



Material Safety Data Sheet – ETHANOL 99%

1. Chemical Product and Company Identification

- **Product Name:** Ethanol 99%, Ethyl Alcohol
 - **CAS Number:** 64-17-5
 - **Chemical Formula:** C₂H₆O
 - **Use:** Solvent, disinfectant, laboratory chemical
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2. Hazard Identification

- **Classification:** Flammable liquid (Category 2), Eye Irritation (Category 2A)
 - **GHS Label Elements:**
 - **Pictogram:** ![Flame 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/sparks/open flames
 - Wear eye protection
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3. Composition / Information on Ingredients

Component	CAS No.	Concentration
Ethanol	64-17-5	~99%
Water/Impurities --		≤1%

4. First-Aid Measures

- **Inhalation:** Move to fresh air. If breathing is difficult, seek medical attention.
 - **Skin Contact:** Wash with soap and water. Remove contaminated clothing.
 - **Eye Contact:** Rinse cautiously with water for several minutes. Seek medical attention if irritation persists.
 - **Ingestion:** Rinse mouth. Do not induce vomiting. Seek medical help.
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5. Fire-Fighting Measures

- **Suitable Extinguishing Media:** Alcohol-resistant foam, CO₂, dry chemical, water spray
 - **Specific Hazards:** Vapors may form explosive mixtures with air
 - **Protective Equipment:** Wear self-contained breathing apparatus
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6. Accidental Release Measures

- **Personal Precautions:** Remove ignition sources, ventilate area, wear protective equipment
 - **Spill Cleanup:** Absorb with inert material (e.g., sand), dispose of in accordance with regulations
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7. Handling and Storage

- **Handling:** Use in well-ventilated areas, avoid inhalation and contact with eyes
 - **Storage:** Store in a cool, dry, well-ventilated area away from heat and ignition source
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8. Exposure Controls / Personal Protection

- **Exposure Limits:**
 - OSHA PEL: 1000 ppm
 - ACGIH TLV: 1000 ppm
 - **Personal Protective Equipment (PPE):**
 - Eye protection: Goggles
 - Skin: Gloves and lab coat
 - Respiratory: If ventilation is inadequate, use appropriate respirator
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9. Physical and Chemical Properties

- **Appearance:** Clear, colorless liquid
- **Odor:** Characteristic alcohol odor
- **Boiling Point:** ~78°C
- **Melting Point:** -114°C
- **Flash Point:** ~12°C (closed cup)
- **Solubility:** Completely miscible with water
- **Vapor Pressure:** ~44 mmHg @ 20°C

10. Stability and Reactivity

- **Stability:** Stable under normal conditions
 - **Incompatible Materials:** Strong oxidizers, acids, alkali metals
 - **Hazardous Decomposition Products:** CO, CO₂
 - **Conditions to Avoid:** Heat, sparks, open flames
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11. Toxicological Information

- **Routes of Exposure:** Inhalation, skin/eye contact, ingestion
 - **Acute Toxicity:**
 - Oral LD50 (rat): 7060 mg/kg
 - **Effects:** May cause drowsiness, dizziness, eye irritation
 - **Chronic Exposure:** Prolonged exposure may affect liver and kidneys
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12. Ecological Information

- **Ecotoxicity:** Harmful to aquatic life in high concentrations
 - **Persistence/Degradability:** Readily biodegradable
 - **Bioaccumulation:** Low potential
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13. Disposal Considerations

- **Waste Disposal:** Dispose in accordance with local, regional, and national regulations
 - **Contaminated Packaging:** Treat as hazardous waste
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