

SAFETY DATA SHEET

1. Product and Company Information

Product name	Analytical standard Cyindrospermopsin (from <i>Cyindrospermopsis</i>)
Synonym	CYN
Chemical formula	C ₁₅ H ₂₁ N ₅ O ₇ S (Cyindrospermopsin)
Supplier	Cyano Biotech GmbH, Magnusstrasse 11, D-12489 Berlin, Germany Phone: +49 30 6392 4481 Fax: +49 30 6392 4488 E-mail: info@cyano-biotech.com

2. Hazards Identification

Product Cyindrospermopsin is a toxic compound (LD₅₀ see below). However, due to the product being a very diluted aqueous solution of cyindrospermopsin, the product is not classified as toxic. Nonetheless, it should be handled with care.



Hazard statements:

H302	Harmful if swallowed
H312	Harmful in contact with skin
H317	May cause an allergic skin reaction
H332	Harmful if inhaled
H335	May cause respiratory irritation
H370	Causes damage to liver

Precautionary statements:

P101	If medical advice is needed, have product container or label at hand
P102	Keep out of reach of children
P261	Avoid breathing dust/vapours
P262	Do not get in eyes, on skin, or on clothing
P280	Wear protective gloves/protective clothing/eye protection
P314	Get medical advice if you feel unwell

3. Composition / Information on Ingredients

Product	Solution of 10 µg/ml Cyindrospermopsin in filtered, deionized Water
Ingredient name	Cyindrospermopsin (approx. 0.001 %)
CAS Number	143545-90-8
EC Number	None
Formula	C ₁₅ H ₂₁ N ₅ O ₇ S
Molecular weight	415.422 g/mol
Ingredient name	Water (approx. 99,999 %)
CAS Number	7732-15-5
EC Number	231-791-2

4. First Aid Measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
Inhalation	If inhaled, move person into fresh air. If breathing is difficult, give oxygen and call a physician.
Ingestion	Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Call for medical help immediately.
Skin Contact	In case of skin contact, immediately wash skin with water and soap for 15 minutes and rinse thoroughly while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Eye Contact	In case of contact, immediately rinse opened eye under running water for 15 minutes. Check for and remove any contact lenses. If symptoms persist, get medical attention.

5. Fire-Fighting Measures

Extinguishing media	Suitable: Carbon dioxide, dry chemicals, powder or water spray. Fight larger fires with water spray or foam.
Special risks	Specific Hazard(s): No further relevant information available. Explosion Data: Not applicable.
Special protective equipment for fire fighters	In case of fire, watch out for the formation of toxic smoke and gases. Wear self-contained breathing apparatus and protective clothing if necessary to prevent contact with skin and eyes.

6. Accidental Release Measures

Personal precautions	Evacuate area. Wear suitable protection clothes and chemical safety goggles. Avoid breathing mist.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods for cleaning up	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite). Place in covered containers. Wash spill site after material pickup is complete.

7. Handling and Storage

Precautions for safe handling	Thorough dedusting. Open and handle receptacle with care. Do not breathe mist. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched. Wash thoroughly after handling.
Storage	Store in cool place not above -20°C (-4°F). Keep container tightly sealed in a dry place.

8. Exposure Controls/Personal Protection

Skin and body protection	Choose body protection according to the amount and concentration of the dangerous substance at the work place. Use protective coat or clothing.
Hand protection	Handle with protective gloves. The glove material has to be impermeable and resistant to the product. Due to missing tests no recommendation to the glove material can be given for the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Eye protection	Use tightly sealed chemical safety goggles.

9. Physical and Chemical Properties

Physical state	liquid at room temperature
Color	clear, colorless liquid with no odor
pH	7
Melting point	0 °C
Boiling point	100 °C
Flash point	not applicable
Ignition temperature	not applicable
Lower explosion limit	not determined
Upper explosion limit	not determined
Vapour pressure	not determined
Density	not determined
Water solubility	miscible with water, methanol, and DMSO
Partition coefficient:	not applicable

10. Stability and Reactivity

Stability	Stable for two years under recommended storage conditions.
Materials to avoid	Strong oxidizing agents. Cylindrospermopsin is light sensitive.
Hazardous Decomposition Products	No hazardous decomposition products are known.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

The health hazards given for cylindrospermopsin in this data sheet apply to concentrated solutions. The hazards of dilute solutions may be reduced. The degree of hazard for reduced concentrations is currently not available in the literature.

Acute toxicity	(pure cylindrospermopsin) LD ₅₀ Intraperitoneal – mouse: 2.1 mg/kg LD ₅₀ Oral – mouse: 4.4-6.9 mg/kg
Primary irritant effect	On the skin: Irritant to skin and mucous membranes On the eye: Irritating effect Sensitization: Sensitization possible through skin contact Additional toxicological information: Danger through skin adsorption Sensitization May cause sensitization by skin contact
Chronic exposure	Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or myna human organs.
Route of exposure	Skin Contact: May cause skin irritation. Skin Absorption: May be harmful if absorbed through the skin. Eye Contact: May cause eye irritation. Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. Ingestion: May be harmful if swallowed.
Target organ information	Liver

12. Ecological Information

Ecotoxicological effects	No further relevant information available
---------------------------------	---

13. Disposal Considerations

Waste treatment methods	Recommendation: Must not be disposed together with household garbage. Do not allow product to reach sewage system. Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.
Contaminated packaging	Dispose of as unused product

14. Transport Information

RID/ADR	Non-hazardous for road transport
IMDG	Non-hazardous for road transport
IATA	Non-hazardous for road transport

15. Regulatory Information

Chemical safety assessment	A chemical Safety Assessment has not been carried out.
-----------------------------------	--

16. Other Information

Warranty	The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Cyano Biotech GmbH shall not be held liable for any damage resulting from handling or from contact with the above product.
Disclaimer	For R&D use only. Not for drug, household or other uses. Use of the product must be supervised by technically qualified individuals with experience in the handling of potentially hazardous chemicals. The hazardous compound is present in such low quantities that exact determination of the degree of hazard is not warranted and would be misleading.
Last revision	15 th of May 2012