



**Method Summary**

**Determination of Chemical Oxygen Demand**

**Scope and Range**

The method as described oxidizes almost all types of organic compounds and inorganic reducing agents. Method is accredited to ISO 17025 and MCERTS using high range 0 - 1000 mg/l tubes.

	LANDFILL LEACH	SEWAGE EFFLUENT UNTREATED	SEWAGE EFFLUENT TREATED	TRADE EFFLUENT	GROUND WATER	SURFACE WATER
TOTAL COD	ISO17025	MCERTS	MCERTS	MCERTS	ISO17025	ISO17025
FILTERED COD	ISO17025	ISO17025	ISO17025	ISO17025	ISO17025	ISO17025
SETTLE COD (based on PM210)	ISO17025	ISO17025	ISO17025	ISO17025	ISO17025	ISO17025
LOW LEVEL COD			MCERTS			

Method has also been validated for final effluent using low range 0 - 150mg/l tubes.

Detection limit for high and low range filtered COD is <10 mg/l.

Detection limit for high and low range unfiltered and settle COD is <7mg/l.

**References**

The Determination of Chemical Oxygen Demand in Waters and Effluents (2007) COD Aug 07. Methods for the Examination of Waters and Associated Materials.

Standard Methods for the Examination of Waters and Wastewaters 20<sup>th</sup> Edition, APHA, Washington DC, USA. ISBN 0-87553-235-7.

**Principle**

This method determines the chemical oxygen demand in water samples using sulphuric acid and potassium dichromate in the presence of a silver sulphate catalyst to oxidize the samples.

Filtered COD; the samples are filtered through a GF/C filter before analysis.

Settled COD; the samples are settled for one hour and the top liquid portion removed for analysis.

Total COD; the samples are well shaken before analysis.

**Method Number: TM 107**

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2ml of sample is added to the reagent tube and mixed. The tube is put into a heating block at 148°C for 2 hours. After allowing to cool, the result is determined using a photometer.

### **Interferences**

Chloride levels over 1000mg/l cause positive interference, so all samples are screened for chloride and samples containing high levels are diluted before analysis.

Suspended solids and insufficiently settled sediment will cause positive interference, so samples of this nature should be diluted before analysis if necessary.