

Instruction Manual

HI 93754F-25 LR
HI 93754G-25 MR

COD



Chemical Oxygen Demand ISO Reagents

HANNA
instruments
www.hannainst.com



Dear Customer,
Thank you for choosing a Hanna product. Please read this instruction manual carefully before using the reagent. This manual will provide you with the necessary information for the correct use of the reagents. If you need additional information, do not hesitate to mail us at tech@hannainst.com.

Preliminary Examination

Remove the product from the packing material and examine it carefully to make sure that no damage has occurred during shipment. If there is any damage, notify your Dealer. Each kit is supplied complete with:

- COD test tubes (25 pcs);
- Instruction Manual.

Note: save all packing material, any defective item must be returned in its original packing.

General Description

Two reagent kits are available, according to different ISO COD ranges:

- HI 93754F-25 LR: COD - ISO Reagent LR
- HI 93754G-25 MR: COD - ISO Reagent MR

Range	Reagent code	Sample q.ty
0-150 mg/L	HI 93754F-25	2.0 mL
0-1000 mg/L	HI 93754G-25	2.0 mL

Each kit contains 25 ready-to-use vials with premeasured reagents: just add sample to the vial and tightly cap it before digestion.

Method

Reagents are in accordance with ISO 15705:2002 method. This method covers the determination of COD in surface water, domestic and industrial wastes.

The sample is digested in the presence of dichromate at 150 °C for 2 hours. Oxidizable compounds reduce the dichromate (orange) ion to the chromic (green) ion.

Instructions



Before starting to use these reagent kits it is important to read carefully this manual and the Health & Safety Data Sheet (HSDS). Pay particular attention to all warnings, cautions, and notes. Failure to do so may result in serious injury to the operator.

1. Thoroughly shake and homogenize the sample. If necessary, use a blender.

2. For sample digestion use a block heater reactor with holes to accommodate digestion vials. Use always the safety shield.

Preheat the reactor to 150 °C (302 °F). For correct use of the reactor follow Reactor Instruction Manual*.

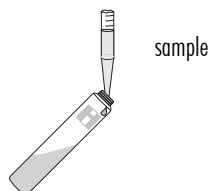
Do not use an oven or microwave because leaking samples can generate a corrosive and possibly explosive atmosphere.

3. Remove the cap from a reagent vial for the required COD range.

Note: the reagent is light sensitive, thus store the unused vials in their container and in a refrigerator if possible.

4. Using a Class A glass pipette, add 2 ml of sample to a HI 93754F-25 vial for low range or to a HI 93754G-25 vial for medium range, while keeping the vial at a 45-degree angle.

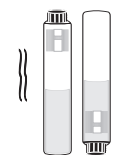
This is the sample.



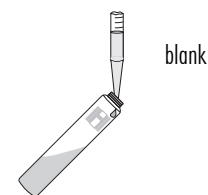
5. Replace the cap tightly and mix by inverting the vial a couple of times.



Warning: as the vial becomes very hot during mixing, be careful in handling it.



6. Using another clean Class A glass pipette, add 2 ml of deionized water to another HI 93754F-25 vial for low range or to a HI 93754G-25 vial for medium range, while keeping the vial at a 45-degree angle, repeating steps 4 and 5. This is the blank.



Note: for an accurate measurement, run a blank with each set of samples and use the same box of reagents for blank and samples.

7. Wipe the outside of the vials with the HI 731318 or a lint-free cloth and insert the vials into the pre-heated reactor*.



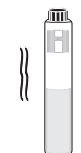
8. Heat the vials at 150 °C for 2 hours ± 10 minutes.



9. At the end of the digestion period, turn the reactor off. Remove the vials from the block heater.



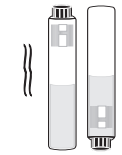
Warning: as the vials are very hot, be careful in handling them.



10. Place the vials in the HI 740216 rack and allow to cool to 60 °C or less.



11. Mix the contents by carefully inverting each vial several times while still warm. Then allow the vials to cool to ambient temperature before performing the measurement.



12. For colorimetric determination of COD, follow the procedure described in the Photometer Instruction Manual*.

* **Note:** for best results in readings use the Hanna equipment: C9800 Reactor and C99 or C214 Photometers.

INTERFERENCES:

chlorides > 1000 mg/L (ppm)

Samples with higher chloride concentration should be diluted.

Health and Safety



The chemicals contained in these kits may be hazardous if improperly handled. Read the Health & Safety Data Sheet before performing tests.

Safety equipment: Wear suitable eye protection and clothing, and follow instructions carefully.

Reagent spills: If reagent spillage occurs, wipe up immediately and rinse with plenty of water.

If reagent contacts skin, rinse the affected area thoroughly with water. Avoid breathing released vapors.

Reagent vial disposal: Reagents contain different waste pollutants. After use dispose of the reagent vials according to the local regulations.

Accessories

C 9800-01	Hanna Reactor (115 VAC)
C 9800-02	Hanna Reactor (230 VAC)
C 99	Hanna Photometer (for Laboratories)
C214	Hanna Photometer (for Wastewater Treatment Application)
HI 740142	1 mL graduated syringe
HI 740143	1 mL graduated syringe (6 pcs)
HI 740216	Test tube cooling rack (25 holes)
HI 740217	Laboratory bench safety shield