

SAFETY DATA SHEET

SECTION 1 --- IDENTIFICATION

Product Name: Ethanol Fermentation Analytical Standard Mix
Common Synonyms: HPLC Cellulosic Standard
Part numbers: LQC-HPLC-CE-1, LQC-HPLC-CE-2, LQC-HPLC-CE-3, LQC-HPLC-CE-4, LQC-HPLC-CE-5, LQC-HPLC-CE-V, LQC-HPLC-CE-K, LQC-HPLC-CE-P, LQC-HPLC-CE-S
Product Use: Analytical standards, Laboratory Reagent
Restrictions: Not for human consumption. Intended for laboratory use only.

Manufacturer/Supplier:
Bion Analytical
P.O. Box 85252
Sioux Falls, SD 57118
TEL: (605) 838-6679

In Case of EMERGENCY Call INFOTRAC: (800) 535-5053

SECTION 2 --- HAZARD IDENTIFICATION

Signal Word: Warning

Hazard Statements: Flammable liquid or vapor.
Causes skin/eye irritation.



Precautionary Statements: Keep away from heat/sparks/open flames/hot surfaces- No smoking.
Keep container tightly closed.
Wear protective gloves/clothing/eye and face protection.
Store in a dry, well-ventilated area, keep cool.
Wash thoroughly after use.

SECTION 3 --- COMPOSITION/INFORMATION ON INGREDIENTS

Aqueous solution with non-hazardous and hazardous components

<u>Component</u>	<u>CAS No./EC No.</u>	<u>Concentration %</u>
Water	7732-18-5	Balance
Maltodextrin (DP4+)	9050-36-6/232-940-4	0-2% (w/v)
D(+) Cellobiose	528-50-7/208-436-5	0-1% (w/v)
D(+) Glucose	50-99-7/200-075-1	1-5% (w/v)
D(+) Xylose	58-86-6/200-400-7	1-5% (w/v)
L(+) Arabinose	5328-37-0/226-214-6	0.5-3% (w/v)
L(+) Lactic Acid	79-33-4/201-196-2	0-1% (w/v)
Glycerol	56-81-5/200-289-5	0-2% (w/v)
Acetic Acid	64-19-7/200-580-7	0-1% (w/v)
Ethanol	64-17-5/200-578-6	0-10% (w/v)
Sulfuric Acid	7664-93-9/231-639-5	Trace

Ranges of concentrations listed for a group of substantially similar mixtures with similar chemical composition.

SECTION 4 --- FIRST AID MEASURES

Emergency and First Aid Procedures

INGESTION: Rinse mouth with water. Seek immediate medical advice.

INHALATION: Supply fresh air. If required provide artificial respiration. Seek immediate medical advice.

SKIN CONTACT: Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

EYE CONTACT: Rinse opened eye for at least 15 minutes under running water. Seek immediate medical advice.

SAFETY DATA SHEET

SECTION 5 --- FIRE-FIGHTING MEASURES

Fire Extinguishing Media: Water spray, dry chemical, alcohol foam, or carbon dioxide.

Toxic Gases Produced: Carbon monoxide and carbon dioxide.

Protective equipment: Wear self-contained breathing apparatus. Wear fully protective impervious suit.

SECTION 6 --- ACCIDENTAL RELEASE MEASURES

Steps to be Taken in the Event of a Spill or Discharge

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

Flush with water or aqueous cleansing agents. Keep away from ignition sources.

SECTION 7 --- HANDLING AND STORAGE

Storage Requirements

Keep container tightly closed. Keep away from heat/sparks/open flames/hot surfaces. No smoking permitted in work area. Store in a dry, well-ventilated area, keep cool. Wash thoroughly after use. Store between 2-8 °C.

SECTION 8 --- EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA PEL (ethanol): TWA 1000 ppm

NIOSH REL (ethanol): TWA 1000 ppm

OSHA PEL (acetic acid): TWA 10 ppm

NIOSH REL (acetic acid): TWA 10 ppm

Eye/Face Protection: Safety glasses

Protective Clothing: Coat & Apron

Protective Gloves: Chemical resistant gloves

Ventilation Requirements: Well ventilated area or vent hood

Breathing equipment: Use suitable respirator when high concentrations are present.

SECTION 9 --- PHYSICAL and CHEMICAL PROPERTIES

Physical State: Liquid

Appearance & Odor: Clear, colorless liquid, with alcohol-like odor

Boiling Point: Not determined

Melting Point: Not determined

Specific Gravity: ~ 1 (Water = 1)

Vapor Pressure (mmHg): 2.1

Vapor Density (air=1): N/A

Evaporation Rate: N/A

Flash Point (Closed Cup): N/A

Auto ignition Temperature: not determined

Flammable Limits: Upper - not determined

Lower - not determined

SECTION 10 --- STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Heat, flames and sparks

Incompatibles: Oxidizing agents, acids

Decomposition Products: Carbon monoxide and Carbon dioxide

SECTION 11 --- TOXICOLOGICAL INFORMATION

Emergency Overview

Emergency Overview: Causes irritation to skin and eyes. May affect liver, stomach and kidneys. Sulfuric acid is present in an extremely dilute concentration. Target Organs: Eyes, skin, central nervous system, liver, kidney, stomach. May cause irritation. May cause headaches, gastritis,

SAFETY DATA SHEET

intoxication. Can cause eye irritation. May cause temporary pain and blurred vision. May cause skin irritation, or prolonged skin contact causes drying and cracking of the skin.

Toxicity of components

LD₅₀, Oral, Rat: (Lactic Acid) 3,543 mg/kg; LD₅₀, Acute Oral, Rat: (Acetic Acid) 3,310 mg/kg; LD₅₀, Acute Toxicity of Vapor, Muskrat (Acetic Acid) 5,620 ppm in 1 hour; LD₅₀ Oral, Rat: (Ethanol) 7,060 mg/kg; LD₅₀, Inhalation, Rat: (Ethanol) 20,000 ppm in 10 hours.

Lactic Acid: RTECS# OD2800000

Acetic Acid: RTECS# AF1225000

Ethanol: RTECS# KQ6300000

Not all chemical, physical and toxicological properties have been thoroughly investigated.

SECTION 12 --- ECOLOGICAL INFORMATION

No ecological information available for this product.

SECTION 13 --- DISPOSAL CONSIDERATIONS

Disposal Procedure

Dispose in accordance with all applicable federal, state, and local environmental regulations.

SECTION 14 --- TRANSPORT INFORMATION

If shipping over exempt quantities.

Domestic (D.O.T.)

Proper Shipping Name: Ethanol solutions

UN #: UN1170

Packing Group: II

SECTION 15 --- REGULATORY INFORMATION

California Prop 65

This product does not contain any chemicals known to the State of California to cause cancer, birth or any other reproductive defects. It applies to beverage use only. This product is NOT intended for this use.

SECTION 16 --- OTHER INFORMATION

Revision Date: 5/8/2015

N/A =Not Applicable or Not Available

N/E = Not Established

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated there under (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.

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 Bion Analytical 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 Bion Analytical has been advised of the possibility of such damages.