

HEALTH	1
FLAMMABILITY	2
REACTIVITY	0

Section 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product Name	Ethyl 3-Hydroxy Butyrate, Natural
Product Number	0342800
CAS-No.	5405-41-4

1.2 Product Recommended Use

Flavorings

1.3 Preparation Information

Company	Aurochemicals 7 Nicoll Street Washingtonville, NY 10992
Telephone	845-496-6065
Fax	845-496-6248

1.4 Emergency Telephone Number

1-800-535-5053
International - 1-352-323-3500 collect

Section 2: HAZARD(s) IDENTIFICATION

2.1 Classification of substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): Not a hazardous substance or mixture

2.2 GHS Label Elements, Including precautionary statements

Pictogram	None
Signal Statement	Warning
Hazard Statement(s)	H227 Combustible Liquid
Precautionary Statement(s)	P210 Keep away from heat/sparks/open flames/hot surfaces – No Smoking P280 Wear protective gloves/protective clothing/eye protection/face protection P370+P378 In case of fire: Use dry sand, dry chemical or alcohol resistant foam for extinction P403+P235 Store in a well ventilated place. Keep cool P501 Dispose of contents/container to an approved waste disposal plant.

2.3 HNOC (Hazards not otherwise classified or not covered by GHS) -None

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Formula	C ₆ H ₁₂ O ₃
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Molecular Weight	132.16 g/mol
CAS-No	5405-41-4
EC-No.	226-456-2

Hazardous Components

Component	Classification	Concentration
Ethyl 3-hydroxybutyrate	Flammable liquid (4) H227	-

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhalation	Provide fresh air; keep at rest and at a comfortable position to breathe. Consult a physician.
Contact with skin:	Remove contaminated clothing. Rinse skin with cool water then wash with mild soap and warm water. Consult a physician.
Contact with eyes:	Rinse thoroughly with plenty of water for at least 15 as a precaution.
Ingestion	DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Clothing contamination:	Remove contaminated clothing and wash before reuse.

4.2 Most important symptoms and effects both acute and delayed See section 2.2 and or section 11

4.3 Indication of any immediate medical attention and special treatment needed. No data available

Section 5: FIREFIGHTING MEASURES

5.1 Extinguishing Media Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
5.2 Special hazards arising from the substance or mixture	Carbon oxides
5.3 Advice for fire fighters	Wear self contained breathing apparatus for firefighting if necessary.
5.4 Further information	No data available

Section 6: ACCIDENTIAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures	Use personal protective equipment. Avoid breathing vapors, mist or gas. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
6.2 Environment precautions	Prevent further leakage or spillage if safe to do so. Do not allow to enter drains or sewage system.
6.3 Methods and materials for containment and clean up	Contain spillage. Soak up with absorbent material. Sweep up with broom and shovel. Place in a suitable, closed container for disposal.

6.4 Specific end use(s) Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

Section 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid inhalation of vapor or mist. Keep away from sources of ignition – No smoking. Take measures to prevent the buildup of electrostatic charge.
- 7.2 Conditions for Safe storage** Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- 7.3 Specific End use(s)** Flavorings

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters: Contains no substance with occupational exposure limits.

Appropriate Engineering Controls Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the day.

Personal protective equipment

These recommendations are advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. They should not be construed as offering an approval for any specific use scenario.

Eye/face protection Wear appropriate safety glasses with side shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection Wear chemically resistant, rubber gloves when handling this product. Use proper glove removal techniques (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.

Body protection Impervious clothing protecting against chemicals, should be selected specifically for the work place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection Where risk assessment shows air purifying respirators are appropriate, use a full face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full face, air supplied respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CE N (EU).

Control of environmental exposure Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Safety Data Sheet

a	Appearance	Colorless viscous liquid
b	Odor	Fresh, fruity, grape odor
c	Odor Threshold	No data available
d	pH	No data available
e	Melting Point /Freezing Point	No data available
f	Boiling Point	170°C
g	Flash Point	64.4°C
h	Evaporation Rate	No data available
i	Flammability (Solid, Gas)	No data available
j	Upper/lower Flammability Limit	No data available
k	Vapor pressure	No data available
l	Vapor density	No data available
m	Relative density at 25°C	1.000-1.017
n	Solubility	100g in 100 mL water (23°C)
o	Partition coefficient: n-octanol/water	No data available
p	Auto-ignition Temp.	No data available
q	Decomposition Temp.	No data available
r	Viscosity	No data available
s	Explosive properties	No data available
t	Oxidizing properties	No data available

9.2 Other Safety Information No data available

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity	No data available
10.2 Chemical Stability	Stable under recommended storage conditions
10.3 Possibility of Hazardous reactions	No data available
10.4 Conditions to avoid	Heat, Flames and sparks
10.5 Incompatible materials	Strong Oxidizing Agents
10.6 Hazardous decomposition products	No data available
10.7 Further Information	No data available

Section 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

LD50-Oral	No data available
LC50-Inhalation	No data available
LD50-Dermal	No data available
Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No data available
Germ Cell mutagenicity	No data available

Carcinogenicity

IARC

No component of this product, present levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP	No component of this product, present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No component of this product, present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	No data available
Teratogenicity	No data available
Specific target organ toxicity-single exposure (GHS)	No data available
Specific target organ toxicity-repeated exposures (GHS)	No data available
Aspiration Hazards	No data available
Signs and Symptoms of Exposure	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated
Synergistic effect	No data available
RTECS:	Not available

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Results of PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required / not conducted
12.6 Other adverse effects	No data available

Section 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods	
Product:	According to local regulations
Packaging	According to local regulations

Section 14: TRANSPORT INFORMATION

DOT (US)	NA-Number: 1993 Class: None Packing Group: III
Proper Shipping Name:	Combustible Liquid, n.o.s. (Ethyl 3-hydroxybutyrate)
Reportable Quantity (RQ):	No
Marine Pollutant:	No
Poison Inhalation Hazard:	No
IMDG	Not dangerous goods
IATA	Not dangerous goods

Section 15: REGULATORY INFORMATION

Reach No.	A registration number is not available for this substance as its uses are exempted from registration, the annual tonnage not require a registration or the registration is envisaged for a later registration deadline.
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Safety Data Sheet

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard

Massachusetts Right to Know components

No components are subject to the Massachusetts Right to Know Act

Pennsylvania Right to Know components

Ethyl 3-hydroxybutyrate CAS# 5405-41-4 Rev. Date:

New Jersey Right to Know components

Ethyl 3-hydroxybutyrate CAS# 5405-41-4 Rev. Date:

California Prop. 65 components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: OTHER INFORMATION

HMIS Rating

Health hazard 1
Chronic Health Hazard
Flammability 2
Physical Hazard 0

Further Information

Aurochemicals provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Aurochemicals makes no representations or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Aurochemicals will not be responsible, nor held liable, for damages resulting from use of or reliance upon this information.

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