

SECTION 1: Identification

1.1 Product Identifiers

1.1.1 Product Name: Ethyl Alcohol 80%-100% (160 proof - 200 proof)

1.1.2 Part Number: NS-200GG

1.1.3 CAS Number: 64-17-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.2.1 Identified Uses: Use as recommended by the manufacturer

1.2.2 Restrictions: Uses other than the recommended use for this substance

1.3 Details of the Supplier of the Safety Data Sheet

1.3.1 Company: Ultrapure Kentucky 6800 Enterprise Dr Louisville, KY 40214

1.3.2 Telephone: 502-654-8752

1.3.3 CHEMTREC (USA): 800-424-9300 (206300)

1.3.4 CHEMTREC (Outside of USA): 703-527-3887 CHEMTREC

24 Hours/day; 7 Days/week

SECTION 2: Hazards Identification

2.1 Classification of the Substance or Mixture

2.1.1 GHS Class: Flammable liquids (Category 2)

2.1.2 GHS Class: Serious eye damage/eye irritation (Category 2)

2.1.3 GHS Class: OSHA defined hazards: Not classified.

2.2 GHS Label elements, including precautionary statements

2.2.1 Pictogram:



Section 2 Label elements (flame; exclamation mark) before review sign-off.]

2.2.2 Signal Word: Danger

2.2.3 Hazard Statements

2.2.3.1 Highly flammable liquid and vapor.

2.2.3.2 Causes serious eye irritation.

2.2.3.3

2.2.4 Precautionary Statements

2.2.4.1 Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Wear eye protection/face protection.

2.2.4.2 Response: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. In case of fire: Use appropriate media to extinguish.

2.2.4.3 Storage: Store in a well-ventilated place. Keep cool.

2.2.4.4 Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Hazards not otherwise classified (HNOC): No additional hazards are known to be associated with the expected conditions of use at the time of publication. This document does not address hazards that may arise from uses not reasonably anticipated by the manufacturer.

SECTION 3: Composition/Information on Ingredients

3.1 Product Mixture

- 3.1.1 Synonyms: N/A
- 3.1.2 Formula: Ethyl Alcohol 80%-100% (160 proof - 200 proof)
- 3.1.3 Molecular Weight: N/A (mixture)
- 3.1.4 CAS Number: 64-17-5
- 3.2 Mixtures

Chemical Name	CAS Number	Ingredient Percent by Weight
Ethanol	64-17-5	80 - 100
There are no additional hazardous ingredients greater than or equal to 1.0 weight percent concentration or carcinogenic ingredients greater than or equal to 0.1% weight percent concentration.		

SECTION 4: First Aid Measures

4.1 Description of First Aid Measures

- 4.1.1 General advice: Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.
 - 4.1.2 If inhaled: Move to fresh air. Call a physician if symptoms develop or persist.
 - 4.1.3 In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.
 - 4.1.4 In case of eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
 - 4.1.5 If swallowed: Rinse mouth. Get medical attention if symptoms occur.
- 4.2 Most important symptoms and effects, both acute and delayed: Headache. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing.
- 4.3 Indication of any immediate medical attention and special treatment needed: Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting Measures

5.1 Extinguishing Media

- 5.1.1 Suitable Extinguishing Media
 - 5.1.1.1 Water fog.
 - 5.1.1.2 Alcohol resistant foam.
 - 5.1.1.3 Dry chemical powder. Carbon dioxide (CO₂).
- 5.1.2 Unsuitable Extinguishing Media
 - 5.1.2.1 Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special Hazards Arising from the Substance or Mixture

- 5.2.1 Vapors may form explosive mixtures with air.
- 5.2.2 Vapors may travel considerable distance to a source of ignition and flash back.
- 5.2.3 During fire, gases hazardous to health may be formed.
- 5.2.4 Highly flammable liquid and vapor.

