

# Ethanol MSDS

## 1. Product Name and Identification

**Product Name:** [Ethanol](#)

**Synonyms:** Ethyl Alcohol, Grain Alcohol

**Chemical Formula:** C<sub>2</sub>H<sub>6</sub>O

**CAS Number:** 64-17-5

**Recommended Use:** Solvent in industrial applications, chemical intermediate, disinfectant, fuel additive.

**Manufacturer/Supplier Contact Information:**

- Address: [Insert specific address]
  - Emergency Phone Number: [Insert appropriate phone number]
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## 2. Composition/Ingredients

**Chemical Composition:**

- **Substance Name:** Ethanol
  - **Concentration:** ≥99%
  - **CAS Number:** 64-17-5
  - **Additional Information:** Contains trace levels of impurities but no hazardous components above regulatory thresholds.
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## 3. Hazards Identification

**Hazard Classification:**

- Flammable liquid (Category 2)
- Eye irritation (Category 2A)

**GHS Label Elements:**

- **Pictograms:**
  - ![Flammable Symbol]
  - ![Exclamation Mark]
- **Signal Word:** Danger
- **Hazard Statements:**
  - H225 Highly flammable liquid and vapor.

- H319 Causes serious eye irritation.
  - **Precautionary Statements:**
    - Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
    - Wear protective gloves and eye protection.
    - Avoid breathing vapor. Ensure proper ventilation.
    - Store in a cool, well-ventilated area.
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## 4. First Aid Measures

**General Advice:** Provide medical professionals with this SDS in case of exposure.

**Eye Contact:** Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

**Skin Contact:** Wash exposed skin thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical advice.

**Inhalation:** Move the individual to fresh air immediately. If breathing becomes difficult, provide oxygen if trained to do so or seek medical attention.

**Ingestion:** Rinse mouth with water. Do NOT induce vomiting. Call a physician or poison control center immediately.

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## 5. Handling and Storage

### Handling:

- Avoid inhaling vapors or contact with skin and eyes.
- Use only in well-ventilated areas or under local exhaust.
- Ground all equipment handling the liquid to prevent static discharge.

### Storage:

- Store in tightly closed containers in a cool, dry, and well-ventilated location.
  - Keep away from heat sources, direct sunlight, compatible oxidizers, and ignition sources.
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## 6. Exposure Controls/Personal Protection

### Exposure Limits:

- **OSHA PEL:** 1,000 ppm (1,900 mg/m<sup>3</sup>)
- **ACGIH TLV:** 1,000 ppm

### Engineering Controls:

- Use explosion-proof ventilation to maintain exposure levels below permissible limits.

### Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles or face shield to prevent eye irritation.
  - **Skin Protection:** Chemical-resistant gloves (e.g., nitrile or neoprene).
  - **Respiratory Protection:** Use a NIOSH-approved respirator in poorly ventilated areas.
  - **Hygiene Measures:** Wash hands thoroughly after handling. Do not eat, drink, or smoke while using the product.
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## 7. Physical and Chemical Properties

- **Appearance:** Clear, colorless liquid
  - **Odor:** Mild, characteristic alcohol odor
  - **Odor Threshold:** Approximately 10 ppm
  - **pH:** Not applicable
  - **Melting Point/Freezing Point:** -114°C (-173°F)
  - **Boiling Point:** 78°C (172°F)
  - **Flash Point:** 13°C (55°F) (Closed cup)
  - **Flammability:** Highly flammable
  - **Vapor Pressure:** 44 mmHg at 20°C
  - **Vapor Density:** 1.59 (air = 1)
  - **Relative Density:** 0.79 g/cm<sup>3</sup> at 20°C
  - **Solubility in Water:** Fully miscible
  - **Partition Coefficient (n-octanol/water):** -0.31
  - **Auto-Ignition Temperature:** 363°C (685°F)
  - **Decomposition Temperature:** No data available
  - **Viscosity:** 1.2 mPa·s at 20°C
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## 8. Stability and Reactivity

**Stability:** Stable under normal handling and storage conditions.

**Hazardous Reactions:** Vapors may form explosive mixtures with air.

**Conditions to Avoid:** Heat, sparks, static discharge, open flames, and incompatible substances.

**Materials to Avoid:** Strong oxidizers, alkali metals, strong acids, and halogens.

**Hazardous Decomposition Products:** Carbon monoxide and carbon dioxide may form during combustion.

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## 9. Toxicological Information

### Acute Toxicity:

- **Oral LD50 (Rat):** 7,060 mg/kg
- **Dermal LD50 (Rabbit):** >20,000 mg/kg
- **Inhalation LC50 (Rat):** 124.7 mg/L (4-hour exposure)

**Skin Corrosion/Irritation:** May cause mild skin irritation with prolonged exposure.

**Eye Damage/Irritation:** Causes moderate eye irritation.

**Respiratory Sensitization:** May cause respiratory irritation with high vapor concentrations.

**Carcinogenicity:** Not classified as carcinogenic by IARC, NTP, or OSHA.

**Other Information:** Repeated exposure may cause drowsiness, dizziness, or liver and kidney effects.

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## 10. Disposal Considerations

**Waste Management:** Dispose of product and contaminated materials in compliance with local, state, and federal regulations.

**Recommendation:** Do not dump into drains or waterways. Handle large spills through a licensed waste disposal contractor.

**Packaging:** Containers, even when empty, may retain product residue and fumes. Dispose of containers as per hazardous waste protocols.

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