

Safety Data Sheet

1.0 IDENTIFICATION OF THE SUBSTANCE / MIXTURE

1.1 Product Identification

Substance	Denatured Ethanol
Commercial Product Name	Fuel Grade Ethanol (gasoline denatured)
Synonyms	Denatured Ethanol
CAS	64-17-5

1.2 Details of the supplier of the SDS

Company	Greenergy Fuels Canada 14 King Street, Suite 250 Saint John New Brunswick E2L 1G2 CANADA
Telephone No.	888 834 1980
Email	msds-info@greenergy.com

1.3 Emergency telephone number

Emergency telephone number (CANUTEC)	888 CAN UTEC (226 8832), or 613-996-6666 From Cellular phone only *666
Availability	24hrs

2.0 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to GHS

Flam. Liq. 2	H225 - Highly flammable liquid and vapour.
Eye Irrit. 2	H319 - Causes serious eye irritation.
Muta. 1B	H340 - May cause genetic defects.
Carc. 1B	H350 - May cause cancer.

2.2 Label elements

Labelling according to GHS

Pictograms:



GHS02

Signal word: Danger

Hazard statements: H225 – Highly flammable liquid and vapour.
H319 - Causes serious eye irritation.
H340 - May cause genetic defects.
H350 - May cause cancer.

Precautionary statements: P210 - Keep away from sparks. - No smoking.
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

Other Hazards

Other hazards: This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

3.0 COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Substance name	Product Identifier	%	Classification according to GHS
Ethanol	CAS no: 64-17-5	80 - 100	H225 - Flam. Liq. 2 H319 - Causes serious eye irritation.
Gasoline	CAS no: 86290-81-5	0.5 – 1.5	Flam. Liq. 1, H224 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1B, H350 STOT SE 3, H336 Aquatic Chronic 2, H411 Repr. 2, H361fd

4.0 FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation:	Keep at rest. Move to fresh air. Oxygen or artificial respiration if needed.
Skin contact:	Wash off immediately with soap and plenty of water. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical advice/attention.
Ingestion:	Rinse mouth. Drink plenty of water. Get immediate medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	May cause respiratory irritation. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Skin contact:	Prolonged skin contact may cause skin irritation and/or dermatitis.
Eye contact:	Contact with eyes may cause irritation.
Ingestion:	Harmful: may cause lung damage if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Other adverse effects:	Carcinogenic, Mutagenic.

4.3 Indication of immediate medical attention and special treatment needed

No data available

5.0 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use dry chemical, CO₂, water spray or alcohol resistant foam.

Extinguishing media which shall not be used for safety reasons: High volume water jet

5.2 Special hazards arising from the substance or mixture

Fire Hazard: Highly Flammable liquid and vapour

Specific hazards: Vapours may form explosive mixture with air.
Vapours are heavier than air and may spread along floors.
The pressure in sealed containers can increase under the influence of heat.
Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode.
Burning produces noxious and toxic fumes.
Cool containers / tanks with water spray.
Possible decomposition products are: CO_x.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3 Advice for firefighters

Special protective equipment for fire-fighters: Wear personal protective equipment.
Wear self-contained breathing apparatus for firefighting if necessary.

6.0 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Remove all sources of ignition. Evacuate area. Wear personal protective equipment. See also section 8. Do not breathe vapours or spray mist. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not smoke. Keep away from open flames, hot surfaces and sources of ignition. Ensure all equipment is electrically grounded before beginning transfer operations.

6.2 Environmental precautions

Environmental precautions: Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up: Remove all sources of ignition. Do not use tools which may produce sparks. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material (e.g., sand, silica gel, acid binder, universal binder, sawdust). Dam up. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water. Dispose of in accordance with local regulations.

7.0 HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling: Wear personal protective equipment. See also section 8. Do not breathe vapours or spray mist. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Keep away from open flames, hot surfaces and sources of ignition. Do not smoke. Keep away from food and drink. Always replace cap after use. Do not burn. Ensure all equipment is electrically grounded before beginning transfer operations.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Keep tightly closed in a dry, cool and well-ventilated place. Store in original container. Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight. Do not store near or with any of the incompatible materials listed in section 10.

Hygiene measures: Use only in area provided with appropriate exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Wash hands and face before breaks and immediately after handling the product.

7.3 Specific end use(s)

Specific use(s): No data

8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component: Ethanol (64-17-5)
TLV-TWA: 300 ppm (CA AB OEL)
TLV-STEL: 500 ppm (ACGIH)

8.2 Exposure controls

Respiratory protection: Ensure adequate ventilation.
Not required under normal use.
In case of insufficient ventilation wear suitable respiratory equipment.
(Respiratory equipment selection should be informed by relevant industry standards such as CSA Z94.4 Selection, Use, and Care of Respirators)

Hand protection: Wear chemically resistant gloves approved for use with Ethanol. The selection of gloves for a specific application and duration of use in a working area, should also consider other factors, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.

