


 Safety Data Sheet: **Solution of Microcystin LR in Methanol**


## 1. Identification of the solution and the Manufacturer

### 1.1. Product identifiers

Product name	<u>Solution of Microcystin LR in Methanol</u>		
Product Code	SSMCLR	Version Date	23 July, 2024
	<b>Ingredient name</b>	<b>Ingredient CAS RN</b>	<b>Ingredient concentration</b>
Toxin	<u>Microcystin LR</u>	101043-37-2	10 ppm
Solvent	Methanol	67-56-1	<100%

### 1.2. Intended uses of the solution and uses advised against

<b>1.2.1. Intended use:</b>	<b>1.2.2. Uses advised against:</b>
Reference material Research and development. Laboratory reagent.	Not a drug, Not a food additive Not to be used in humans or animals.

### 1.3. Contacts

#### 1.3.1. Details of the supplier of the SDS

FERMENTEK ltd 4 Yatziv street, POB 47120 Jerusalem 97800, Israel	Tel: +972 2 5853953 Fax: +972 2 5853943 eMail: <a href="mailto:Fermentek@Fermentek.com">Fermentek@Fermentek.com</a> <a href="mailto:Safety@Fermentek.com">Safety@Fermentek.com</a> Website: <a href="http://Fermentek.com">Fermentek.com</a>
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*This company is the manufacturer of the product and the supplier of the safety data sheet*

#### 1.3.2. 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*

## 2. Hazards' identification

### Emergency Overview.

**Appearance:** Colorless liquid with a characteristic alcoholic odor, packed in amber glass vials, 1 or 5 milliliter per vial.

**Immediate effects:** Irritation of the nose and throat with sneezing, sore throat or runny nose.

#### Potential health effects

**Primary Routes of entry:** Inhalation, skin contact, eye contact.

**Signs and Symptoms of Overexposure:** Acute effects:, Headache, Dizziness, Drowsiness, narcosis, Blindness, Impairment of vision,

Irritant effects, Nausea, Vomiting, agitation, spasms, inebriation, Coma

Drying-out effect resulting in rough and chapped skin

### 2.1. Classification of the Mixture/Solution

#### 2.1.1. GHS Classification: According to EU Reg. 1272/2008 and US OSHA 1910.1200)

*Comment: This product is a vial containing 1cc or 5 cc of solution of a negligible amount of toxin, dissolved in Methanol.*


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<i>Flammable liquids</i>	<i>Category 2</i>	<i>H225</i>	<i>Highly flammable liquid and vapour.</i>
<i>Acute toxicity, Oral</i>	<i>Category 3</i>	<i>H302</i>	<i>Toxic if swallowed.</i>
<i>Acute toxicity, Dermal</i>	<i>Category 3</i>	<i>H311</i>	<i>Toxic if in contact with skin.</i>
<i>Acute toxicity, Inhalation</i>	<i>Category 3</i>	<i>H331</i>	<i>Toxic if inhaled.</i>
<i>STOT/SE : EYES, OPTIC NERVE, CNS</i>	<i>Category 1</i>	<i>H370</i>	<i>Causes damage to organs – EYES, OPTIC NERVE, CNS</i>

**2.2. GHS Label elements, including precautionary statements.**

**2.2.1. Pictogram:** {    } **Signal word:** {**DANGER**}

**2.2.2. Hazard Statements**

<i>H225</i>	<i>Highly flammable liquid and vapour.</i>
<i>H302</i>	<i>Toxic if swallowed.</i>
<i>H311</i>	<i>Toxic if in contact with skin.</i>
<i>H331</i>	<i>Toxic if inhaled.</i>
<i>H370</i>	<i>Causes damage to organs: EYES, OPTIC NERVE, CNS</i>

**2.2.3. GHS Precautionary Statements**

<i>P201</i>	<i>Obtain special instructions before use.</i>
<i>P202</i>	<i>Do not handle until all safety precautions have been read and understood.</i>
<i>P210</i>	<i>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not smoke.</i>
<i>P280</i>	<i>Wear {protective gloves/protective clothing/eye protection/face protection}.</i>
<i>P262</i>	<i>Do not get in eyes, on skin, or on clothing</i>
<i>P264</i>	<i>Wash {hands} thoroughly after handling.</i>
<i>P270</i>	<i>Do not eat, drink or smoke when using this product.</i>

**2.2.4. GHS Response Phrases:**

See [section 4](#) for important information.

