



# SAFETY DATA SHEET

CDA 20-1, 200 Proof

This SDS is valid for all grades and catalog #s

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## 1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

**Product Identifier:** Ethanol  
**Synonyms:** Denatured Alcohol; Denatured Ethanol; Completely Denatured Alcohol  
**Other means of identification:** CAS No. 64-17-5  
EINECS No. 200-578-6

**Recommended use of the chemical and restrictions on use:**

### Supplier Details:

**Greenfield Global USA, Inc.**  
58 Vale Road, Brookfield,  
CT 06804, USA.  
Tel: 203.740.3471  
Fax: 203.740.3481  
CCN17213

**Greenfield Global USA, Inc.**  
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KY 40065, USA.  
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CCN17213

**Emergency Contact:** CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

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## 2. HAZARDS IDENTIFICATION

**Emergency Overview:**

### OSHA Hazards:

Carcinogen, Flammable liquid, Target Organ Effect, Irritant

### Target Organs:

Heart, Liver, Nerves



Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)  
NFPA +1.703.527.3887 (INT)



**GHS label elements, including precautionary statements**



**Signal Word:**

DANGER!

**Hazard statement(s)**

H224	Extremely flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H411	Toxic to aquatic life with long lasting effects.

**Precautionary statement(s)**

P501	Dispose of contents and container to an approved waste disposal plant.
P240	Ground/bond container and receiving equipment.
P337 + P313	If eye irritation persists: Get medical attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P303 + P361 + P353	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P210	Keep away from heat, sparks, open flames, and hot surfaces. No



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P233	smoking.
P201	Keep container tightly closed.
P403 + P235	Obtain special instructions before use.
P243	Store in a well-ventilated place. Keep cool.
P241	Take precautionary measures against static discharge.
P242	Use explosion-proof electrical, ventilating, and lighting equipment.
P264	Use only non-sparking tools.
P280	Wash hands thoroughly after handling.
	Wear protective gloves and eye and face protection.

**GHS Classification(s)**

- Eye irritation (Category 2B)
- Flammable Liquids (Category 2)
- Skin irritation (Category 2)
- Specific target organ toxicity - single exposure (Category 3)

**Other hazards which do not result in classification:**

**Potential Health Effects:**

Organ	Description
Eyes	May cause irritation including stinging, tearing, and redness.
Ingestion	Ingestion may cause dizziness, faintness, drowsiness decreased awareness or responsiveness, nausea, vomiting, staggering gait, lack of coordination, coma and death.
Inhalation	High vapor concentration may cause burning sensation in nose and throat and stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may also occur.
Skin	Prolonged or widespread contact may result in the absorption of potentially harmful amounts. Inhalation: High vapor concentration may cause burning sensation in nose and throat and stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may also occur. Skin Contact: Prolonged or repeated contact may cause defatting and drying of the skin.
Chronic	Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. Overexposure to methanol may cause eye damage and liver or kidney injury. Other Health Hazards: Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome. Medical Conditions Aggravated by Overexposure: Repeated exposure to ethanol may aggravate liver injury produced from other causes. Skin contact may aggravate dermatitis.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

<b>Chemical identity:</b>	Alcohol
<b>Common name / Synonym:</b>	Denatured Alcohol; Denatured Ethanol; Completely Denatured Alcohol
<b>CAS number:</b>	64-17-5
<b>EINECS number:</b>	200-578-6
<b>ICSC number:</b>	0044

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**RTECS #:** KQ6300000 **+1.703.527.3887 (INT)**  
**UN #:** UN1987  
**EC #:** 603-002-00-5

% Volume	Material	CAS
98.04	Ethanol	64-17-5
1.96	Unleaded Gasoline	86290-81-5

## 4. FIRST AID MEASURES

### General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

### Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

### Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.

### Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

### Note to Physician

Symptoms vary with alcohol level of the blood. Mild alcohol intoxication occurs at blood levels between 0.05- 0.15 %. Approximately 25% of individuals show signs of intoxication at these levels. Above 0.15% the person is definitely under the influence of ethanol; 50-95% of individuals are clinically intoxicated at these levels. Severe poisoning occurs when the blood is ethanol level is 0.3- 0.5%. Above 0.5% the individual will be comatose and death can occur. The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs or the excessive administration of fluids.

