


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

Product name	<i>Microcystin WR</i>	Formula	<i>C₄₉H₇₅N₁₃O₁₂</i>
Product Code	<i>MCWR</i>	RTECS	<i>N.A.</i>
CAS #	<i>138234-58-9</i>	Molecular weight	<i>1037.6</i>
EC Number #	<i>Not listed</i>	Substance? Mixture?	<i>Substance</i>
Synonyms	<i>Cyanoginosin-RR; 3-L-Arginine 5-L-Arginine-microcystin LA</i>		
Source	<i>Microcystis sp.</i>	Date of version	<i>2 February, 2021</i>

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

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

1.3. Details of the supplier of the safety data sheet
1.4. Emergency Telephone number

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

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 2	H300	Fatal if swallowed
Acute Toxicity, Dermal contact	Category 2	H310	Fatal if on skin
Acute Toxicity, Inhalation	Category 2	H330	Fatal if inhaled
Skin Irritation	Category 2	H330	Causes skin irritation
Skin Sens	Category 1	H317	May cause an allergic skin reaction
Eye irritation	Category 2	H319	Causes serious eye irritation
STOT SE	Category 3	H335	May causes respiratory irritation

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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.
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation

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.
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302+350	IF ON SKIN, gently wash with plenty of soap and water.
P270	Do not eat, drink, or smoke when using this product.
P308 + P310	IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.
P260	Do not breathe {dust/fume/gas/mist/vapors/spray}
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash {hands} thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear {protective gloves/protective clothing/eye protection/face protection}.
P284	Wear respiratory protection

3. Composition/information on ingredients

Substance	
Substance name:	Microcystin_WR
Concentration	<=100%
CAS Registry#:	138234-58-9
EC#:	Not listed
Molecular Formula:	C ₄₉ H ₇₅ N ₁₃ O ₁₂
Molecular Weight:	1037.6
Classification	Acute Tox.(i) 1; H330 Acute Tox.(O) 2: H300 Acute Tox.(D) 2: H310 Skin Corr. 2: H315 Eye Damage 2: H319 STOT (SE) 3: H335 H336 Skin Sens. 1: H317
Mixture?	Substance.

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4. First Aid Measures

4.1. Description of First Aid Measures

General advice:	Call a physician. Show this safety data sheet to the doctor in attendance.
Inhalation:	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Get immediate medical attention.
Skin Contact:	Take off immediately all contaminated clothing. Wash skin with soap and plenty of water for 20 minutes at least. Get medical attention if symptoms occur. Wash clothing before reuse.
Eye contact:	Remove contact lenses. Hold eyelids apart and rinse out with plenty of water plenty of water for 20 minutes at least. Have eyes examined and tested by a doctor.
Ingestion:	Wash out mouth with water provided person is conscious. 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 fully awake and conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible.

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

General symptoms	Refer to section 13
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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

Suitable extinguishing media	Use alcohol-resistant foam, dry chemical, or carbon dioxide.
Unsuitable extinguishing media	A solid water stream may be inefficient.

5.2. Other information

Hazardous combustion products	Carbon oxides, Nitrogen oxides
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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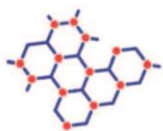
6.2. Environmental precautions

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 powder spill with 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 (Such as 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.

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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

Appropriate engineering controls	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]

PPE: Respiratory protection	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).
PPE: Hand Protection:	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
PPE: Eye Protection:	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)
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	Green
No further safety relevant data are available	

10. Stability and reactivity

Reactivity:	No information available.
Chemical stability:	No information available.

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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:	Oral Mouse : No quantitative data available
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:	No data available. Not 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, 2nd 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	Error! Reference source not found.

12. Ecological Information

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

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_WR)	Toxins, Extracted from Living Sources, Solid, N.O.S. (Microcystin_WR)	Toxins, Extracted from Living Sources, Solid, N.O.S. (Microcystin_WR)	Toxins, Extracted from Living Sources, Solid, N.O.S. (Microcystin_WR)
Transport Hazard Class & Packing Group	6.1 Pg II	6.1 Pg II	6.1 Pg II	6.1 Pg II

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14.2. Additional information

	Not marine pollutant
Excepted 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 Not listed ANNEX III: Not Listed 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:

✓ Tuesday, 2 February, 2021 11:02

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.
- ✓ 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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