

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Microcystin LR, from *Microcystis aeruginosa*
Product Number :
Manufacturer / Supplier : Beagle Bioproducts Inc.
959 Schrock Rd
Columbus, OH 43229
Telephone : (614) 682-6588
E-mail : info@beaglebioproducts.com
Emergency Phone : (614) 682-6588

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Target Organ Effect, Highly toxic by inhalation, Highly toxic by ingestion, Highly toxic by skin absorption, Skin sensitizer, Irritant.

Target Organs

Liver

GHS Classification of the Substance or Mixture

Acute toxicity, Dermal (Category 2)

Acute toxicity, Oral (Category 2)

Acute toxicity, Inhalation (Category 1)

Skin irritation (Category 2)

Eye irritation (Category 2A)

Skin sensitization (Category 1)

Specific target organ toxicity – single exposure (Category 3)

GHS Label Elements, Including Precautionary Statements

Pictogram



Signal Word

Danger

Hazard Statement(s)

H300 + H310

Fatal if swallowed or in contact with skin.

H315

Causes skin irritation.

| | |
|-----------------------------------|---|
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H330 | Fatal if inhaled. |
| H335 | May cause respiratory irritation. |
| Precautionary Statement(s) | |
| P260 | Do not breathe dust / fume / gas / mist / vapors / spray. |
| P264 | Wash hands thoroughly after handling. |
| P280 | Wear protective gloves / protective clothing. |
| P302 + P350 | IF ON SKIN: Gently wash with plenty of soap and water. |
| P305 + P351 + P338 | 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 or doctor / physician. |

HMIS Classification

| | |
|-------------------|---|
| Health Hazard: | 4 |
| Flammability: | 0 |
| Physical Hazards: | 0 |

NFPA Rating

| | |
|--------------------|---|
| Health Hazard: | 4 |
| Fire Hazard: | 0 |
| Reactivity Hazard: | 0 |

Potential Health Effects

| | |
|-------------|--|
| Inhalation: | May be fatal if inhaled. Causes respiratory tract irritation. |
| Skin: | May be fatal if absorbed through skin. Causes skin irritation. |
| Eyes: | Causes eye irritation. |
| Ingestion: | May be fatal if swallowed. |

3. COMPOSITION / INFORMATION ON INGREDIENTS

| | |
|-------------------------|---|
| Component | Microcystin LR |
| Formula | C ₄₉ H ₇₄ N ₁₀ O ₁₂ |
| Molecular Weight | 995.2 g/mol |
| CAS Number | 101043-37-2 |

4. FIRST AID MEASURES

General Advice:

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If Inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In Case of Skin Contact:

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In Case of Eye Contact:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If Swallowed:

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of Flammability

Not flammable or combustible.

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Protective Equipment for Firefighters

Wear self-contained breathing apparatus for fire fighting if necessary.

Hazardous Combustion Products

Hazardous decomposition products formed under fire conditions (Carbon oxides, nitrogen oxides NOx).

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental Precautions

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

Methods and Materials for Containment and Cleaning Up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for Safe Storage

Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature: -20 °C
Keep in a dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal Protective Equipment (Contains no substances with occupational exposure limit values)

Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye Protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene Measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : Powder

Color : White

Safety Data

pH : n/a

Melting Point / Freezing Point : n/a

Boiling Point : n/a

Flash Point : n/a

Ignition Temperature : n/a

Auto-ignition Temperature : n/a

Lower Explosion Limit : n/a

Upper Explosion Limit : n/a

Vapor Pressure : n/a

Density : n/a

Water Solubility : n/a

Partition Coefficient : n/a

Relative Vapor Density : n/a

Odor : n/a

Odor Threshold : n/a

Evaporation Rate : n/a

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

n/a

Conditions to Avoid

n/a

Materials to Avoid

Strong oxidizing agents

Hazardous Decomposition Products

Hazardous decomposition products formed under fire conditions. Carbon oxides, nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Oral LD₅₀

Unknown for human exposure, est ≥5

Inhalation LC₅₀

Dermal LD₅₀

Skin Corrosion / Irritation:

n/a

Serious Eye Damage / Eye Irritation:

n/a

Respiratory or Skin Sensitization:

May cause allergic skin reaction.

Germ Cell Mutagenicity:

n/a

Reproductive Toxicity:

n/a

Teratogenicity:

n/a

Aspiration Hazard:

n/a

Synergistic Effects:

n/a

Carcinogenicity:

IARC: No component of this product present at 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.

Specific Target Organ Toxicity – Single Exposure (Globally Harmonized System)

Inhalation – May cause respiratory irritation.

Specific Target Organ Toxicity – Repeated Exposure (Globally Harmonized System)

n/a

Potential Health Effects

Inhalation May be fatal if inhaled. Causes respiratory tract irritation.

Ingestion May be fatal if swallowed.

Skin May be fatal if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

Toxicity : n/a

Persistence and Degradability : n/a

Bioaccumulative Potential : n/a

Mobility in Soil : n/a

PBT and vPvB Assessment : n/a

Other Adverse Effects : n/a

13. DISPOSAL CONSIDERATION

Product

Microcystin toxins should be inactivated prior to disposal with one of three solutions: 2.5% NaOCl + 0.25 N NaOH, 2.5% NaOCl, or 1% NaOCl with a minimum of 30 minutes of exposure if the toxin to the inactivating solution. Then dispose of liquid in compliance with institutional, state, and federal regulations. (CDC BMBL, 5th ed., Appendix I).

Contaminating Packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 2811 Class: 6.1 Packing group: II

Proper shipping name: Toxic solids, organic, n.o.s. (Microcystin)

Marine pollutant: No

Poison Inhalation Hazard: No

Under Section 173.4a and 173.4b, microcystin toxins transported by Beagle Bioproducts, Inc. meet the criteria for De minimis Quantities, and therefore do not meet the definition of a hazardous material in section 171.8. De minimis exception is claimed because, for this Packing Group II material, less than one gram of dried material, and in the case of a liquid product less than 1 mL of authorized liquids, will be included in any single shipment of this product.

IMDG

UN number: 2811 Class: 6.1 Packing group: II EMS-No: F-A, S-A

Proper shipping name: Toxic solids, organic, n.o.s. (Microcystin)

Marine pollutant: No

IATA

UN number: 2811 Class: 6.1 Packing group: II

Proper shipping name: Toxic solid, organic, n.o.s. (Microcystin)

IATA Passenger: Permitted for transport; cargo only.

15. REGULATORY INFORMATION

OSHA Hazards

Target Organ Effect, Highly toxic by inhalation, Highly toxic by ingestion, Highly toxic by skin absorption, Skin sensitizer, Irritant.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: 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

Acute Health Hazard, Chronic Health Hazard