## 5. FIRE FIGHTING MEASURES

### Suitable (and unsuitable) extinguishing media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):



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Carbon oxides expected to be the primary hazardous combustion product.

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**Special protective equipment and precautions for firefighters:**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

**Unusual Fire and Explosion Hazards:**

- May produce a floating fire hazard.
- Static ignition hazard can result from handling and use.
- Vapors may travel to source of ignition and flash back.
- Vapors may settle in low or confined spaces.

Alcohols burn with a pale blue flame which may be extremely hard to see under normal lighting conditions. Personnel may only be able to feel the heat of the fire without seeing flames. Extreme caution must be exercised in fighting alcohol fires. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire.

**Flammable Properties**

**Classification**

OSHA/NFPA Class IB Flammable Liquid.

**Flash point**

14 °C (58 °F) - closed cup

**Autoignition temperature**

363 °C (685.4 °F)

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Environmental precautions:**

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

**Methods and materials for containment and cleaning up:**

Absorb with an inert dry material and place in an appropriate waste disposal container. Keep disposal containers closed when finished.

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## 7. HANDLING AND STORAGE

**Precautions for safe handling:**



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Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition. Do not use open flame. Do not use in confined spaces. Do not use in areas where sparks or fire may occur. Do not use in areas where static electricity may be present. Do not use in areas where flammable vapors may be present. Do not use in areas where explosive atmospheres may be present. Do not use in areas where high temperatures may be present. Do not use in areas where high pressures may be present. Do not use in areas where high voltages may be present. Do not use in areas where high currents may be present. Do not use in areas where high frequencies may be present. Do not use in areas where high magnetic fields may be present. Do not use in areas where high electric fields may be present. Do not use in areas where high sound levels may be present. Do not use in areas where high radiation levels may be present. Do not use in areas where high levels of electromagnetic interference may be present. Do not use in areas where high levels of electromagnetic fields may be present. Do not use in areas where high levels of electromagnetic energy may be present. Do not use in areas where high levels of electromagnetic radiation may be present. Do not use in areas where high levels of electromagnetic waves may be present. Do not use in areas where high levels of electromagnetic pulses may be present. Do not use in areas where high levels of electromagnetic noise may be present. Do not use in areas where high levels of electromagnetic pollution may be present. Do not use in areas where high levels of electromagnetic smog may be present. Do not use in areas where high levels of electromagnetic haze may be present. Do not use in areas where high levels of electromagnetic fog may be present. Do not use in areas where high levels of electromagnetic mist may be present. Do not use in areas where high levels of electromagnetic smoke may be present. Do not use in areas where high levels of electromagnetic dust may be present. Do not use in areas where high levels of electromagnetic dirt may be present. Do not use in areas where high levels of electromagnetic debris may be present. Do not use in areas where high levels of electromagnetic waste may be present. Do not use in areas where high levels of electromagnetic trash may be present. Do not use in areas where high levels of electromagnetic clutter may be present. Do not use in areas where high levels of electromagnetic mess may be present. Do not use in areas where high levels of electromagnetic chaos may be present. Do not use in areas where high levels of electromagnetic disorder may be present. Do not use in areas where high levels of electromagnetic confusion may be present. Do not use in areas where high levels of electromagnetic disorientation may be present. Do not use in areas where high levels of electromagnetic bewilderment may be present. Do not use in areas where high levels of electromagnetic disarray may be present. Do not use in areas where high levels of electromagnetic disorganization may be present. Do not use in areas where high levels of electromagnetic disarray may be present. Do not use in areas where high levels of electromagnetic disorganization may be present.

