

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

1 Identification

- **Product identifier**
- **Trade name:** Methyl (R)-3-hydroxybutyrate
- **Article number:** 129275
- **CAS Number:**
3976-69-0
- **EC number:**
223-610-0
- **Application of the substance / the mixture** Laboratory chemicals for research and development
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
BeanTown Chemical
9 Sagamore Park Road
Hudson, NH 03051
USA
- **Phone:** (603) 402-2234
Fax: (603) 402-9713
Email: technical@beantownchem.com
www.beantownchem.com
- **Information department:** Technical Support Department
- **Emergency telephone number:**
During normal operating hours, please call (603) 402-2234
After hours, please call Chemtrec at (800) 424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Flam. Liq. 4 H227 Combustible liquid.

-
- **Label elements**
 - **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
 - **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
Methyl (R)-3-hydroxybutyrate

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

Trade name: Methyl (R)-3-hydroxybutyrate

(Contd. of page 1)

- **Hazard statements**

- Combustible liquid.

- Causes skin irritation.

- Causes serious eye damage.

- **Precautionary statements**

- Keep away from flames and hot surfaces. – No smoking.

- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

- Immediately call a poison center/doctor.

- Specific treatment (see on this label).

- Take off contaminated clothing and wash it before reuse.

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

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

- 3976-69-0 Methyl (R)-3-hydroxybutyrate

- **Identification number(s)**

- **EC number:** 223-610-0

4 First-aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:** Immediately rinse with water.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** If symptoms persist consult doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

- No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:** CO₂, sand, extinguishing powder. Do not use water.

- **For safety reasons unsuitable extinguishing agents:** Water

- **Special hazards arising from the substance or mixture** No further relevant information available.

- **Advice for firefighters**

- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

- Wear protective equipment. Keep unprotected persons away.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

Trade name: Methyl (R)-3-hydroxybutyrate

(Contd. of page 2)

- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

Substance is not listed.

· **PAC-2:**

Substance is not listed.

· **PAC-3:**

Substance is not listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:**
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**
Protective gloves

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

Trade name: Methyl (R)-3-hydroxybutyrate

(Contd. of page 3)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: Not determined.

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: Undetermined

Boiling point/Boiling range: 56-58 °C (132.8-136.4 °F)

· **Flash point:** 76 °C (168.8 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density at 20 °C (68 °F):** 1.055 g/cm³ (8.80398 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

Trade name: Methyl (R)-3-hydroxybutyrate

(Contd. of page 4)

VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	0.0 %
Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

Trade name: Methyl (R)-3-hydroxybutyrate

(Contd. of page 5)

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|-----------------|
| · UN-Number | |
| · DOT, ADN, IMDG, IATA | not regulated |
| · UN proper shipping name | |
| · DOT, ADN, IMDG, IATA | not regulated |
| · Transport hazard class(es) | |
| · DOT, ADN, IMDG, IATA | |
| · Class | not regulated |
| · Packing group | |
| · DOT, IMDG, IATA | not regulated |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | not regulated |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

Substance is not listed.

· Hazardous Air Pollutants

Substance is not listed.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

Trade name: Methyl (R)-3-hydroxybutyrate

(Contd. of page 6)

· **Proposition 65**· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **RTECS**

Substance is not listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **NFPA ratings (scale 0-4)**

Health = 3

Fire = 2

Reactivity = 0

· **HMIS ratings (scale 0-4)**

Health = *3

Fire = 2

Reactivity = 0

· **Department issuing SDS:** Technical Support Department· **Contact:** Technical Support Department· **Date of preparation / last revision** 07/09/2024 / -· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/09/2024

Reviewed on 07/08/2024

Trade name: Methyl (R)-3-hydroxybutyrate

(Contd. of page 7)

*Flam. Liq. 4: Flammable liquids – Category 4**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

US