

1. Product and Company Identification

Product Code: 10007867

Product Name: Cylindrospermopsin

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Web site address: www.caymanchem.com

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300
CHEMTREC Outside USA and Canada: +1 (703)527-3887

Information: Cayman Chemical Company +1 (734)971-3335

Intended Use: For research use only, not for human or veterinary use.

Synonyms: 6-[(R)-hydroxy[(2aS,3R,4S,5aS,7R)-2,2a,3,4,5,5a,6,7-octahydro-3-methyl-4-(sulfooxy)-1H-1,8,8b-triazacenaphthylen-7-yl]methyl]-2,4(1H,3H)-pyrimidinedione;

2. Hazards Identification

Acute Toxicity: Oral, Category 2
Germ Cell Mutagenicity, Category 2
Specific Target Organ Toxicity (single exposure), Category 1



GHS Signal Word: **Danger**

GHS Hazard Phrases: H300 + H310: Fatal if swallowed or in contact with skin.
H315: Cause skin irritation.
H317: May cause an allergic skin reaction.
H319: Cause serious eye irritation.
H330: Fatal if inhaled.
H335: May cause respiratory irritation.

GHS Precaution Phrases: P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe {dust/fume/gas/mist/vapors/spray}.
P264: Wash {hands} thoroughly after handling.
P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

GHS Response Phrases: P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P307+311: IF exposed: Call a POISON CENTER or doctor/physician.
P308+313: IF exposed or concerned: Get medical attention/advice.
P321: Specific treatment {see ... on this label}.
P330: Rinse mouth.

GHS Storage and Disposal Phrases: Please refer to Section 7 for Storage and Section 13 for Disposal information.

Potential Health Effects (Acute and Chronic): Causes damage to organs.
Fatal if swallowed.
Material may be irritating to the mucous membranes and upper respiratory tract.
May be harmful by inhalation or skin absorption.
May cause eye, skin, or respiratory system irritation.
Suspected of causing genetic defects.
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

3. Composition/Information on Ingredients

| CAS # | Hazardous Components (Chemical Name) | Concentration | RTECS # |
|-------------|--|---------------|-----------|
| 143545-90-8 | 2,4(1H,3H)-Pyrimidinedione, 6-(hydroxy(2,2a,3,4,5,5a,6,7-octahydro-3-methyl-4-(sulfooxy)-1H-1,8,8b-triazaacenaphthylen-7-yl)me | 100.0 % | UV9104310 |

4. First Aid Measures

Emergency and First Aid

Procedures:

- In Case of Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- In Case of Skin Contact:** Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
- In Case of Eye Contact:** Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.
- In Case of Ingestion:** Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

5. Fire Fighting Measures

- Flash Pt:** No data.
- Explosive Limits:** LEL: No data. UEL: No data.
- Autoignition Pt:** No data.
- Suitable Extinguishing Media:** Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
- Unsuitable Extinguishing Media:** A solid water stream may be inefficient.
- Fire Fighting Instructions:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
- Flammable Properties and Hazards:** No data available.

6. Accidental Release Measures

- Protective Precautions, Protective Equipment and Emergency Procedures:** Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).
- Environmental Precautions:** Take steps to avoid release into the environment, if safe to do so.
- Steps To Be Taken In Case Material Is Released Or Spilled:** Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

7. Handling and Storage

- Precautions To Be Taken in Handling:** Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
- Precautions To Be Taken in Storing:** Keep container tightly closed. Store in accordance with information listed on the product insert.

8. Exposure Controls/Personal Protection

| CAS # | Partial Chemical Name | OSHA TWA | ACGIH TWA | Other Limits |
|-------------|--|----------|-----------|--------------|
| 143545-90-8 | 2,4(1H,3H)-Pyrimidinedione, 6-(hydroxy(2,2a,3,4,5,5a,6,7-octahydro-3-methyl-4-(sulfooxy)-1H-1,8,8b-triazaacenaphthylen-7-yl)me | No data. | No data. | No data. |

Respiratory Equipment (Specify Type): NIOSH approved respirator, as conditions warrant.

