



CHLORINE DIOXIDE - METHOD A

ACTIV-OX® Drop Test (Total Oxidant as ClO₂ - 0-3ppm)

Guidance on Activ-Ox Test Method Selection and control for Domestic Water Applications

Where water is used for drinking or cooking purposes the UK Drinking Water Inspectorate indicates that the Total Oxidant Level should not exceed 0.5mg/l at the point of use. This can be measured using drop test **Method A**.

The Health and Safety Commission document "Legionnaires' Disease, The Control of Legionella bacteria in water systems, Approved Code of Practice and Guidance (L8)" indicates that for Legionella control a Free Chlorine Dioxide Residual of at least 0.1mg/l should be maintained at the outlets. This can be measured using drop test **Method B**.

Therefore if using Activ-Ox for Legionella control in domestic water applications it is normal to analyse the water using both **Method A** and **Method B** and record the results as total oxidant and free chlorine dioxide respectively.

There is often a balancing act to be maintained between keeping within the total oxidant upper limit of 0.5mg/l and the free chlorine dioxide lower of 0.1mg/l. During the clean up phase on a system the free chlorine dioxide limit of 0.1mg/l may not be achievable at remote outlets without exceeding the 0.5mg/l at outlets close to the point of addition. Some engineering modifications e.g. flushing valves may be required to ensure adequate levels can be achieved at the remote outlets.

CHLORINE DIOXIDE - METHOD A

TOTAL OXIDANT TEST

Reagents and Equipment

Chlorine Dioxide Total Oxidant Reagent Pack (RGPK008)- includes:

ACTIV-OX® Titrant - **A016**

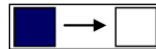
Potassium Iodide Tablets (0.3g) - **AT001**

ACTIV-OX® Acidifying Reagent - **A017**

ACTIV-OX® Indicator Powder - **A018**

Method

1. Take a 50ml sample & cool if necessary (see note below)
2. Add 1 Potassium Iodide Tablet swirl until dissolved.
3. Add 10 drops of ACTIV-OX® Acidifying Reagent.
4. Add small amount of ACTIV-OX® Indicator Powder. If oxidant is present a blue/black colour will be given.
5. Moisten and wipe the tip of the ACTIV-OX® Titrant dropper. Ensure it is clean then add 1 drop at a time to the sample (counting the drops) and swirl until the blue colour is discharged to give a colourless solution.
6. Total oxidant = No of drops x 0.05 ppm as ClO₂



Example

No of drops of ACTIV-OX® Titrant = 7

Total oxidant = 0.35 ppm as ClO₂

Note - High temperatures interfere with this test so hot water samples should be cooled immediately by collecting the sample and the running cold water over the outside of the conical flask / sample bottle to cool it down.