



## Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

### Product identifier:

Identification as on the label/Trade name: Ethanol, 190 Proof

Product synonyms: N/A

Product codes: USP-005-A, USP-005-B, USP-005-C, USP-006-A, USP-006-C, USP-007-A, USP-007-C  
USP-008-D, USP-008-E

### Relevant identification uses of the substance and uses advised against:

Identified uses: Botanical extraction.

Uses advised against: Not intended for human consumption.

### Details of the Supplier of the Safety Data Sheet:

Midwest Renewable Energy  
27532 US-30 Sutherland  
NE 69165  
+1-308-386-2468

### Emergency telephone numbers:

International CHEMTREC: +1-703-527-3887  
CHEMTREC 24-hour Emergency Contact: +1-800-424-9300 (USA)  
Manufacturer: +1-877-224-5641 (8AM – 5PM, Central time U.S.A & Canada)

## Section 2: Hazards Identification

### Classification of the substances or mixture:

The mixture is classified according to: Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

### Hazard classes/Hazard categories:

Flammable Liquid (Category 2)  
Eye Irritant (Category 2)  
STOT SE (Category 2)

### Label elements:

#### Hazard pictograms:



Signal word: Danger.

#### Hazard statements:

H225 Highly flammable liquid and vapor.  
H319 Causes serious eye irritation.  
H371 May cause damage to organs.



**Precautionary statements:**

**Preventative:**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P264 + P265 Wash hands thoroughly after handling. Do not touch eyes.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water.
- 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 + P316 IF exposed or concerned: Get emergency medical help immediately.
- P337 + P317 If eye irritation persists: Get medical help.
- P370 + P378 In case of fire: Use dry chemical, alcohol resistant foam, or carbon dioxide to extinguish.

**Storage:**

- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

**Disposal:**

- P501 Dispose of contents/container in accordance with local/national regulations.

**Section 3: Composition/Information on Ingredients**

**Substance/Mixture:** Mixture.

**Ingredients:**

| Substance name (IUPAC/EC) | CAS-No.   | Concentration<br>% by weight | SCLs, M-Factors,<br>Acute Toxicity<br>Estimates (ATE) | Classification   |
|---------------------------|-----------|------------------------------|---|--|
|                           | EC-No.    |                              |   | EC1272/2008  |
| ethanol<br>ethyl alcohol  | 64-17-5   | 95%                          | -   | Flam. Liq. 2 H225<br>Eye Irrit. 2 H319<br>STOT SE 2 H371 |
|                           | 200-578-6 |                              |   |  |
| Water                     | 7732-18-5 | 5%                           | -   | Not Classified   |
|                           | 231-791-2 |                              |   |  |

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.



## Section 4: First-Aid Measures

### Description of first aid measures:

**In case of inhalation:** Remove from exposure, taking care to avoid inhaling vapors. Keep warm rest. Obtain medical attention if symptoms appear.

**In case of skin contact:** Wash skin with water. Obtain medical attention if soreness or redness persists.

**In case of eye contact:** Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Remove contact lenses if possible. Obtain medical attention.

**In case of ingestion:** Do not induce vomiting. Obtain medical attention if symptoms appear or if large quantities have been ingested. Accidental ingestion at a level high enough to be dangerous to health is unlikely.

### Most important symptoms and effects, both acute and delayed:

Irritation to the eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic effects.

**Indication of any immediate medical attention and special treatment needed:** Treat symptomatically and supportively.

## Section 5: Fire-Fighting Measures

### Extinguisher media:

**Suitable extinguisher media:** Dry chemical, alcohol resistant foam, carbon dioxide, or water spray.

**Special exposure hazards:** Flammable liquid and vapor. Oxides of carbon.

**Protection for fire-fighters:** Self-contained breathing apparatus with full-face mask and full protective clothing (standard wear).

**Additional information:** Be aware of possibility of re-ignition. This product gives off flammable vapors which may form explosive mixtures with air. Vapors with a source of ignition can create a flash fire, not a UVCE (Unconfined Vapor Cloud Explosion). Run off to sewer may cause fire or explosion hazard. Containers may explode in heat of fire. Use water to cool fire-exposed containers and to disperse vapor.

## Section 6: Accidental Release Measures

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

Eliminate all sources of ignition. Wear appropriate protective clothing. Avoid breathing vapors. Keep unnecessary people away; isolate hazard area and deny entry. Consider need for evacuation. Stay up wind and keep out of low areas where vapor may accumulate and ignite. Stop leak if this can be achieved without risk. For small spills take up with a non-combustible absorbent. For large spills, dike or dam for later disposal.

**Environmental precautions:** Try to prevent the material from entering drains or water courses. Advise authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

### Methods for containment and cleaning up:

**Small spills:** Allow to evaporate if it is safe to do so or contain and absorb using earth, sand or other inert material then transfer into suitable containers for recovery or disposal. Ventilate contaminated area thoroughly.