Eye Protection: Safety glasses

Protective Gloves: Compatible chemical-resistant gloves

Other Protective Clothing: Lab coat

Engineering Controls (Ventilation etc.): Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Work/Hygienic/Maintenance Practices: Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower. Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States: [] Gas [] Liquid [X] Solid

Appearance and Odor: A white powder

Melting Point: No data.

Boiling Point: No data.

Flash Pt: No data.

Evaporation Rate: No data.

Flammability (solid, gas): No data available.

Explosive Limits: LEL: No data. UEL: No data.

Vapor Pressure (vs. Air or mm Hg): No data.

Vapor Density (vs. Air = 1): No data.

Specific Gravity (Water = 1): No data.

Solubility in Water: No data.

Solubility Notes: Soluble in: ethanol, methanol, & water;

Percent Volatile: No data.

Autoignition Pt: No data.

Molecular Formula & Weight: C₁₅H₂₁N₅O₇S 415.4

10. Stability and Reactivity

Stability: Unstable [] Stable [X]

Conditions To Avoid: No data available.

Incompatibility - Materials To Avoid: No data available.

Hazardous Decomposition or Byproducts: No data available.

Polymerization: Will occur [] Will not occur [X]

Stability Note(s): Stable if stored in accordance with information listed on the product insert.

11. Toxicological Information

Toxicological Information: The toxicological effects of this product have not been thoroughly studied.
 Cylindrospermopsin - Toxicity Data: Intraperitoneal LD50 (mouse): 2100 ug/kg;

Chronic Toxicological Effects: Cylindrospermopsin - Investigated as a reproductive effector.
 Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here.
 See actual entry in RTECS for complete information.
 Cylindrospermopsin RTECS Number: UV9104310

| CAS # | Hazardous Components (Chemical Name) | NTP | IARC | ACGIH | OSHA |
|-------------|--|------|------|-------|------|
| 143545-90-8 | 2,4(1H,3H)-Pyrimidinedione, 6-(hydroxy(2,2a,3,4,5,5a,6,7-octahydro-3-methyl-4-(su lfooxy)- 1H-1,8,8b-triazaacenaphthylen-7-yl)me | n.a. | n.a. | n.a. | n.a. |

12. Ecological Information

General Ecological Information: Avoid release into the environment.
 Runoff from fire control or dilution water may cause pollution.

13. Disposal Considerations

Waste Disposal Method: Dispose in accordance with local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Toxic solid, organic, n.o.s. (Cylindrospermopsin)
DOT Hazard Class: 6.1 POISON
UN/NA Number: 2811 **Packing Group:** II



MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: TOXIC SOLID, ORGANIC, N.O.S. (Cylindrospermopsin)
UN Number: 2811 **Packing Group:** II
Hazard Class: 6.1 - POISON
IMDG EMS Number: F-A, S-A **IMDG MFAG Number:**
IMDG EMS Page: **Marine Pollutant:** No

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Toxic solid, organic, n.o.s. (Cylindrospermopsin)

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

| CAS # | Hazardous Components (Chemical Name) | S. 302 (EHS) | S. 304 RQ | S. 313 (TRI) |
|-------------|--|--------------|-----------|--------------|
| 143545-90-8 | 2,4(1H,3H)-Pyrimidinedione, 6-(hydroxy(2,2a,3,4,5,5a,6,7-octahydro-3-methyl- 4-(su lfooxy)- 1H-1,8,8b-triazaacenaphthylen-7-yl)me | No | No | No |

| CAS # | Hazardous Components (Chemical Name) | Other US EPA or State Lists |
|-------------|---|---|
| 143545-90-8 | 2,4(1H,3H)-Pyrimidinedione, 6-(hydroxy(2,2a,3,4,5,5a,6,7-octahydro-3-methyl- 4-(su lfooxy)- | CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No |



SAFETY DATA SHEET

Cylindrospermopsin

Revision: 11/18/2015
Supersedes Revision: 11/17/2015

1H-1,8,8b-triazaacenaphthylen-7-yl)me

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

16. Other Information

Revision Date: 11/18/2015

Additional Information About This Product: No data available.

Company Policy or Disclaimer: DISCLAIMER: This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.