Instruction Manual

HI 38075
Copper
Low and High Range
Test Kit

HANNA instruments

www.hannainst.com

Dear Customer,

Thank you for choosing a Hanna Product.

Please read the instruction sheet carefully before using the test kit. It will provide you with the necessary information for correct use of the kit. If you need additional information, do not hesitate to e-mail us at tech@hannainst.com.

Remove the chemical test kit from the packing material and examine it carefully to make sure that no damage has occurred during shipping. If there is any noticeable damage, notify your Dealer or the nearest Hanna office immediately.

Each kit is supplied with:

- HI 93702-0 Reagent, packets (50 pcs);
- HI 3856-0 Reagent, packets (50 pcs);
- Deionized Water, 1 bottle (230 mL)
- 1 long path color comparator cube;
- 1 color comparator cube;
- 1 plastic test tube (14 mL) with screw cap;
- 1 plastic pipette (3 mL).

Note: Any damaged or defective item must be returned in its original packing materials.

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SPECIFICATIONS

Range	0 to 0.25 mg/L (ppm) 0 to 6.0 mg/L (ppm)
Smallest Increment	0.05 ppm 1.2 ppm
Analysis Method	Colorimetric, bicinchoninate
Sample Size	25 mL 2.5 mL
Number of Tests	100 (50 for each range)
Case Dimensions	230x59x70 mm (9.0x2.3x2.8")
Shipping Weight	555 g (19.6 oz.)

SIGNIFICANCE AND USE

Copper is an essential trace element in human diet (the daily requirement is around 2.0 mg) and a factor in plant metabolism. Copper salts are used in water supply systems to control biological growth in reservoirs. High concentrations on the other hand are toxic and corrosion of copper alloys in pipe fittings may introduce considerable quantities into the water supplies.

Note: mg/L is equivalent to ppm (parts per million).

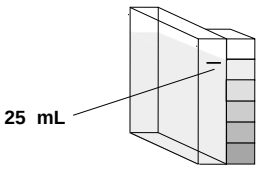
CHEMICAL REACTION

Copper salts react with bicinchoninate reagent to form a purple product in a neutral buffered condition. The amount of color developed is proportional to the concentration of copper present in the aqueous sample.

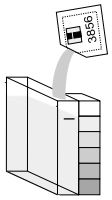
INSTRUCTIONS

READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

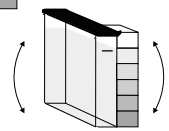
- To measure copper in the 0-0.25 range, fill the long path comparator cube with sample up to the 25 mL mark.



- Add 1 packet of HI 3856-0 reagent.

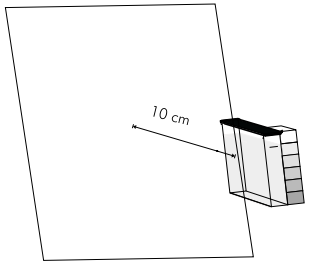


- Replace the cap and mix by inverting the cube several times.



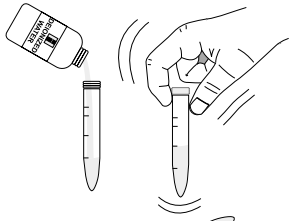
- Wait 45 seconds to allow color to develop.

- Determine which color best matches the solution in the cube and read the result directly in mg/L (ppm) of Copper.
- It is better to match the color with a white sheet placed at about 10 cm (4") behind the comparator.

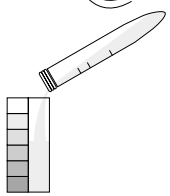


- To measure copper in the 0-6.0 range, use the pipette to fill the plastic test tube with 2.5 mL of sample, up to the mark.

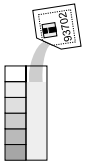
- Add 3.5 mL of Deionized Water to reach the 6 mL mark. Replace the cap and swirl to mix. This is the diluted sample.



- Pour then 5 mL of the diluted sample from the tube to the color cube (up to the mark).

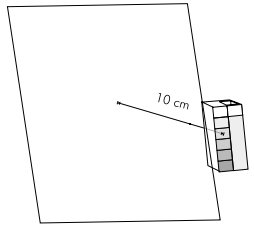


- Add 1 packet of HI 93702-0, replace the cap and shake well.



- Wait 45 seconds to allow color to develop.

- Determine which color matches the solution in the vessel. Multiply the result by 2.4 to obtain mg/L (or ppm) of Copper in the sample.
- It is better to match the color with a white sheet placed at about 10 cm (4") behind the comparator.



REFERENCES

Adaptation of EPA approved method.

HEALTH AND SAFETY

The chemicals contained in this kit may be hazardous if improperly handled. Read the relevant Health and Safety Data Sheet before performing this test.