

Instruction Manual

HI 3856 Copper Ultra Low Range Test Kit

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Dear Customer,

Thank you for choosing a Hanna Product.

Please read the instruction sheet carefully before using the chemical test kit. It will provide you with the necessary information for correct use of the kit.

Remove the 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 3856-0 Reagent, packets (100 pcs);
- 1 long path color comparator cube.

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) as Copper
Smallest Increment	0.05 ppm
Analysis Method	Colorimetric, bicinchoninate
Sample Size	25 mL
Number of Tests	100
Case Dimensions	230x59x70 mm (9.0x2.3x2.8")
Shipping Weight	180 g (6.3 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 widely used in water supply systems to control biological growth in reservoirs. Corrosion of copper alloys in pipe fittings on the other hand may introduce considerable quantities into the water supplies.

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

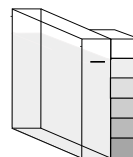
CHEMICAL REACTION

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

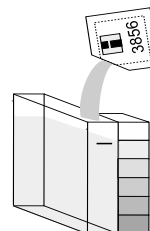
INSTRUCTIONS

READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

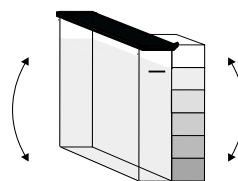
- Fill the long path comparator cube with the sample to the 25 mL mark.



- Add 1 packet of HI 3856-0 reagent.



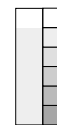
- Replace the cap and mix by inverting the cube several times.



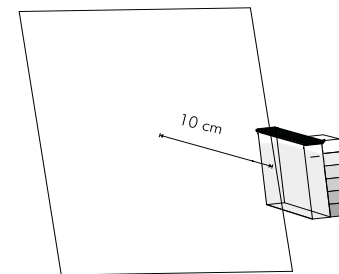
- Wait 45 seconds to allow color to develop.



- Determine which color best matches the solution in the cube and record the result as mg/L (ppm) of Copper.



- It is better to match the color with a white sheet at about 10 cm behind the comparator.



Note: To measure Copper in the 0-2.5 ppm range, use the HI 3847 Copper Test Kit.

REFERENCES

Adapted from Nakano S., *Yakugaku Zasshi*, **1962**, 82 486-491
[Chemical Abstract, 58 3390e (1936)].

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.