**Large spills:** Dike or dam to contain for later disposal. Contact emergency authorities.



## Section 7: Handling and Storage

### Precautions for safe handling:

Store in tightly closed containers in cool, dry, isolated, well-ventilated area. Avoid inhaling vapors. Avoid contact with eyes, skin and clothing. Suitable equipment for dealing with fires, spills and leaks must be readily available. Earth all equipment. Use explosion protected electrical equipment and lighting. Do not smoke eat or drink in areas of use and storage. Use closed-system transfers wherever possible. Earth (ground) lines and equipment used during transfer to reduce possibility of static spark-initiated fire or explosion.

### Conditions for safe storage, including incompatibilities:

Storage area should be cool, dry, well ventilated, out of direct sunlight and separated from oxidants and strong mineral acids. Store in original containers. Store away from sources of heat or ignition. Storage tanks should have equipotential electrical bonding and be earthed. Storage should be closed.

Incompatible materials: natural rubber, PVC, methyl-methacrylate plastics, polyamides, zinc, brass, aluminum under certain conditions.

Compatible materials: Stainless steel, titanium, cast bronze, cast iron, carbon steel, polypropylene, neoprene, nylon, viton, ceramic, carbon, glass.

**Specific end uses:** Refer to Section 1.

## Section 8: Exposure Controls and Personal Protection

### Control parameters:

#### **Occupational exposure limits:**

**Ethyl alcohol, CAS 64-17-5**

NIOSH REL

TWA 1000 ppm (1900 mg/m<sup>3</sup>)

OSHA PEL

TWA 1000 ppm (1900 mg/m<sup>3</sup>)

### Exposure controls:

**Appropriate engineering controls:** Use of the basic principles of Industrial Hygiene will enable this material to be used safely. Exposure to this material may be controlled in a number of ways. The measures appropriate for a particular worksite depend on how the material is used and on the potential for exposure. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal equipment, which is known to perform satisfactorily, should be used.

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

**Respiratory protection:** Use with adequate ventilation. In case of insufficient local exhaust ventilation and/or handling with open equipment: Respiratory air fed breathing apparatus if there is a risk of exposure to high vapor concentrations. If using a half mask: organic vapor cartridge Ax type.

**Eye protection:** Safety goggles.

**Skin protection:** Wear gloves with breakthrough times >480 minutes: Nitrile rubber gloves. Butyl rubber gloves (complying to EN 374-3). The exact choice of glove type depends on the type of work being undertaken. Gloves should be chosen in consultation with a glove manufacturer and after a full assessment of the working conditions. Gloves should be replaced regularly.

**Body protection:** Standard work wear and safety boots for normal handling and use.



## Section 9: Physical and Chemical Properties

### Information on basic physical and chemical properties:

**Appearance (form):** Liquid.  
**Color:** Colorless.  
**Odor:** Characteristic.  
**Odor threshold:** No data available.  
**pH:** Neutral.  
**Melting point/range (°C):** -114 °C  
**Boiling point/range (°C):** 78.2 °C  
**Flash point (°C):** 12.8 °C  
**Evaporation rate:** No data available.  
**Flammability:** Highly flammable liquid and vapor.  
**Upper/lower flammability limits:** Upper: 19.0% Lower: 3.3%  
**Vapor pressure (20 °C):** 57 hPa  
**Vapor density:** 1.6  
**Relative density (25 °C):** 0.78  
**Water solubility (g/L) at 20 °C:** Completely soluble.  
**n-Octanol/Water partition coefficient:** No data available.  
**Auto-ignition temperature:** 362 °C  
**Viscosity, dynamic (mPa.s):** 1.17

## Section 10: Stability and Reactivity

**Reactivity:** No specific test data related to reactivity available for this product or its ingredients.  
**Chemical stability:** Stable under recommended conditions of storage.  
**Possibility of hazardous reactions:** Hazardous polymerization is not expected to occur.  
**Conditions to avoid:** High temperatures. Proximity to sources of ignition.  
**Incompatible materials:** Strong mineral acids, oxidizing agents, alkali metals, ammonia, peroxides. Aluminum at higher temperatures.  
**Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced. Combustion will generate oxides of carbon.

## Section 11: Toxicological Information

### Information on toxicological effects:

**Acute toxicity:** Oral route: No adverse effect observed LD50 8,300 mg/kg bw  
**Skin corrosion/irritation:** No adverse effect observed (not irritating).  
**Serious eye damage/irritation:** Causes serious eye irritation. Symptoms may include redness and tearing.  
**Respiratory or skin sensitization:** No data available.  
**Germ cell mutagenicity:** No data available.  
**Carcinogenicity:** Not listed by ACGIH, IARC, NTP, or California Proposition 65.  
**Reproductive toxicity:** No data available.  
**STOT-single exposure:** May cause damage to organs.  
**STOT-repeated exposure:** No data available.  
**Aspiration hazard:** No data available.

## Section 12: Ecological Information

**Toxicity:** No data available.

**Persistence and degradability:** Biodegradation is expected to occur rapidly in the environment.

**Bioaccumulative potential:** Bioaccumulation is not significant. This product is readily biodegradable.

**Mobility in soil:** Very high mobility.

**Results of PBT& vPvB assessment:** No data available.

## Section 13: Disposal Considerations

**Substance disposal:** Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. If correctly incinerated this material will decompose to carbon dioxide and water only.

