


 Safety Data Sheet: **Microcystin\_LR**
**1. Identification of the substance/mixture and of the Company**
**1.1. Product identifiers**

Product name	<i>Microcystin_LR</i>	Formula	<i>C<sub>49</sub>H<sub>74</sub>N<sub>10</sub>O<sub>12</sub></i>
Product Code	<i>MCLR</i>	RTECS	<a href="#">GT2810000</a>
CAS #	<i>101043-37-2</i>	Molecular weight	<i>995.2</i>
EC Number #	<i>621-323-9</i>	Substance? Mixture?	<i>Substance</i>
Synonyms	<i>Cyanoginosin-LR; Toxin T 17; 5-L-Arginine-microcystin LA</i>		
Source	<i>Microcystis sp.</i>	Date of version	<i>1 February, 2021</i>

**1.2. Intended uses of the substance or mixture and uses advised against**

<b>1.2.1. Intended use:</b>	<b>1.2.2. Uses advised against:</b>
<ul style="list-style-type: none"> <li>• Research and development.</li> <li>• Laboratory reagent.</li> <li>• To be used by professionals only</li> </ul>	<ul style="list-style-type: none"> <li>• Not for drug,</li> <li>• Not to be used in humans or animals.</li> <li>• Not food additive</li> </ul>

**1.3. Details of the supplier of the safety data sheet**
**FERMENTEK Ltd**  
 4 Yatziv street, POB 47120  
 Jerusalem 97800,  
 Israel

 Tel: +972 2 5853953  
 Fax: +972 2 5853943  
 eMail:  
 Fermentek@Fermentek.com  
 Website: WWW.Fermentek.com

**1.4. Emergency Telephone number**

 For chemical emergency spill, leak, fire, exposure, or accident calls CHEMTREC day or night:  
 Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887

This company is the manufacturer of the product, and the supplier of the safety data sheet

**1.5. Reach:**

See section 15

**2. Hazards identification**
**2.1. Classification of the substance or mixture**
**2.1.1. GHS Classification According to EU Reg. 1272/2008 and US OSHA 1910.1200)**

Acute Toxicity, Ingestion	Category 1	H300	Fatal if swallowed
Acute Toxicity, Dermal contact	Category 1	H310	Fatal if on skin
Acute Toxicity, Inhalation	Category 1	H330	Fatal if inhaled

**2.2. GHS Label elements, including precautionary statements**
**2.2.1. Pictogram:**

**2.2.2. Signal word: {Danger}**
**2.2.3. Hazard Statements**

H300+H310+H330    Fatal if swallowed, inhaled or in contact with skin.

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#### 2.2.4. GHS Precautionary Statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P270	Do not eat, drink, or smoke when using this product.
P308 + P310	<b>IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.</b>

### 3. Composition/information on ingredients

Substance	
Substance name:	<b>Microcystin_LR</b>
Concentration	<b>&lt;=100%</b>
CAS Registry#:	<b>101043-37-2</b>
EC#:	<b>621-323-9</b>
Molecular Formula:	<b>C<sub>49</sub>H<sub>74</sub>N<sub>10</sub>O</b>
Molecular Weight:	<b>995.2</b>
Classification	<b>Acute Tox. 1; H300</b>
Mixture?	<b>Substance.</b>

### 4. First Aid Measures

#### 4.1. Description of First Aid Measures

<b>General advice:</b>	Call a physician. Show this safety data sheet to the doctor in attendance.
<b>Eye contact:</b>	Rinse out with plenty of water. Remove contact lenses
<b>Skin Contact:</b>	Take off immediately all contaminated clothing. Rinse skin with water/ shower.
<b>Ingestion:</b>	Give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.
<b>Inhalation:</b>	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### 4.2. Most important symptoms and effects, both acute and delayed

<b>General symptoms</b>	
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#### 4.3. Indication of any immediate medical attention and special treatment needed

	No data available
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### 5. Fire-fighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
<b>Unsuitable extinguishing media</b>	None known

#### 5.2. Other information

<b>Hazardous combustion products</b>	Carbon oxides, Nitrogen oxides
<b>Advice for firefighters</b>	Wear self-contained breathing apparatus for fire fighting if necessary. Wear protective suit.

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## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Use personal protective equipment as required. Keep people away from and upwind of spill/leak.
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### 6.2. Environmental precautions

<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
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### 6.3. Methods and material for containment and cleaning up

<b>Methods for containment:</b>	Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
<b>Methods for cleaning up:</b>	Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Cover liquid spill with sand, earth or other non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, and vermiculite). Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.

## 7. Handling and storage

### 7.1. Precautions for safe handling

<b>Advice on safe handling:</b>	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.
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### 7.2. Conditions for safe storage, including any incompatibilities

<b>Storage Conditions:</b>	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store at -20 °C.
<b>Suitable packaging</b>	Must only be kept in original packaging.
<b>Incompatible materials:</b>	None known based on information available.