5.3 Advice for Firefighters

- 5.3.1 Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

5.4 Further Information

- 5.4.1 In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- 6.1.1 Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective

equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2 Environmental Precautions

6.2.1 Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and Materials for Containment and Cleaning Up

6.3.1 Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

6.4 Reference to other Sections

6.4.1 For disposal see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

7.1.1 Advice on Protection Against Fire and Explosion

7.1.1.1 Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation.

7.1.1.2 Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment.

7.1.2 Hygiene Measures

7.1.2.1 Observe good industrial hygiene practices.

7.1.2.2 Avoid contact with eyes. Avoid prolonged exposure.

7.1.2.3 Wear appropriate personal protective equipment. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

7.2.1 Storage Conditions

7.2.1.1 Keep away from heat, sparks and open flame.

7.2.1.2 Prevent electrostatic charge build-up by using common bonding and grounding techniques.

7.2.1.3 Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

8.1.1 Ingredients with Workplace Control Parameters

Chemical Name	CAS Number	Type	Value
Ethanol	64-17-5	PEL (OSHA)	1900 mg/m ³ ; 1000 ppm
Ethanol	64-17-5	STEL (ACGIH)	1000 ppm
Ethanol	64-17-5	TWA (NIOSH)	1900 mg/m ³ ; 1000 ppm
Ethanol	64-17-5	IDLH (NIOSH)	3300 ppm

8.2 Exposure Controls

8.2.1 Appropriate Engineering Controls

- 8.2.1.1 Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions.
- 8.2.1.2 If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.
- 8.2.2 Personal Protective Equipment
 - 8.2.2.1 Eye/Face Protection Required
 - 8.2.2.1.1 Chemical goggles are recommended.
 - 8.2.2.2 Skin Protection Required
 - 8.2.2.2.1 Wear appropriate chemical resistant gloves.
 - 8.2.2.3 Body Protection
 - 8.2.2.3.1 Wear suitable protective clothing. Wear appropriate thermal protective clothing, when necessary.
 - 8.2.2.4 Respiratory Protection
 - 8.2.2.4.1 If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Appropriate respirator selection should be made by a qualified professional.

SECTION 9: Physical and Chemical Properties

- 9.1 Information on Basic Physical and Chemical Properties
 - 9.1.1 Physical State: Liquid.
 - 9.1.2 Form: Liquid.
 - 9.1.3 Color: Colorless, clear.
 - 9.1.4 Odor: Alcoholic.
 - 9.1.5 Odor Threshold: Not available
 - 9.1.6 pH: Property has not been measured.
 - 9.1.7 Melting Point/Freezing Point: > -173.47 - < -50.8 °F (> -114.15 - < -46 °C)
 - 9.1.8 Boiling Point/Boiling Range: > 172.13 - < 179.6 °F (> 77.85 - < 82 °C)
 - 9.1.9 Flash Point: > 55.13 - < 86 °F (> 12.85 - < 30 °C)
 - 9.1.10 Evaporation Rate: Not available
 - 9.1.11 Flammability: Highly flammable liquid — source Section 9 field: "Flammability"
 - 9.1.12 Upper Explosion Limit (UEL): 19 (For 100% Ethanol)
 - 9.1.13 Lower Explosion Limit (LEL): 3.3 (For 100% Ethanol)
 - 9.1.14 Vapor Pressure: 57.26 kPa (For 100% Ethanol)
 - 9.1.15 Vapor Pressure Temperature: Not available
 - 9.1.16 Vapor Density: 1.6
 - 9.1.17 Density: 784.4 kg/m³ (For 100% Ethanol)
 - 9.1.18 Relative Density: > 0.785 - < 0.973
 - 9.1.19 Relative Density Temperature: Not available
 - 9.1.20 Water Solubility: Completely soluble (100%)
 - 9.1.21 Partition Coefficient (n-octanol/water): Not applicable, product is a mixture.
 - 9.1.22 Autoignition Temperature: 685.13 °F (362.85 °C) (For 100% Ethanol)
 - 9.1.23 Decomposition Temperature: Property has not been measured.
 - 9.1.24 Viscosity: 1.082 mm²/s (For 100% Ethanol) — source Section 9 field: "Kinematic viscosity"
 - 9.1.25 Explosive Properties: Not explosive.
 - 9.1.26 Oxidizing Properties: Not oxidizing.
- 9.2 Other safety information
 - 9.2.1 Particle characteristics: Not applicable, material is a liquid.