Eye protection: Safety glasses (CSA Z94.3 Eye and Face Protectors)

9.0 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	liquid
Colour:	colourless
Odour:	alcohol-like
pH:	not applicable
Boiling point/boiling range:	ca 78 °C
Melting point/range:	<< 0°C
Flash point:	ca 12 °C
Auto-ignition temperature:	ca 425 °C
Explosive properties:	LEL ca 3.4%
Oxidizing properties:	not applicable
Evaporation rate:	ca 3.4
Vapour pressure:	ca 57.3 kPa @ 20°C
Vapour density:	ca 1.59
Solubility in other solvents:	miscible
Viscosity:	ca 1.2 mPa.s @ 20°C
Density:	ca 0.79 g/cm ³ @ 15°C
Partition coefficient:	for Ethanol ~ -0.32 (n-octanol/water)

9.2 Other information

No data available

10.0 STABILITY AND REACTIVITY

10.1 Reactivity

Reactivity: Flammable liquid

See also section 10.5.

10.2 Chemical stability

Stability: Stable under normal conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Conditions to avoid: Keep away from heat, sources of ignition, and exposure to sunlight.

10.5 Incompatible materials

Incompatible materials: Incompatible with strong acids, oxidizing agents, and bases.

10.6 Hazardous decomposition products

Hazardous decomposition Products: Burning produces noxious and toxic fumes. Possible decomposition products are: COx.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

General Information

Acute toxicity

Component:	Ethanol (64-17-5)
LD50/oral/rat:	1501 mg/kg
LC50 (inhalation/rat):	>5.2 mg/l/4 h

LD50 (dermal/rabbit): >2000 mg/kg

Component:	Gasoline (86290-81-5)
LD50/oral/rat:	>5000 mg/kg (ARCO, 1986b)
LC50 (inhalation/rat):	>5.2 mg/l/4 h (ARCO, 1992)
LD50 (dermal/rabbit):	>2000 mg/kg (ARCO, 1986a)

Inhalation:	Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
Skin contact:	Prolonged skin contact may cause skin irritation and/or dermatitis.
Eye contact:	Contact with eyes may cause irritation.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Chronic toxicity:	
Germ cell mutagenicity:	May cause genetic defects.
Carcinogenicity:	May cause cancer.

Further information

No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity effects:	Not hazardous.
Component:	Ethanol (64-17-5)
LC50/96h/fish:	14,200 mg/l (Pimephales promelas)
Component:	Gasoline (86290-81-5)
LC50/96h/fish:	1 - 10 mg/l (Rainbow trout)

12.2 Persistence and degradability

Persistence and degradability: Readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation:	(ethanol) log Pow = -0,32 (gasoline) log Kow = ≥ 3
------------------	--

12.4 Mobility in soil

Mobility: Miscible

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects

No data available

13.0 DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Waste from residues / unused products: In accordance with local and national regulations. Do not burn, or use a cutting torch on, the empty drum. Do not puncture or incinerate. Do not allow to enter into surface water or drains.

Contaminated packaging: Do not puncture or incinerate. Do not burn, or use a cutting torch on the empty drum. Never use pressure to empty container. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION**14.1 UN Number**

UN number: 3475

14.2 UN proper shipping name

Proper shipping name: ETHANOL AND GASOLINE MIXTURE

14.3 Transport hazard class(es)**14.3.1 Overland transport**

Class: 3 - Flammable liquids

Danger labels:



ERG code: 3 - Flammable liquids
127

14.3.2 Transport by sea

Class: 3 - Flammable liquids

Danger labels: 3 - Flammable liquids

14.3.3 Air transport

Class: 3 - Flammable liquids

Danger labels: 3 - Flammable liquids

Packing Instruction (cargo aircraft): 364

14.4 Packing group

Packing group: II

14.5 Environmental hazards

Other information (transport): No supplementary information available.

14.6 Special precautions for users

No data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Bio-fuel blends of Gasoline and Ethyl alcohol (>25% but <99% by volume)

Pollution Category:	X
Hazards:	S/P
Ship Type:	2

15.0 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR.

16.0 OTHER INFORMATION

Sources of key data used to compile the datasheet:	Registrations for EU and UK REACH, ECHA hazardous chemicals portal and ACGIH
--	--

Revision:	1.0
Date:	Jun 2023
Updated sections:	Revised version, sections 8 and 14 reviewed

List of Abbreviations:

SDS	Safety Data Sheet
ECHA	European Chemicals Agency
ACGIH	American Conference of Governmental Industrial Hygienists
GHS	Globally Harmonised System [of classification]
HVO	Hydrogenated Vegetable Oil
REACH	Registration, Evaluation and Authorisation of Chemicals
ADR	Agreement for the transportation of dangerous goods by road
ADN	International Carriage of Dangerous Goods by Inland Waterways
RID	International Carriage of Dangerous Goods by Rail
PBT	Persistent, Bio-accumulative and Toxic
vPvB	Very Persistent and very Bio-accumulative
PCA	Passenger Carrying Aircraft
CAO	Cargo Aircraft Only

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.