

Technical Specification

Tests For: Cyanuric acid in swimming pool water

Test Range: 0–150 mg/L

Reagent Chemistry Used: Melamine (creates turbidity)

Basis of Test Method: Industry accepted method

Method Detection Limit*: 1.0 mg/L

Limit of Quantification**: 1.0 mg/L

*The Method Detection Limit (MDL) is defined as the minimum measured concentration of a substance that can be reported with 99% confidence to be different from the method blank results.ⁱ

**The Limit of Quantification (LOQ) is the smallest quantity that can be detected with reasonable certainty for a given analytical procedure.ⁱⁱ

Testing for Cyanuric Acid

Cyanuric acid is extensively used as a chlorine stabiliser in swimming pool water. Cyanuric acid itself may be added to the water when the pool is first filled or may be introduced gradually using chloroisocyanurate based chlorine donors. Swimming pool water treatment instructions generally recommend a cyanuric acid level within the range 30–200 mg/l. In some countries a lower maximum level is recommended. The Palintest Cyanuric Acid test provides a simple method of measuring cyanuric acid level over the range 0–200 mg/l.

Reagent Chemistry

The Palintest Cyanuric Acid test is based on a single tablet reagent containing melamine and a buffer. Cyanuric acid reacts with melamine in buffered solution to form an insoluble complex. At the cyanuric acid levels encountered in pool water, this is observed as turbidity in the test sample. The degree of turbidity is proportional to the cyanuric acid concentration and is measured using a Palintest Photometer.

Best Practice Advice for Testing

- The range of the test is 0 - 150 mg/l. However, when a test result of 100 mg/l or over is obtained, the following dilution technique is recommended to obtain a more precise result.
 - 1 Take a sample of pool water in a Palintest Dilution Tube, filling to the x10 mark.
 - 2 Make up to the 'Deionised Water' mark with deionised water, or

tap water, and mix.

- 3 Fill a round test tube with diluted sample to the 10 ml mark. Test as per the earlier test procedure.
- 4 Multiply the displayed result by 10 to obtain the cyanuric acid concentration.

ⁱ EPA, Definition and Procedure for the Determination of the Method Detection Limit, Revision 2, Dec 2016.

ⁱⁱ IUPAC. *Compendium of Chemical Terminology, 2nd ed. (the "Gold Book")*.