**Container disposal:** Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

## Section 14: Transport Information

**UN number:** 1170

**Proper shipping name:** ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION

**Hazard class:** 3

**Packing group:** II

**Special precautions for user:** Refer to Sections 6 – 8

**Marine pollutant:** No.



## Section 15: Regulatory Information

### Safety, health and environmental regulations/legislation for the mixture:

**Relevant information regarding restrictions:** None known.

**EU Regulations:** Regulation EC 1272/2008 [EU-GHS/CLP]

**US Regulations:**

**SARA Title III Section 302/304 Extremely Hazardous Substance:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA Title III Section 311/312 Hazard Categorization:** Fire Hazard, Acute Health Hazard, Chronic Health Hazard.

**SARA Title III Section 313 Supplier Information:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**CERCLA Section 102(a) Hazardous Substance:** This material does not contain any chemical components with CERCLA reportable quantities.



**California Proposition 65:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**State Regulations:** Ethanol, CAS 64-17-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, and Massachusetts.

**Chemical Safety Assessment carried out:** No.

## Section 16: Other Information

**Indication of changes:** GHS aligned.

**Relevant classification and H statements (number and full text):**

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H371 May cause damage to organs.

**NFPA rating:**



Health: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

Fire: 3 - Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions.

Reactivity: 0 - Materials that in themselves are normally stable, even under fire conditions.

**Further information:** This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

**Disclaimer:** The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Simple Solvents be liable for any claims, losses or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Simple Solvents has been advised of the possibility of such damages.

**List of abbreviations:**

ACGIH American Conference of Governmental Industrial Hygienists

ADR European Agreement Concerning the International Carriage of Dangerous Goods by Road

ALARA As Low As Is Reasonably Achievable

AMU Atomic Mass Unit

ANSI American National Standards Institute

BLS Basic Life Support

CAM Continuous Air Monitor

CAS Chemical Abstracts Service (division of the American Chemical Society)

CEN European Committee for Standardization

CERCLA Comprehensive Environmental Response Compensation and Liability Act

CLP Classification, Labelling and Packaging (European Union)

CPR Controlled Products Regulations (Canada)

CWA Clean Water Act (USA)

DAC Derived Air Concentration (USA)

DOE United States Department of Energy (USA)



DOT United States Department of Transportation (USA)  
DSL Domestic Substances List (Canada)  
EC50 Half Maximal Effective Concentration  
EINECS European Inventory of Existing Commercial Chemical Substances  
EHS Environmentally Hazardous Substance  
ELINCS European List of Notified Chemical Substances  
EMS Emergency Response Procedures for Ships Carrying Dangerous Goods  
EPA Environmental Protection Agency (USA)  
EPCRA Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986  
GHS Globally Harmonized System  
HMIS Hazardous Materials Identification System (USA)  
IARC International Agency for Research on Cancer  
IATA International Air Transport Association  
IBC Intermediate Bulk Containers  
ICAO International Civil Aviation Organization  
IDLH Immediately Dangerous to Life or Health  
IMDG International Maritime Code for Dangerous Goods  
LC50 Lethal concentration, 50 percent  
LD50 Lethal dose, 50 percent  
LDLO Lethal Dose Low  
LOEC Lowest-Observed-Effective Concentration  
MARPOL International Convention for the Prevention of Pollution from Ships  
MSHA Mine Safety and Health Administration (USA)  
NCRP National Council on Radiation Protection & Measurements (USA)  
NDSL Non-Domestic Substances List (Canada)  
NFPA National Fire Protection Association (USA)  
NIOSH National Institute for Occupational Safety and Health (USA)  
NOEC No Observed Effect Concentration  
N.O.S. Not Otherwise Specified  
NRC Nuclear Regulatory Commission (USA)  
NTP National Toxicology Program (USA)  
OSHA Occupational Safety and Health Administration (USA)  
PBT Persistent Bioaccumulative and Toxic Chemical  
PEL Permissible Exposure Limit  
PIH Poisonous by Inhalation Hazard  
RCRA Resource Conservation and Recovery Act (USA)  
RCT Radiation Control Technician  
REACH Registration, Evaluation, Authorization and Restriction of Chemicals (Europe)  
RID Regulations Concerning the International Transport of Dangerous Goods by Rail  
RTECS Registry of Toxic Effects of Chemical Substances  
SARA Superfund Amendments and Reauthorization Act (USA)  
TDG Transportation of Dangerous Goods (Canada)  
TIH Toxic by Inhalation Hazard  
TLV Threshold Limit Value  
TPQ Threshold Planning Quantity  
TSCA Toxic Substances Control Act  
TWA Time Weighted Average  
UN United Nations (Number)





**Safety Data Sheet for  
Ethanol, 190 Proof**  
According to ISO 11014:2009  
SDS number: 0007  
First Issue Date: 27-Apr-2022  
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Version: 0

VOC Volatile Organic Compound

vPvB Very Persistent Very Bioaccumulative Chemical

WGK Wassergefährdungsklassen (Germany: Water Hazard Classes)

WHMIS Workplace Hazardous Materials Information System