: 0.5 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : Use only with adequate ventilation. Use explosion-proof ventilation equipment. Provide mechanical ventilation for confined spaces. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Lab samples should be handled with adequate ventilation (under a fume hood if necessary).
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

8 . Exposure controls/personal protection

Personal protection

- Eyes** : Splash goggles.
- Skin** : Wear chemical resistant clothing if prolonged skin contact is likely.
- Respiratory** : A respirator is not needed under normal and intended conditions of product use. Wear an appropriate NIOSH approved respirator if concentration levels exceed the safe exposure limits. If exposure levels are not known, wear an air supplied respirator(SCBA).

Hands : Nitrile gloves.

Personal protective equipment (Pictograms)



HMIS Code/Personal protective equipment : x

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

- Physical state** : Liquid. [Clear.]
- Flash point** : Closed cup: <-40°C (<-40°F)
- Auto-ignition temperature** : 450°C (842°F)
- Flammable limits** : Lower: 1.2%
Upper: 7.1%
- Color** : Amber. Clear.
- Odor** : Gasoline-like.
- Boiling/condensation point** : 25 to 200°C (77 to 392°F)
- Specific gravity** : 0.69 to 0.75
- Vapor density** : 3 to 4 [Air = 1]
- Volatility** : 100% (v/v)
- Odor threshold** : <0.25 ppm
- Evaporation rate** : 4 (butyl acetate = 1)
- VOC** : 100 (%)
- Solubility** : Partially soluble in the following materials: cold water and hot water.

10 . Stability and reactivity

- Stability** : The product is stable. Heat will greatly increase fire and explosion hazards.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.
- Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Avoid exposure - obtain special instructions before use.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
Incompatibility with various substances
Nitric Acid ,Chlorine.,Sulfuric acid ,Peroxide.
- Hazardous decomposition products** : Hydrocarbons, aromatics, oxides of nitrogen, lead and other trace elements, phenols, polynuclear aromatic hydrocarbons.



10 . Stability and reactivity

Conditions of reactivity : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.
Flammable in the presence of the following materials or conditions: heat and shocks and mechanical impacts.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Species	Dose	Result	Exposure
Gasoline	Rat	92 g/kg	LD50 Oral	-
	Rat	13.6 g/kg	LD50 Oral	-
Ethanol	Rat	7 g/kg	LD50 Oral	-
	Rat	7060 mg/kg	LD50 Oral	-
Benzene	Rabbit	>9400 uL/kg	LD50 Dermal	-
	Rat	930 mg/kg	LD50 Oral	-
	Rat	1800 mg/kg	LD50 Oral	-
	Rat	1 mL/kg	LD50 Oral	-
	Rat	6400 mg/kg	LD50 Oral	-

Inhalation : Vapors may cause drowsiness and dizziness.

Ingestion : Harmful if swallowed. Low oral toxicity; vomiting may present an aspiration hazard.

Skin : Irritating to skin.

Eyes : Irritating to eyes.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Gasoline	A3	-	-	-	-	-
Benzene	A1	1	-	+	Proven.	+

12 . Ecological information

Environmental effects : Marine pollutant

Aquatic ecotoxicity

Product/ingredient name	Test	Species	Exposure	Result
Benzene	-	Crustaceans	48 hours	Acute EC50 58400 to 82300 ug/L
	-	Daphnia	48 hours	Acute EC50 9230 ug/L
	-	Crustaceans	48 hours	Acute LC50 21000 ug/L
	-	Daphnia	48 hours	Acute LC50 59600 to 80700 ug/L
	-	Fish	96 hours	Acute LC50 5.28 uL/L
	-			

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.




Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.



14 . Transport information

AERG : 128

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG Classification	UN1203	GASOLINE	3	II		-
IMDG Class	UN1203	GASOLINE. Marine pollutant (Gasoline, Benzene)	3	II		Marine pollutant
IATA-DGR Class	UN1203	GASOLINE	3	II		-

PG* : Packing group

15 . Regulatory information

Canada

WHMIS (Canada)

- : Class B-2: Flammable liquid
- Class D-2A: Material causing other toxic effects (Very toxic).
- Class D-2B: Material causing other toxic effects (Toxic).



Canadian lists

- : **CEPA Toxic substances:** The following components are listed: Benzene
- Canadian ARET:** None of the components are listed.
- Canadian NPRI:** The following components are listed: Ethanol;Benzene
- Alberta Designated Substances:** None of the components are listed.
- Ontario Designated Substances:** None of the components are listed.
- Quebec Designated Substances:** None of the components are listed.

Canada inventory (DSL/NDSL)

- : **Canada inventory:** All components are listed or exempted.

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

International regulations

International lists

- : This product, (and its ingredients) is (are) listed on national inventories, or is (are) exempted from being listed, in Australia (AICS), in Europe (EINECS/ELINCS), in Korea (TCCL), in Japan (METI), in the Philippines (RA6969).

16 . Other information

Label requirements

- : EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. CAUSES EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.

Not available.

Hazardous Material Information System (U.S.A.)

HAZARD RATINGS

16 . Other information

Health	*	2
Fire hazard		4
Physical Hazard		0
Personal protection		X

4- Extreme
 3- Serious
 2- Moderate
 1- Slight
 0- Minimal
 See section 8 for more detailed information on personal protection.

The customer is responsible for determining the PPE code for this material.

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



References : ANSI Z400.1, MSDS Standard, 2004. - Manufacturer's Material Safety Data Sheet. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.

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