

# Instruction Manual

## HI 3834 Iron Test Kit



**PEWA**  
Messtechnik GmbH  
Weidenweg 21  
58239 Schwerte  
Tel.: 02304-96109-0  
Fax: 02304-96109-88  
E-Mail: info@pewa.de  
Homepage : www.pewa.de

Dear Customer,

Thank you for choosing a Hanna Product.

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

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 3834-0 Reagent, packets (50 pcs);
- 1 color comparator cube;
- 1 plastic vessel (20 mL).

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

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## SPECIFICATIONS

Range	0 to 5 mg/L (ppm) Iron
Smallest Increment	1 mg/L (ppm) Iron
Analysis Method	Colorimetric
Sample Size	10 mL
Number of Tests	50 (average)
Case Dimensions	220x145x55 mm (8.7x5.7x2.1")
Shipping Weight	142,5 g (5 oz.)

## SIGNIFICANCE AND USE

Generally, ground and surface water contains no more than 1 mg/L (ppm) iron; but due to mining and industrial drainage, higher levels of iron have been observed. Iron in water appears to be more of a nuisance than a hazard. The presence of iron can stain laundry and give water a bittersweet taste.

The Hanna Test Kit determines the iron concentration in water by conversion of the ferrous ( $Fe^{2+}$ ) state. The test is fast, easy and safe. The color cube makes it simple to obtain the iron level in water.

## CHEMICAL REACTION

Iron can exist as ferrous ( $Fe^{2+}$ ) or ferric ( $Fe^{3+}$ ) ions. The Hanna Test Kit determines total iron levels in water via a colorimetric method. First all ferric ions are reduced by sodium sulfite to ferrous ions. Phenanthroline complexes with ferrous ion to form an orange colored solution. The color intensity of the solution determines the iron concentration.

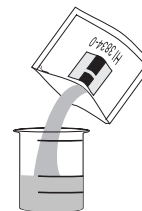
## INSTRUCTIONS

READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

- Remove the cap from the plastic vessel. Rinse the plastic vessel with water sample, fill it to 10 mL mark.



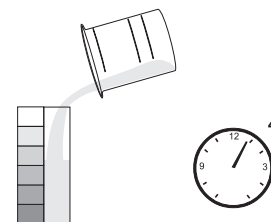
- Add 1 packet of reagent HI 3834-0.



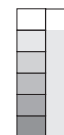
- Replace the cap and mix solution until solids dissolve.



- Remove the cap and transfer the solution into the color comparator cube. Let set for 4 minutes.



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



## REFERENCES

1987 Annual Book of ASTM Standard, Volume 11.01 Water (1), pages 531-535.

Standard Methods for the Examination of Water and Wastewater, 16<sup>th</sup> Edition, pages 215-219.

## HEALTH AND SAFETY

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