*301+P317+.: IF SWALLOWED: Get medical help.; Rinse mouth.*

*P302+P352: IF ON SKIN: Wash with plenty of water; Take off contaminated clothing and wash it before reuse.*

*P304+P340+P316: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get emergency medical help immediately.*

*P308+P316: IF exposed or concerned: Get emergency medical help immediately.*


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**3.      *Composition/information on ingredients***

<b>Mixture / solution</b>	<b>Solvent</b>	<b>Toxin</b>
<i>Substance Name:</i>	<i>Methanol</i>	<i>Microcystin LR</i>
<i>Concentration</i>	<i>&lt;100%</i>	<i>10 ppm</i>
<i>CAS Registry#:</i>	<i>67-56-1</i>	<i>101043-37-2</i>
<i>Molecular Formula</i>	<i>CH<sub>3</sub>OH</i>	<i>Negligible, no report needed</i>
<i>Molecular Weight</i>	<i>41.05</i>	<i>Negligible, no report needed</i>
<i>Classification</i>	<i>Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370 Concentration limits: &gt;= 10 %: STOT SE 1, H370; 3 - &lt; 10 %: STOT SE 2, H371;</i>	<i>Negligible, no report needed</i>
	<i>REACH:Registered</i>	<i>Negligible, no report needed</i>

**4.      *First Aid Measures***
**4.1.      *Description of First Aid Measures***

<i>General advice:</i>	<i>First aiders need to protect themselves. Consult a physician Mention methanol exposure. Show this safety data sheet to the doctor in attendance.</i>
<i>Inhalation:</i>	<i>If inhaled, move person into fresh air. If not breathing, give artificial respiration; if necessary also oxygen.. Immediately call in physician, mention methanol.inhalation.</i>
<i>Skin Contact:</i>	<i>Skin Contact: In case of contact, immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Immediately call a physician. To prevent cross-contamination, properly dispose of contaminated clothing and shoes with minimal handling. Avoid contact</i>
<i>Eye(s) contact:</i>	<i>Flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call in an ophthalmologist; mention methanol in eyes. If symptoms persist, call a physician.</i>
<i>Ingestion:</i>	<i>Ingestion: If swallowed, After swallowing: fresh air. Make victim drink ethanol (e.g. 1 drinking glass of a 40% alcoholic beverage). Call a doctor immediately (mention methanol ingestion). Only in exceptional cases, if no medical care is available within one hour, induce vomiting (only in fully conscious persons) and make victim drink ethanol again (approx. 0.3 ml of a 40% alcoholic beverage/kg body weight/hour).</i>

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

<i>General symptoms</i>	<i>The onset of symptoms is generally delayed pending conversion to cyanide. Nausea, Vomiting, Diarrhoea, Headache, Dizziness, Rash, Cyanosis, excitement, depression, Drowsiness, impaired judgment, Lack of coordination, stupor, death</i>
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## 5. Fire-fighting measures

### 5.1. Extinguishing media

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

### 5.2. Other information

Hazardous combustion products	Carbon oxides, Nitrogen oxides (NO <sub>x</sub> )
Advice for firefighters	Wear self-contained breathing apparatus for fire fighting if necessary. Wear protective suit.

## 6. Accidental release measures.

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

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

Environmental precautions	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

Methods for containment:	Prevent further leakage or spillage if safe to do so. Cover the powder spill with a plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.
Methods for cleaning up:	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 the powder spill with a 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.

