## Technical Specification

Tests For: High levels of Hydrogen Peroxide in water

Test Range: 0–100 mg/L

Reagent Chemistry Used: Catalysed iodide

Method Detection Limit*: 0.8 mg/L

Limit of Quantification**: 2.5 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 Hydrogen Peroxide

Hydrogen peroxide is used as a bleach and oxidising agent in a number of industrial processes. Applications include textile bleaching, commercial laundering and paper manufacturing. It is important in such processes to control the hydrogen peroxide level within the correct range to achieve the desired bleaching or oxidising effect without causing damage to the goods under treatment. Hydrogen Peroxide is also used in swimming pool water to control algae and improve clarity.

The Palintest Hydrogen Peroxide HR test provides a simple means of monitoring hydrogen peroxide levels in water over the range 0–100 mg/L.

## Reagent Chemistry

Hydrogen peroxide reacts with potassium iodide under acid conditions to release iodine which gives a yellow solution. A catalyst is used to speed up the rate of reaction. In the Palintest Hydrogen Peroxide HR test the reagents are provided in the form of two tablets. The test is simply carried out by adding one of each tablet to a sample of the water.

The intensity of the colour produced in the test is proportional to the hydrogen peroxide concentration and is measured using a Palintest Photometer.

## Interferences

The sample should be free of other oxidizing agents such as chlorine, bromine etc. as these react in a similar manner and will interfere with the test. It is unlikely that these oxidizing agents will be used in conjunction with hydrogen peroxide and, under normal circumstances, will not usually coexist in solution.

[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").*