## 8. Exposure Controls/Personal Protection

### 8.1. Control parameters

<b>Control parameters</b>	Components with workplace control parameters
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### 8.2. Exposure controls

<b>Appropriate engineering controls</b>	Showers, Eyewash stations, Ventilation systems Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Use fumehood for routine work.
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### 8.3. Personal protective equipment

**[PPE=Personal Protection Equipment]**

<b>PPE: Respiratory protection</b>	Where risk assessment shows air-purifying respirators are appropriate use a fullface 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).
<b>PPE: Hand Protection:</b>	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands
<b>PPE: Eye Protection:</b>	Use a 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)

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**PPE: Skin and Body 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. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

## 9. Physical and chemical properties

### 9.1. Physical / chemical properties

Physical State at room temperature	Solid / powder
Color	Light yellow
No further safety relevant data are available	

## 10. Stability and reactivity

Reactivity:	No information available.
Chemical stability:	No information available.
Conditions to avoid	No information available.
Incompatible materials	No information available.
Possibility of Hazardous Reactions	No information available.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions.: Carbon oxides, Nitrogen oxides (NOx)

## 11. Toxicological information

### 11.1. Information on toxicological effects

**To the best of our knowledge, the toxicological effects of this product have not been thoroughly studied yet.**

#### 11.1.1. Acute Toxicity

Oral toxicity:	LD50 oral Mouse 5mg/kg, Rat>5 mg/kg
Serious eye damage	No quantitative data available
Respiratory or skin sensitization/corrosion:	No data available

#### 11.1.2. CRM (Carcinogene, Mutagene, Reproductive hazards)

Germ cell mutagenicity:	No data available
Carcinogenicity:	Suspected carcinogen (listed in REACH Annex III)
Reproductive toxicity / Teratogenicity:	No data available

### 11.2. Additional information

Symptoms (according to <i>Handbook of Chemical and Biological warfare agents, D. Hank Ellison, 2<sup>nd</sup> edition, page 481</i> )	This material is hazardous through inhalation, penetration through broken skin, and ingestion. Symptoms include shivering, and rapid, deep breathing, progressing to twitching, convulsions, gasping respirations, and death. Shock and death occur within a matter of hours.
RTECS number	<b>GT2810000</b>

## 12. Ecological Information

Eco-Toxicity	No further relevant information available
Other adverse effects	No further relevant information available.

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## 13. Disposal Considerations

### 13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations
Contaminated packaging	Dispose of as unused product

## 14. Transport information

### 14.1. UN number, Proper Shipping Name, Transport Hazard Class, packing group

	US DOT	US IATA	US IMDG	US ADR/RID
UN Number	UN 3642	UN 3642	UN 3642	UN 3642
UN proper shipping name	Toxins, Extracted from Living Sources, Solid, N.O.S. (Microcystin_LR)	Toxins, Extracted from Living Sources, Solid, N.O.S. (Microcystin_LR)	Toxins, Extracted from Living Sources, Solid, N.O.S. (Microcystin_LR)	Toxins, Extracted from Living Sources, Solid, N.O.S. (Microcystin_LR)
Transport Hazard Class & Packing Group	6.1 Pg I	6.1 Pg I	6.1 Pg I	6.1 Pg I

### 14.2. Additional information

	Not marine pollutant
Exempted quantities (EQ)	
De Minimis exemption	Transported under De Minimis exemption. Code: E5. Maximum net quantity per inner packaging: 1 g. Maximum net quantity per outer packaging: 300 g

## 15. Regulatory information

### 15.1. Safety, health, and environmental regulations/legislation

USA EPA / TSCA	This product is not listed on the USA EPA TSCA (it is for research)
USA EPA / SARA	S. 302 (EHS): NO. S. 304 RQ: NO S. 313 (TRI): NO
EU ECHA Status	This product is registered with the EU ECHA, Number 621-323-9 ANNEX III: Listed (Suspected carcinogen) REACH: Not registered
EU- Substances of very high concern (SVHC)	This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

## 16. Other information

### 16.1. Date of revision:

✓ **Monday, 1 February, 2021 10:02**

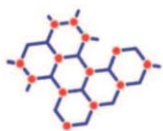
### 16.2. General Disclaimer

- ✓ The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.
- ✓ The information given here is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

### 16.3. The users'/employers' responsibility

- ✓ All recommendations below are advisory in nature.
- ✓ A risk assessment should be performed by the employer/user prior to use of this product.

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- ✓ All recommendations included in this document, are advisory in nature.
- ✓ The type of protective equipment must be selected based on the amount and concentration of all dangerous materials being used in the workplace.

#### 16.4. End of SDS



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