SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and company/undertaking

1.1 Product identifiers

Product name: Bio Ethanol

CAS number: 64-17-5

Synonyms: Biofuel ethanol, completely denatured ethyl alcohol

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

Identified uses: Use in accordance with manufacturer's recommendations.

1.3 Details of the supplier of the safety data sheet

Company
Lab Alley, LLC
12501 Pauls Valley Road, Suite A,
Austin, TX 78737 U.S.A

Telephone 512-668-9918
Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRACK
International 1-352-323-3500 INFOTRACK

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Physical hazards Flammable liquids

Category 2

Health hazards Serious eye damage/eye irritation

Category 2

Reproductive toxicity

Category 2

Specific target organ toxicity, repeated exposure (inhalation)

Category 2 (Nervous system)

OSHA defined hazards.

Not classified

Pictogram

Signal word: Danger

Hazard Statement

Highly flammable liquid and vapor. Causes serious eye irritation. Suspected of damaging fertility or the unborn child. May cause damage to organs (Nervous system) through prolonged or repeated exposure by inhalation.

2.2 Precautionary Statements

Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.

If exposed or concerned: Get medical advice/attention.

In case of fire: Use appropriate media to extinguish. Storage Store in a well-ventilated place. Keep cool. Store locked up.

Disposal

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

2.3 Hazards not otherwise classified (HNOC): None known

SECTION 3: Composition/information on ingredients

Chemical name	Common name	CAS number	Concentration by weight
Ethyl alcohol		64-17-5	>/= 98.0%
Rubber Hydrocarbon Solvents			</= 2.0%

SECTION 4: First aid measures

4.1 Description of first-aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact

Immediately flush your 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.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

4.2 Most Important Symptoms and Effects, Acute and Delayed

Narcosis. Headache. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Prolonged exposure may cause chronic effects.

Indication of 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 the affected area. Call

an ambulance. Continue flushing during transport to hospital. Keep the victim under observation. Symptoms may be delayed.

4.3. General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

SECTION 5: Firefighting measures

5.1 Suitable extinguishing media

Water fog. Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO2).

5.2 Unsuitable extinguishing media

Do not use a water jet as an extinguisher, as this will spread the fire.

5.3 Specific hazards arising from the chemical.

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. Combustion products may include carbon oxides.

5.4 Special protective equipment and precautions for firefighters

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

5.5 Firefighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.

5.6 Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

5.7 General fire hazards

Highly flammable liquid and vapor.

SECTION 6: Accidental release measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Keep unnecessary personnel away. Keep people away from 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 breathe mist or vapor. 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

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

6.3 Methods and materials for containment and Cleaning up

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. Wipe up with absorbent material (e.g. cloth, fleece). 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

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid contact with eyes. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities.

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. 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 Occupations Exposure Guidelines

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value

Ethyl alcohol (CAS 64-17-5)	PEL	1900 mg/m3, 1000 ppm

US. ACGIH Threshold Limit Values

Component	Type	Value
Ethyl alcohol (CAS 64-17-5)	STEL	1000 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Ethyl alcohol (CAS 64-17-5)	TWA	1900 mg/m3, 1000 ppm

8.2 Biological limit values

Not available

8.3 Exposure guidelines

US - California OELs: Skin designation

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Can be absorbed through the skin.

8.4 Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. 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.

8.5 Individual protection measures, such as personal protective equipment

Eye/face protection: Chemical goggles are recommended.

Skin protection (Hand): Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Skin protection (Other): Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection: 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. Respirator type: Chemical respirator with organic vapor cartridge.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: Observe any medical surveillance requirements. 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.

SECTION 9: Physical and chemical properties

Physical state: Liquid.

Form: Liquid.

Color: Colorless.

Odor: Not available.

Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: -173.2 °F (-114 °C)

Initial boiling point and boiling range: 176 °F (80 °C)

Flash point: 57.2 °F (14.0 °C) Closed Cup

Evaporation rate: 3 (Butyl Acetate = 1) (100% Ethyl Alcohol)

Flammability (solid, gas): Not applicable.

Upper/lower flammability or explosive limits

Flammability limit – lower (%): 3 % v/v (100% Ethyl alcohol)

Flammability limit – upper (%): 19 % v/v (100% Ethyl alcohol)

Vapor pressure: 41.6 mm Hg

Vapor density: 1.6 (air = 1)

Relative density: Not available.

Solubility(ies)

Solubility (water): Completely soluble. (100% Ethyl alcohol)

Solubility temp. (water) 68 °F (20 °C)

Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature: 685.4 °F (363 °C)

Decomposition temperature: Not available.

Viscosity: Not available.

Other information

Bulk density: 6.7 lb/gal

Explosive properties: Not explosive.

Oxidizing properties: Not oxidizing.

SECTION 10: Stability and reactivity

10.1 Reactivity and Chemical Stability

The product is stable and non-reactive under normal conditions of use, storage and transport. Material is stable under normal conditions.

