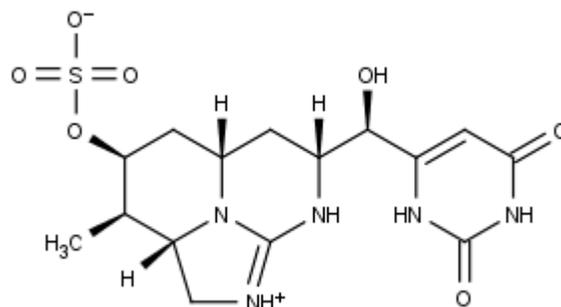


## Cylindrospermopsin

### Product Specification

<b>Formula:</b>	C <sub>15</sub> H <sub>21</sub> N <sub>5</sub> O <sub>7</sub> S
<b>MW:</b>	415.4 g/mol
<b>CAS:</b>	143545-90-8
<b>Purity:</b>	≥95% (HPLC)
<b>Identity:</b>	Verified with LC/MS/MS
<b>Appearance:</b>	White powder in amber vial
<b>Hazard:</b>	Highly irritant, highly toxic
<b>Stability:</b>	≥ 1 year at -20°C



### Handling

Cylindrospermopsin is provided as a lyophilized powder in an amber vial, at the specified mass purchased and shown on the vial. It should be easily dissolved in water or methanol or ethanol, with repeated rinsing of the sides of the vial with a pipet tip to fully dissolve the product. Once dissolved in one of these recommended solvents, the product is stable for ≥1 year when stored at -20°C. For biological applications, dissolved toxin should be diluted in an appropriate buffer for the application, reducing the organic solvent content to a level that it will not impact the application. For HPLC or other chemical applications, it should be diluted in an appropriate solvent or mobile phase.

### Background

Cylindrospermopsin is a zwitterionic cyanotoxin produced by *Cylindrospermopsis raciborskii* as well as other cyanobacteria. It can be found in lakes, reservoirs, rivers, ponds and dams, mostly in tropical or subtropical environments (Pearson *et al.* 2010). Within the family of cylindrospermopsin there are variants including 7-deoxy-CYN and 7-epi-CYN which both still retain the toxic effects of the molecule (Ohtani, *et al.*, 1992). It has been observed to cause general cytotoxic, hepatotoxic and neurotoxic effects (Ohtani, *et al.*, 1992). Injection of pure cylindrospermopsin in mice leads to delayed death with LD50 value of 2100 µg/kg bw after 24 hours, ranging to 200 µg/kg bw after 5-6 days (Chorus and Bartram, 1999).

Pearson L, Mihali T, Moffitt M, Kellmann R & Neilan B (2010) On the chemistry, toxicology and genetics of the cyanobacterial toxins, microcystin, nodularin, saxitoxin and cylindrospermopsin. *Mar Drugs* 8: 1650–1680.

Ohtani I, Moore RE & Runnegar MTC (1992) Cylindrospermopsin – a potent hepatotoxin from the bluegreen-alga *Cylindrospermopsis raciborskii*. *J Am Chem Soc* 114: 7941–7942.

Chorus I & Bartram J (1999) *Toxic Cyanobacteria in Water, A Guide to Their Public Health Consequences, Monitoring and Management*, Published by WHO, Spon Press, London.