Advice on safe handling:	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

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

## 8. Exposure Controls/Personal Protection

### 8.1. Control parameters

Control parameters	Components with workplace control parameters
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## 8.2. *Exposure controls*

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

*[PPE=Personal Protection Equipment]*

<i>PPE: Respiratory protection</i>	<i>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).</i>
<i>PPE: Hand Protection:</i>	<i>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</i>
<i>PPE: Eye Protection:</i>	<i>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)</i>
<i>PPE: Skin and Body Protection:</i>	<i>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.</i>

## 9. *Physical and chemical properties*

### 9.1. *Physical/chemical properties*

<i>Physical State at room temperature</i>	<i>Clear liquid</i>
	<i>Faintly sweet pungent odor resembling Ethanol</i>
<i>Color</i>	<i>Colorless</i>
<i>No further safety relevant data are available</i>	

## 10. *Stability and reactivity*

<i>Reactivity:</i>	<i>No information available.</i>
<i>Chemical stability:</i>	<i>Stable under normal conditions.</i>
<i>Conditions to avoid</i>	<i>Heat, flames and sparks. Sunlight.</i>
<i>Incompatible materials</i>	<i>Strong reducers and oxidizers</i>
<i>Possibility of Hazardous Reactions</i>	<i>None under normal processing</i>
<i>Hazardous combustion products</i>	<i>See section 5</i>


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## 11. Toxicological information

### 11.1. Information on toxicological effects

#### 11.1.1. Acute Toxicity

Acute toxicity:	Oral, rat; LD50 = 6.5 gram/kg Inhalation, LC50 = Rat - 4 h – 85 mg/liter
Skin corrosion/irritation:	LD50 Dermal - Rabbit - 1gram/kg
Serious eye damage/eye irritation:	Positive

#### 11.1.2. Chronic toxicity

Chronic toxicity	No data available
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#### 11.1.3. CRM (Carcinogene, Mutagene, Reproductive hazards)

Germ cell mutagenicity:	Negative.
Carcinogenicity:	Not classifiable as a human carcinogen There is an absence of human evidence and the animal evidence is equivocal evidence of carcinogenicity in animal studies.
Reproductive toxicity	No data available

## 11.2. Additional information

General symptoms	Acute methanol poisoning in humans is characterized by an asymptomatic period of 12h to 24h followed by formic acidemia, ocular toxicity, coma, and in extreme cases death. Visual disturbances develop between 18h to 48h after ingestion and range from mild photophobia and blurred vision to markedly reduced visual acuity and complete blindness. ( <a href="http://www.t3db.ca/toxins/T3D0771">http://www.t3db.ca/toxins/T3D0771</a> )
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## 12. Ecological Information

Eco-Toxicity	No data available
Other adverse effects	No data available

## 13. Disposal Considerations

### 13.1. Waste treatment methods

Waste Disposal	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	ADR/RID	IATA	IMDG
UN Number & UN proper shipping name	UN 1230 Methanol ( <i>Solution of Microcystin LR in Methanol</i> )			
Transport Hazard Class & Packing Group	Class 3 (flammable) pg II			
De Minimis exemption	When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore, the package does not have to be labeled as Dangerous Goods/Excepted Quantity.			


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## 15. Regulatory information

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

EU ECHA Status

**(Product: Solution of Microcystin LR in Methanol )** This product is **NOT REGISTERED** with the EU ECHA as of 07.2024  
**REACH: Neither Registered nor PreRegistered**  
**ANNEX III: Not Listed**

**(Main ingredient: Methanol) is listed on EU ECHA under number 200-659-6; listed under Seveso III**

## 16. Other information

### 16.1. Department issuing this SDS.

Quality systems and regulatory affairs

### 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:

A risk assessment should be performed by the employer/user prior to the use of this product.

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. No-Copyright statement

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### 16.5. Abbreviations and acronyms:

Acute Tox.:	Acute toxicity
CAS:	Chemical Abstracts Service
CNS	Central Nervous System
DOT:	US Department of Transportation
EINECS:	European Inventory of Existing Commercial Chemical Substances
Eye Dam.:	Serious eye damage/eye irritation
HSDB	Hazardous Substances Data Bank
HMIS:	Hazardous Materials Identification System (USA)
IATA:	International Air Transport Association
IMDG:	International Maritime Code for Dangerous Goods
LC50:	Lethal concentration, Median
LD50:	Lethal dose median
LD50:	Lethal dose, Median