SECTION 10: Stability and Reactivity

- 10.1 Reactivity

- 10.1.1 The product is stable and non-reactive under normal conditions of use, storage and transport.
- 10.2 Chemical Stability
 - 10.2.1 Material is stable under normal conditions.
- 10.3 Possibility of Hazardous Reactions
 - 10.3.1 No dangerous reaction known under conditions of normal use.
- 10.4 Conditions to Avoid
 - 10.4.1 Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
- 10.5 Incompatible Materials
 - 10.5.1 Strong oxidizing agents.
- 10.6 Hazardous Decomposition Products
 - 10.6.1 No hazardous decomposition products are known.
 - 10.6.2 In the event of fire, see Section 5.

SECTION 11: Toxicological Information

- 11.1 Information on Toxicological Effects
 - 11.1.1 Mixture
 - 11.1.1.1 Acute toxicity
 - 11.1.1.1.1 Oral: LD50 Rat 7000 - 11000 mg/kg (see 11.2.2)
 - 11.1.1.1.2 Symptoms: Headache. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing.
 - 11.1.1.1.3 Dermal: LD50 Rat > 2000 mg/kg (see 11.2.2)
 - 11.1.1.2 Skin Corrosion/Irritation: Prolonged skin contact may cause temporary irritation.
 - 11.1.1.3 Serious Eye Damage/Eye Irritation: Causes serious eye irritation.
 - 11.1.1.4 Respiratory or Skin Sensitization: Not a respiratory sensitizer. This product is not expected to cause skin sensitization.
 - 11.1.1.5 Germ Cell Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
 - 11.1.1.6 Carcinogenicity : Not classifiable as to carcinogenicity to humans.
 - 11.1.1.6.1 IARC: Not listed.
 - 11.1.1.6.2 NTP: Not listed.
 - 11.1.1.6.3 OSHA: Not listed.
 - 11.1.1.7 Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.
 - 11.1.1.8 Specific Target Organ Toxicity - Single Exposure: Not classified.
 - 11.1.1.9 Specific Target Organ Toxicity - Repeated Exposure: Not classified.
 - 11.1.1.10 Aspiration Hazard: Not an aspiration hazard.
 - 11.2 Additional Information
 - 11.2.1 Information on likely routes of exposure — Inhalation: Prolonged inhalation may be harmful. Skin contact: Prolonged skin contact may cause temporary irritation. Eye contact: Causes serious eye irritation. Ingestion: May cause discomfort if swallowed. Chronic effects: Prolonged inhalation may be harmful.
 - 11.2.2 Component Acute Toxicity

Component	Route	Species	Result
Ethanol (CAS 64-17-5)	Dermal	Rat	LD50 > 2000 mg/kg
Ethanol (CAS 64-17-5)	Inhalation (Vapor)	Mouse	LC50 39 g/m ³ , 4 Hours
Ethanol (CAS 64-17-5)	Oral	Rat	LD50 7000 - 11000 mg/kg

SECTION 12: Ecological Information

- 12.1 Toxicity
 - 12.1.1 Mixture: The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
- 12.2 Persistence and Degradability: No data is available on the degradability of this product.

