

## Cyanotoxins in Water

### Sample Collection Quick Reference Guide for ELISA Plate Assays

Analyte	Collection/Storage Container Use with PTFE lined screw caps	Sample Preservation**	Storage & Handling
<b>Anabaenopeptins</b>	<ul style="list-style-type: none"> <li>Glass – clear or amber</li> <li>Polyethylene terephthalate glycol (PETG)</li> </ul>	<b>Treated water:</b> <i>Immediately upon collection</i> , quench chlorine with ascorbic acid or sodium thiosulfate* (up to 1 mg/mL; recommended concentration 0.1 mg/mL)	Analyze immediately, refrigerate (4 °C) for up to 5 days, or freeze (-20 °C) Ship overnight on ice
<b>Anatoxin-a</b>	<ul style="list-style-type: none"> <li>Glass – amber only, do <b>NOT</b> use clear glass</li> </ul> <p><b>Anatoxin-a is light sensitive – avoid exposure to light, as this will degrade the toxin and produce inaccurate results</b></p>	<b>Treated water:</b> <i>Immediately upon collection</i> , quench chlorine with ascorbic acid* (up to 1 mg/mL; recommended concentration 0.1 mg/mL). <b>Do NOT use sodium thiosulfate, as it will degrade the toxin and produce inaccurate results</b> <b>Freshwater (treated &amp; raw):</b> <i>Immediately upon collection</i> , preserve the sample by diluting 9 parts sample to 1 part 10x concentrated sample diluent. Adjust pH to between 5-7 using 1N NaOH or HCl within 24 hours of collection.‡ <b>Marine water:</b> Adjust pH to between 5-7 using 1N NaOH or HCl within 24 hours of collection.‡ <b>‡Avoid exposure to high pH conditions for more than 24 hours, as this will degrade the toxin and produce inaccurate results.</b>	Analyze immediately, refrigerate (4 °C) for up to 28 days, or freeze (-20 °C) if greater than 28 days Ship overnight on ice
<b>BMAA</b>	<ul style="list-style-type: none"> <li>Glass – clear only, do <b>NOT</b> use amber glass</li> </ul> <p><b>Toxin will adsorb to amber glass, producing inaccurate results</b></p> <ul style="list-style-type: none"> <li>Polyethylene terephthalate glycol (PETG)</li> <li>High density polyethylene (HDPE)</li> <li>Polycarbonate (PC)</li> <li>Polypropylene (PP)</li> <li>Polystyrene (PS)</li> </ul>	<b>All samples:</b> Analyze samples <i>immediately upon collection</i> or freeze (-20 °C) to avoid degradation of the toxin, which will produce inaccurate results	Analyze or freeze (-20 °C) immediately upon collection Ship overnight on ice
<b>Cylindrospermopsin</b>	<ul style="list-style-type: none"> <li>Glass – clear or amber</li> <li>Polyethylene terephthalate glycol (PETG)</li> <li>High density polyethylene (HDPE)</li> <li>Polycarbonate (PC)</li> <li>Polypropylene (PP)</li> <li>Polystyrene (PS)</li> </ul>	<b>Treated water:</b> <i>Immediately upon collection</i> , quench chlorine with ascorbic acid or sodium thiosulfate* (up to 1 mg/mL; recommended concentration 0.1 mg/mL)	Analyze immediately, refrigerate (4 °C) for up to 5 days, or freeze (-20 °C) Ship overnight on ice
<b>Microcystins/ Nodularins</b>	<ul style="list-style-type: none"> <li>Glass – clear or amber</li> <li>Polyethylene terephthalate glycol (PETG)</li> </ul> <p><b>Avoid plastic containers other than PETG, as toxin will adsorb to container surfaces, producing inaccurate results</b></p>	<b>Treated water:</b> <i>Immediately upon collection</i> , quench chlorine with sodium thiosulfate* (up to 1 mg/mL; recommended concentration 0.1 mg/mL). <b>Do NOT use ascorbic acid, as this may degrade the toxin and produce inaccurate results</b>	Analyze immediately, refrigerate (4 °C) for up to 5 days, or freeze (-20 °C) Ship overnight on ice
<b>Saxitoxins</b>	<ul style="list-style-type: none"> <li>Glass – clear or amber</li> <li>Polyethylene terephthalate glycol (PETG)</li> <li>High density polyethylene (HDPE)</li> <li>Polycarbonate (PC)</li> <li>Polypropylene (PP)</li> <li>Polystyrene (PS)</li> </ul>	<b>Treated water:</b> <i>Immediately upon collection</i> , quench chlorine with ascorbic acid or sodium thiosulfate* (up to 1 mg/mL; recommended concentration 0.1 mg/mL) <b>Freshwater (treated &amp; raw):</b> <i>Immediately upon collection</i> , preserve the sample by diluting 9 parts sample to 1 part 10x concentrated sample diluent <b>Marine water:</b> None required	Analyze immediately, refrigerate (4 °C) for up to 5 days, or freeze (-20 °C) Ship overnight on ice

\*The use of solid quenching reagents is recommended. Note: EPA Method 546 prohibits the use of liquid reagent solutions for sample quenching.

\*\*Additional sample preparation such as cell lysis and filtration may be required prior to analysis depending on analytical objectives (e.g. “total” versus “free” toxin). Refer to specific kit user’s guide for additional information.

DISCLAIMER: Current recommendations by applicable regulatory agencies should always take precedence and should be followed in the event of a conflict.