**Conditions for safe storage, including any incompatibilities:**

Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leaks/spills. Consult local fire codes for additional storage information.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Control parameters, e.g., occupational exposure limit values or biological limit values:

**Occupational Exposure Limits**

Component	Source	Type	Value	Note
Ethyl alcohol	US (OSHA)	TWA	1000 ppm / 1,900 mg/m <sup>3</sup>	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants.
Ethyl alcohol	US (ACGIH)	STEL	1000 ppm	Upper Respiratory Tract irritation Confirmed animal carcinogen with unknown relevance to humans
Unleaded Gasoline	US (ACGIH)	TWA	300 ppm	ACGIH Threshold Limit Value

**Appropriate engineering controls:**

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

**Individual protection measures, such as personal protective equipment:**

**Respiratory protection:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection:**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

**Skin and body protection:**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures:**



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Handle in accordance with good industrial hygiene and safety practice. Wash hands before **1.700.527.3887 (INT)** of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance (physical state, color, etc.)</b>	Liquid. Colorless.
<b>Freezing point</b>	-114 °C (-173 °F)
<b>Initial boiling point and boiling range</b>	80 °C (176 °F)
<b>Flash point</b>	14 °C (58 °F) - closed cup
<b>Evaporation rate</b>	(butyl acetate = 1) 3.0 for pure 190 ethanol
<b>Flammability (solid, gas)</b>	Flammable
<b>Upper / Lower flammability or explosive limits</b>	3.3%(V) / 19%(V)
<b>Vapor pressure</b>	41.6mmHg (5.55 kPa)
<b>Vapor Density</b>	1.6 (air =1)
<b>Relative Density</b>	6.7 lbs/gal
<b>Solubility(ies)</b>	100% at 20 °C for pure 190 proof ethanol
<b>Auto-ignition temperature</b>	363 °C (685 °F)
<b>Formula (ETHANOL)</b>	C <sub>2</sub> H <sub>6</sub> O
<b>Molecular Weight (ETHANOL)</b>	46.07 g/mol

## 10. STABILITY AND REACTIVITY

<b>Possibility of hazardous reactions</b>	Vapors may form explosive mixture with air.
<b>Conditions to avoid (e.g., static discharge, shock or vibration)</b>	Heat, flames, and sparks. Extreme temperatures and direct sunlight.
<b>Incompatible materials</b>	Strong acids, strong oxidizing agents
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

- Ethyl Alcohol 64-17-5

### Signs and Symptoms of Exposure

Central nervous system depression, narcosis, damage to the heart. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Product Summary:

Ethanol is not toxic by OSHA standards. Coingestion of sedative hypnotics or tranquilizers can increase the toxic affects of ethanol.

### Acute Toxicity:



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LC50 (inhl)	Rat	20000ppm	<b>+1.703.527.3887 (INT)</b>
LC50 (Oral)	Rat	7060mg/Kg BWT	
LDLo (Oral)	Human	1400 mg/Kg BWT	

**Irritation:**

**Eyes (ETHANOL)**

Eye exposure to Ethanol generally causes transient pain, irritation, and reflex lid closure. A foreign-body sensation may persist for one to two days. Vapors produce transient stinging and tearing, but no apparent adverse effects. Transiently impaired preception of color may occur with acute ingestion or chronic alcoholism. Standard Draize eye test (rabbit) - Dose: 500 mg Reaction: Severe Dose: 500 mg/24 hrs Reaction: Mild

**Skin**

Standard Draize skin test (rabbit) - Dose: 20 mg/24 hrs Reaction: Moderate Repeated exposure may cause skin dryness or cracking.

**Carcinogenicity**

IARC: Not classifiable as a human carcinogen.  
ACGIH: Not classifiable as a human carcinogen.  
NTP: Not classifiable as a human carcinogen.  
OSHA: Not classifiable as a human carcinogen.

**Other Hazards**

Organ	Description
Eyes	Irritating to the eyes. May cause painful sensitization to light. May cause chemical conjunctivitis and corneal damage.
Ingestion	May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. Advanced stages can lead to respiratory failure, kidney failure, coma, and death.
Inhalation	Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation.
Skin	Mildly irritating to the skin. May cause dermatitis by de-fatting the skin from prolonged or repeated contact.
Chronic	Prolonged exposure can cause liver, kidney, and heart damage. Long term exposure can cause loss of appetite, weight loss, nervousness, memory loss, mental retardation.