12.3 Mobility in Soil: No data available.

12.4 Other Adverse Effects: No data available.

12.5 Component Ecotoxicity

Component	Species	Test Type	Result
Ethanol (CAS 64-17-5)	Ceriodaphnia dubia	Aquatic Acute / Crustacea LC50	5012 mg/l, 48 hours
Ethanol (CAS 64-17-5)	Daphnia magna	Aquatic Acute / Crustacea LC50	454 mg/l, 11 days
Ethanol (CAS 64-17-5)	Pimephales promelas	Aquatic Acute / Fish LC50	13480 mg/l, 96 hours
Ethanol (CAS 64-17-5)	Ceriodaphnia dubia	Aquatic Chronic / Crustacea NOEC	9.6 mg/l, 10 days

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

13.1.1 Product

- 13.1.1.1 Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
- 13.1.1.2 Dispose in accordance with all applicable regulations. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
- 13.1.1.3 Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.
- 13.1.1.4 Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport Information

14.1 DOT (US)

- 14.1.1 UN Number: UN1170
- 14.1.2 Class: 3
- 14.1.3 Packing Group: II
- 14.1.4 Proper Shipping Name: Ethanol solutions
- 14.1.5 Marine Pollutant: No.
- 14.1.6 Special Provisions: 24, IB2, T4, TP1
- 14.1.7 Packaging – Exceptions: 4b, 150
- 14.1.8 Packaging – Non-bulk: 202
- 14.1.9 Packaging – Bulk: 242
- 14.1.10 Reportable Quantity (RQ): N/A
- 14.1.11 Poison Inhalation Hazard: N/A

14.2 IMDG

- 14.2.1 UN Number: UN1170
- 14.2.2 Class: 3
- 14.2.3 Packing Group: II
- 14.2.4 EMS-No: F-E, S-D
- 14.2.5 Marine Pollutant: No.
- 14.2.6 Proper Shipping Name: ETHANOL SOLUTIONS

14.3 IATA

- 14.3.1 UN Number: UN1170
- 14.3.2 Class: 3
- 14.3.3 Packing Group: II
- 14.3.4 ERG Code: 3L
- 14.3.5 Proper Shipping Name: Ethanol solutions

SECTION 15: Regulatory Information

15.1 CERCLA Reportable Quantity

15.1.1 Not listed.

15.2 SARA 304 Extremely Hazardous Substances Reportable Quantity

15.2.1 Not regulated.

15.3 SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

15.3.1 Not listed.

15.4 SARA 311/312 Hazards

15.4.1 Fire Hazard: SARA 311/312 Hazardous chemical: Yes. Classified hazard categories: Flammable (gases, aerosols, liquids, or solids)

15.4.2 Health Hazard: Serious eye damage or eye irritation

15.4.3 Chronic Health Hazard / SARA 313: Not regulated.

15.5 Clean Air Act

15.5.1 Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated.

15.5.2 Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.

15.5.3 Safe Drinking Water Act (SDWA): Not regulated.

15.6 State Regulations

15.6.1 Massachusetts Right To Know

15.6.1.1 Ethanol (CAS 64-17-5)

15.6.2 New Jersey Right To Know

15.6.2.1 Ethanol (CAS 64-17-5)

15.6.3 Pennsylvania Right To Know

15.6.3.1 Ethanol (CAS 64-17-5)

15.6.4 Rhode Island Right To Know

15.6.4.1 Ethanol (CAS 64-17-5)

15.7 California Proposition 65

15.7.1 California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

15.8 Chemical Inventories

15.8.1 TSCA: All components of the mixture on the TSCA 8(b) inventory are designated "active". TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

15.8.2 International Inventories

Country/Region	Inventory	On Inventory (Yes/No)
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country/Region	Inventory	On Inventory (Yes/No)
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

SECTION 16: Other Information

16.1 HMIS Ratings

16.1.1 Health: 2

16.1.2 Flammability: 3

16.1.3 Physical Hazard: 0

16.2 Disclaimer

16.2.1 The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Ultrapure LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

16.3 Date of Preparation or Last Revision

16.3.1 Date of Last Revision: July 2026