10.2 Possibility of Hazardous Reactions

No dangerous reaction known under conditions of normal use.

10.3 Conditions to Avoid and Incompatible Materials

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents.

10.4. Hazardous Decomposition Products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on likely routes of exposure

Inhalation: Prolonged inhalation may be harmful.

Skin contact: Causes mild skin irritation.

Eye contact: Causes serious eye irritation.

Ingestion: Expected to be a low ingestion hazard.

Symptoms related to physical, chemical and toxicological characteristics.

Narcosis. Headache. Behavioral changes. Decrease in motor functions. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Prolonged exposure may cause chronic effects.

11.2 Information on toxicological effects

Acute toxicity: Not expected to be acutely toxic.

Ethyl alcohol (CAS 64-17-5)

Inhalation Vapor

Acute LC50	Rat	117 - 125 mg/l, 4 Hours
Oral LD50	Rat	10470 mg/kg

Skin corrosion/irritation: Causes mild skin irritation.

Serious eye damage/eye: Causes serious eye irritation. Irritation

Respiratory sensitization: Not a respiratory sensitizer.

Skin sensitization: This product is not expected to cause skin sensitization.

11.3 Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

11.4 Carcinogenicity

Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity: Not listed

NTP Report on Carcinogens: Not listed

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053): Not regulated.

11.5 Reproductive toxicity

Suspected of damaging fertility or the unborn child.

11.6 Specific target organ toxicity - single exposure

Not classified

Specific target organ toxicity - repeated exposure: May cause damage to organs (Nervous system) through prolonged or repeated exposure by inhalation.

11.7 Chronic effects

May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.

11.8 Aspiration Hazard:

Aspiration hazard Not an aspiration hazard.

SECTION 12. Ecological information

12.1. Ecotoxicity

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.

Ethyl alcohol (CAS 64-17-5)

Components	Species	Test Results
Aquatic Algae	EC10 Freshwater algae	11.5 mg/l, 72 hours

	EC50 Freshwater algae	275 mg/l, 72 hours
	Marine water algae	1900 mg/l
Fish	NOEC Marine water algae	1580 mg/l
	LC50 Freshwater fish	11200 mg/l, 24 hours
	NOEC Freshwater fish	250 mg/l
Invertebrate	EC50 Freshwater invertebrate	5012 mg/l, 48 hour
	NOEC Marine water invertebrate	857 mg/l, 48 hours
	NOEC Freshwater invertebrate	9.6 mg/l, 10 days
	NOEC Marine water invertebrate	79 mg/l, 96 hours
Other	EC50 Lemna minor	4432 mg/l, 7 days
	NOEC Lemna minor	280 mg/l, 7 days
	LC50 Microorganisms	5800 mg/l, 4 hours
Terrestrial	EC50 Terrestrial plant	633 mg/kg dw

12.2. Persistence and Degradability

Data not available.

12.3. Bio-accumulative Potential

Not available

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. Disposal considerations

13.1 Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous waste code: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products: 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 (see: Disposal instructions).

Contaminated packaging: 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

DOT(US)

UN number	UN1987
UN proper shipping name	Alcohols, n.o.s
Class	3
Transport hazard class(es)	
Subsidiary risk	-
Label(s)	3
Packing group	II
Marine pollutant	No.

Special precautions for users: Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1987
UN proper shipping name	Alcohols, n.o.s
Class	3
Transport hazard class(es)	
Subsidiary risk	-
Packing group	II
Environmental hazards	No

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1987
UN proper shipping name	Alcohols, n.o.s
Class	3
Transport hazard class(es)	
Subsidiary risk	-

Packing group	II
Marine pollutant	No

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

SECTION 15: Regulatory information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Yes.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Not listed.

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Yes.

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)

Serious eye damage or eye irritation

Reproductive toxicity

Specific target organ toxicity (single or repeated exposure)

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Rubber hydrocarbon solvent	1.5-2.0%

15.5. Massachusetts Right-to-Know Substance List

Ethyl alcohol (CAS 64-17-5)

15.6. Pennsylvania Right-to-Know Hazardous Substances

Ethyl alcohol (CAS 64-17-5)

15.7. New Jersey Worker and Community Right-to-Know Components

Ethyl alcohol (CAS 64-17-5)

15.8. California Proposition 65

Ethyl alcohol (CAS 64-17-5)

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Ethyl alcohol (CAS 64-17-5)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of the mixture on the TSCA 8(b) inventory are designated “active”.

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

International Inventories

TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
X	X	X	X	X	X	X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

Not regulated.

CWA (Clean Water Act)

Contains component(s) regulated under the Safe Drinking Water Act.

Clean Air Act

Not regulated

OSHA Occupational Safety and Health Administration

Not applicable

CERCLA

Listed.

Other International Regulations

Not available

SECTION 16: Other information

HMIS Rating

Health: 2

Flammability: 3

Physical hazard: 0

Date of issue: 05/13/2024

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.