- Unleaded Gasoline 86290-81-5

**Product Summary:**

No data available for the teratogenic, mutagenic, or reproductive toxicity effects of this product.

**Acute Toxicity:**

LC50 (Inhalation)	Rat	300 GM	.08 hours
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LD50 (Oral)	Rat	92 GM/KG	<b>+1.703.527.3887 (INT)</b>
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**Carcinogenicity**

IARC: Group 2B: Possibly carcinogenic to humans

ACGIH: No data is available.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Other Hazards**

Organ	Description
Eyes	Product causes eye irritation.
Ingestion	Product is toxic if ingested.
Inhalation	Product is toxic if inhaled. Will cause respiratory tract irritation.
Skin	Toxic if product is absorbed through the skin. Product will cause skin irritation.

**12. ECOLOGICAL INFORMATION**

- Ethyl Alcohol 64-17-5

**Ecotoxicity (aquatic and terrestrial, where available):**

**Acute Fish toxicity (ETHANOL)**

LC50 / 96 HOUR Oncorhynchus mykiss (rainbow trout) > 10,000 mg/l

LC50 / 96 HOUR Pimephales promelas (fathead minnow) > 13,400 mg/l

**Toxicity to aquatic plants (ETHANOL)**

Growth inhibition / 96 HOURS Chlorella vulgaris (Fresh water algae) 1,000 mg/l

**Toxicity to microorganisms (ETHANOL)**

Toxicity Threshold / Pseudomonas putida 6,500 mg/l

Summary: Inhibition of cell multiplication begins.

**Persistence and degradability:**

Biodegradation is expected.

**Bioaccumulative potential:**

Biaccumulation is unlikely



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- Unleaded Gasoline 86290-81-5

**Ecotoxicity (aquatic and terrestrial, where available):**

**Acute Algae Toxicity (GASOLINE)**

Growth inhibition / 96 h / Fresh water algae - 1000 mg/l

**Acute Fish Toxicity (GASOLINE)**

LC50 / 96 h / Rainbow trout - > 10000 mg/l

**Persistence and degradability:**

Biodegradation is expected.

**Bioaccumulative potential:**

Biaccumulation is unlikely

### 13. DISPOSAL CONSIDERATIONS

**Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:**

Vapors may collect in empty containers. Treat empty containers as hazardous. Dispose of spill-clean up and other wastes in accordance with Federal, State, and local regulations.

### 14. TRANSPORT INFORMATION

**Description of waste residues and information on their safe handling and methods of disposal:**

<b>UN number</b>	UN1987
<b>UN proper shipping name</b>	Alcohols, n.o.s.
<b>Transport hazard class(es)</b>	3
<b>Packing group (if applicable)</b>	II

**IMDG**

UN-Number: UN1987 Class: 3 Packing Group: II

EMS-No: F-E, S-D

Proper shipping name: ALCOHOLS, N.O.S.

Marine pollutant: No

**IATA**

UN-Number: UN1987 Class: 3 Packing Group: II

Proper shipping name: Alcohols, n.o.s.

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**15. REGULATORY INFORMATION**

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**Safety, health and environmental regulations specific for the product in question:**

**OSHA Hazards**

Carcinogen, Flammable liquid, Target Organ Effect, Irritant

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contains any chemical components with known CAS numbers that exceed the reporting limits.

**SARA 311/312 Hazards**

Acute Health Hazard  
Fire Hazard

**Massachusetts Right To Know Components**

Ethanol CAS-No.64-17-5 Revision Date 2007-03-01

**Pennsylvania Right To Know Components**

Ethanol CAS-No.64-17-5 Revision Date 2007-03-01

**New Jersey Right To Know Components**

Ethanol CAS-No.64-17-5 Revision Date 2007-03-01

**California Prop 65 Components**

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm (ETHYL ALCOHOL) CAS No. 64-17-5 Revision Date: December 11, 2009



**PHARMCO**  
by Greenfield Global

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## **16. OTHER INFORMATION: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

### **Disclaimer**

Greenfield Global USA, Inc. believes that the information on this SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, Greenfield Global USA, Inc. does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable. Information is correct to the best of our knowledge at the date of the SDS publication.