


 Safety Data Sheet: *Solution of [D-Asp3]Microcystin LR in Methanol*


1. Identification of the solution and the Manufacturer

1.1. Product identifiers

Product name	Solution of [D-Asp3]Microcystin LR in Methanol		
Product Code	SSDMCLR	Version Date	23 July, 2024
	Ingredient name	Ingredient CAS RN	Ingredient concentration
Toxin	[D-Asp3]Microcystin LR	120011-66-7	10 ppm
Solvent	Methanol	67-56-1	<100%

1.2. Intended uses of the solution and uses advised against

1.2.1. Intended use:	1.2.2. Uses advised against:
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: Fermentek@Fermentek.com Safety@Fermentek.com Website: Fermentek.com

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

1.3.2. Emergency Telephone number
<i>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</i>

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.


Safety Data Sheet: *Solution of [D-Asp3]Microcystin LR in Methanol*

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

2.2. GHS Label elements, including precautionary statements.

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

2.2.2. Hazard Statements

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

2.2.3. GHS Precautionary Statements

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

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.


Safety Data Sheet: *Solution of [D-Asp3]Microcystin LR in Methanol*
3. Composition/information on ingredients

Mixture / solution	Solvent	Toxin
Substance Name:	Methanol	[D-Asp3]Microcystin LR
Concentration	<100%	10 ppm
CAS Registry#:	67-56-1	120011-66-7
Molecular Formula	CH ₃ OH	Negligible, no report needed
Molecular Weight	41.05	Negligible, no report needed
Classification	Flam. Liq. 2; Acute Tox. 3; STOT SE 1; H225, H301, H331, H311, H370 Concentration limits: >= 10 %: STOT SE 1, H370; 3 - < 10 %: STOT SE 2, H371;	Negligible, no report needed
	REACH:Registered	Negligible, no report needed

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

General advice:	First aiders need to protect themselves. Consult a physician Mention methanol exposure. Show this safety data sheet to the doctor in attendance.
Inhalation:	If inhaled, move person into fresh air. If not breathing, give artificial respiration; if necessary also oxygen.. Immediately call in physician, mention methanol.inhalation.
Skin Contact:	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
Eye(s) contact:	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.
Ingestion:	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).

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

General symptoms	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
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5. *Fire-fighting measures*
5.1. *Extinguishing media*

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

5.2. *Other information*

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

6. *Accidental release measures.*
6.1. *Personal precautions, protective equipment, and emergency procedures.*

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

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

<i>Methods for containment:</i>	<i>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.</i>
<i>Methods for cleaning up:</i>	<i>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.</i>

7. *Handling and storage.*
7.1. *Precautions for safe handling.*

<i>Advice on safe handling:</i>	<i>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.</i>
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7.2. *Conditions for safe storage, including any incompatibilities*

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

8. *Exposure Controls/Personal Protection*
8.1. *Control parameters*

<i>Control parameters</i>	<i>Components with workplace control parameters</i>
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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*

<i>[PPE=Personal Protection Equipment]</i>	
<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>Odor</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. (http://www.t3db.ca/toxins/T3D0771)
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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 [D-Asp3]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.			



15. Regulatory information

15.1. Safety, health, and environmental regulations/legislation

EU ECHA Status

(Product: Solution of [D-Asp3]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

