

## Technical Specification

**Tests For:** High levels of chlorine in disinfecting and sterilising solutions

**Test Range:** 0–250 mg/L

**Reagent Chemistry Used:** Potassium Iodide (Iodometric)

**Basis of Test Method:** Standard Method 4500-Cl-B, US EPA Ref. 330.3, ISO7393

**Method Detection Limit\*:** 1.1 mg/L

**Limit of Quantification\*\*:** 3.6 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.<sup>i</sup>

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

## Testing for Chlorine

Chlorine and chlorine release compounds are widely used for disinfection or sterilisation of water distribution systems and pipe work, plant and equipment in food processing and pharmaceutical factories, and similar applications. The chlorine levels used in these applications are higher than those normally applied for the simple disinfection of water. Accurate measurement of the chlorine level is necessary to ensure it is sufficient for the intended use.

The Palintest Chlorine HR test provides a simple means of measuring the total chlorine over the range 0 - 250 mg/l.

## Reagent Chemistry

The Palintest Chlorine HR test is based on an iodine release method. Chlorine reacts with potassium iodide in acid solution to release iodine which is brown in colour. The reagents for the test are provided in the form of two tablets for maximum convenience and simplicity of use.

The intensity of the colour produced is proportional to the chlorine concentration and is measured using a Palintest Photometer.

## Best Practice Advice for Testing

- Ensure both tablets are entirely dissolved before measuring

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

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