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**Table A.I-5. Ratios of Swimming Water Concentration over Swimmer Dose (mg/L)/(mg/kg)**

Chemical	Ingestion	Inhalation	Dermal	Total <sup>a</sup>
Microcystins	1.21 x 10 <sup>2</sup>	None	None	1.21 x 10 <sup>2</sup>
Cylindrospermopsin	1.21 x 10 <sup>2</sup>	None	None	1.21 x 10 <sup>2</sup>
Anatoxin-a	1.21 x 10 <sup>2</sup>	1.69 x 10 <sup>5</sup>	5.38 x 10 <sup>1</sup>	3.72 x 10 <sup>1</sup>

$${}^a\text{Total} = \frac{1}{\text{Ingestion} + \text{Inhalation} + \text{Dermal}} \quad \text{eq. A.I-5}$$

### Health-Based Water Concentrations

The Concentration/Dose Ratios for each of the chemicals were multiplied by the corresponding RfD (in Section III) to estimate an action level, a water concentration that would theoretically expose the child swimmer to the dose identified as the maximum dose to which a person may be exposed with little to no risk of harm. The action levels are shown as micrograms (µg) per liter. A microgram is 1/1000 (0.001) of a milligram.

**Table A.I-6. Cyanotoxin Action Levels for the Swimming Scenario**

Chemical	RfD <sup>a</sup>	Concentration/Dose Ratio <sup>b</sup>	Action Level <sup>c</sup>
Units	mg/kg-d	(mg/l) per (mg/kg-d)	µg/L
Microcystins	6.4 x 10 <sup>-6</sup>	1.21 x 10 <sup>2</sup>	0.8
Cylindrospermopsin	3.3 x 10 <sup>-5</sup>	1.21 x 10 <sup>2</sup>	4
Anatoxin-a	2.5 x 10 <sup>-3</sup>	3.72 x 10 <sup>1</sup>	90

<sup>a</sup> The Reference Dose is the maximum dose to which a person should be exposed. The derivation is shown in the body of this document.

<sup>b</sup> These ratios are taken from the table above

<sup>c</sup> The action level is the product of the RfD and the Concentration Dose Ratio

















































































































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