

<b>TEST</b>	COD 160 - cod. 6151
<b>METHOD</b>	Dichromate
<b>WAVELENGTH</b>	445nm
<b>RANGE</b>	10 - 160ppm COD
<b>SAMPLE VOLUME</b>	2ml
<b>STEP 1</b>	Add 2ml water to be analysed to the reagent tube, held at 45°. Secure cap and shake gently.  ATTENTION: THE TUBES WILL GET HOT
<b>STEP 2</b>	Place tube(s) in digester (148°C)
<b>WAIT</b>	120 minutes
<b>STEP 3</b>	Place tube(s) in tube rack
<b>WAIT</b>	10 minutes
<b>STEP 4</b>	Shake well
<b>WAIT</b>	For tubes to cool to room temperature
<b>MEASURE</b>	Reference: Tube marked reference (white capped tube)  Test: Sample tube

**IMPORTANT:**

- 1) *Wear eye protection and gloves throughout test.*
- 2) *As the tubes are under pressure we recommend that the cover provided is placed over the digestion unit to prevent the risk of injury in the unlikely event of breakage.*
- 3) *We recommend that the COD digestion takes place in a fume cupboard, if available. In case of breakage avoid breathing fumes.*

**1 PRINCIPLE OF METHOD**

The measurement of the colour decrease of a Potassium Chromate solution in sulphuric acid due to the reduction of the yellow hexavalent chromium ion to the green trivalent yellow chromium ion by means of the oxidisable substances in the water, in the presence of a suitable catalyst at 445nm.

**2 RANGE**

10 - 160ppm COD (Chemical Oxygen Demand).

**3 REQUIRED REAGENTS**

COD 160 monotest kit

Contents:

cod. 6151

20 Pre-filled reagent tubes (Black cap)

1 pre-filled reference test tube (White cap)

#### 4 PROCEDURE

- 4.1 Adjust the HC 7800 or UviLine spectrophotometer for the COD analysis (it is programmed to read the output in ppm).
- 4.2 Turn on the digestion unit and set to 148°C.
- 4.3 Put exactly 2ml of the water to be analysed into one of the pre-filled reagent test tubes, held at an angle of about 45 degrees, using a precision pipette.  
**ATTENTION: THE TUBES WILL GET HOT.**
- 4.4 Replace the screw cap, ensuring secure fit. SHAKE GENTLY.
- 4.5 Insert the sample tube(s) into the pre-heated digestion unit and set the timer to 120 minutes.
- 4.6 When 120 minutes has elapsed, take the sample tube(s) out of the heater and put it (them) into a test tube rack to cool. **(ATTENTION: the test tubes are very hot).**
- 4.7 After 10 minutes shake the sample(s) well. Let them cool to room temperature. This is important to ensure a clear solution for analysis.
- 4.8 Following the instructions for the use of the HC7800 or UviLine place first reference (white cap), then test tubes (black cap) into the tube holder, taking care to ensure that the vertical mark on the test tube is facing the operator.
- 4.9 Read the result of the analysis directly in ppm (mg/l) from the LCD.

#### 5 INTERFERENCES

Turbidity effects may lead to higher COD values being recorded. It is important in Step 5.6 to wait until the solution is cool and clear. The sample should contain less than 1000 ppm Chloride. If this is not the case, the sample should be diluted.

#### 6 NOTES

- 6.1 **CAUTION: Contains sulphuric acid and mercuric sulphate. Harmful by inhalation, in contact with skin or if swallowed. Causes severe burns. Keep out of reach of children. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. Never add water to this product other than as directed.**
- 6.2 Samples higher than 160 ppm should be tested with the MONOTEST COD 1.500 (cod.6153) or MONOTEST COD 10.000 (cod.6155).
- 6.3 Store reagents in a cool, dark place.

NOTE: BEFORE MEASUREMENT PLEASE WIPE THE TUBES WITH A NON-ABRASIVE CLOTH TO REMOVE ANY DUST WHICH COULD AFFECT THE READING