HANNA instruments HI 38023 Total Chlorine Extended Range Test Kit Instruction Manual

Contents

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INTRODUCTION

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 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. If you need additional technical information, do not hesitate to e-mail us at **tech@hannainst.com** or view our worldwide contact list at **www.hannainst.com**.
Each kit is supplied with:

- HI 38000A-0 Sulfate Reagent, packets (100 pcs);
- HI 38000B-0 Sulfate Reagent, 1 bottle (53 g);
- Complexing Agent, 1 bottle with dropper (15 mL);
- 1 glass test tube (50 mL);
- 1 plastic vessel (50 mL);
- 1 plastic pipette (3 mL);
- 1 spoon.

SPECIFICATIONS

- **Range** 10 to 200 mg/L (ppm) as Chlorine
- **Smallest Increment** 10 mg/L as Chlorine
- **Analysis Method** Drop count titration
- **Sample Size** 1 mL
- **Number of Tests** 100
- **Case Dimensions** 235x175x115 mm (9.2×6.9×4.5″)

- **Shipping Weight** 547 g (19.3 oz.)

SIGNIFICANCE AND USE

The chlorination of water supplies and polluted waters is used mainly to destroy or deactivate disease-producing microorganisms. It also serves to improve the quality of drinking waters, as chlorine reacts with ammonia, iron, manganese, sulfide and some organic substances. Nevertheless, high amounts of chlorine will produce adverse effects, like the formation of compounds that are potentially carcinogenic (e.g. chloroform) or harmful to aquatic life (e.g. chloramines). Thus it is essential to control that the proper amount of chlorine has been added in order to fulfill the primary purpose of disinfecting and to minimize any adverse effect.
Note: mg/L is equivalent to ppm (parts per million).

CHEMICAL REACTION

An iodometric titration method is used. The water sample is treated with potassium iodide and strongly acidified with acid. The amount of iodine generated is equivalent to the chlorine in the sample; the concentration of iodine is calculated by titration with thiosulfate ions that reduce iodine back to iodide ions.

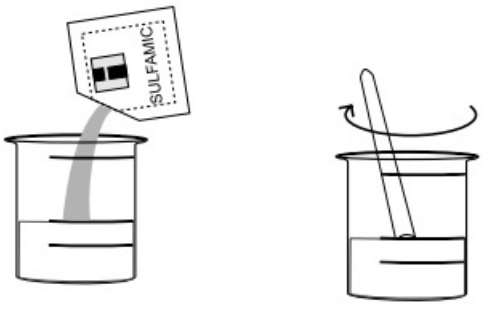
INSTRUCTIONS

READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

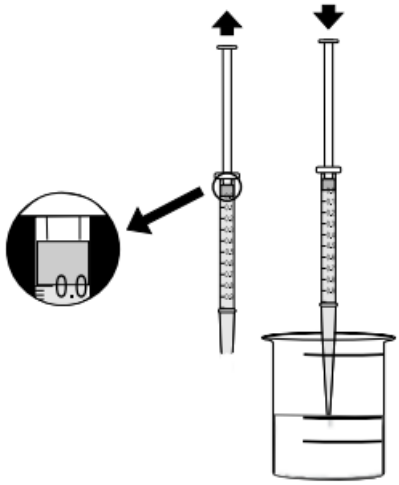
1. Fill the calibrated vessel with tap water up to the 50 mL mark (the residual chlorine in tap water will not affect the test).

2. Add 5 drops of Potassium Iodide Solution and swirl gently to mix

3. Add 1 packet of Sulfamic Reagent and use the spoon to mix and dissolve.

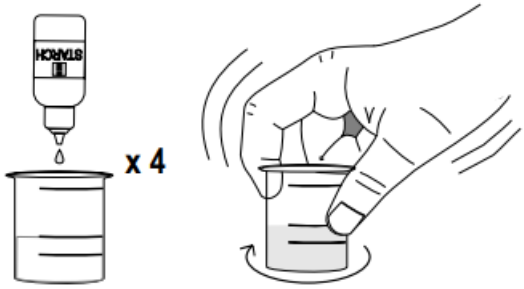


4. Use the syringe to add 1 mL of your sample to the vessel, dispensing the sample below the solution level in the vessel.

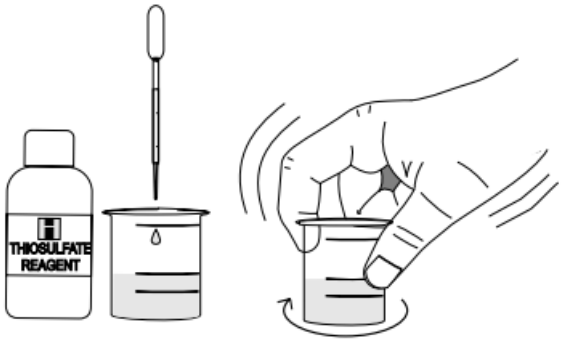


Note: To measure exactly 1.0 mL of sample with the syringe, push the plunger completely into the syringe and insert the tip into sample. Pull the plunger out until the lower edge of the seal is on the 0.0 mL mark of the syringe. Insert the syringe into the vessel and push the sample out until the lower edge of the seal is on the 1.0 mL mark.

5. Add 4 drops of Starch Indicator and swirl gently to mix. If chlorine is present, the solution will turn a blue color.



6. Using the 1 mL plastic pipette, add Thiosulfate Reagent drop by drop, swirling after each drop, while keeping an accurate count of the drops being added to the solution.



7. Continue adding Thiosulfate Reagent until the solution changes from blue to colorless.
8. To obtain the concentration in mg/L (or ppm) of total chlorine in your sample, multiply by 10 the number of drops of Thiosulfate Reagent used to turn the solution from blue to colorless.

drops x 10 = mg/L Total Chlorine

REFERENCES

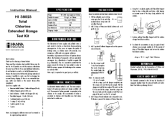
Standard methods for the Examination of Water and Wastewater, 20th Ed., 1998, APHA-AWWA-WEF

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.

Documents / Resources

	HANNA instruments HI 38023 Total Chlorine Extended Range Test Kit [pdf] Instruction Manual HI 38023 Total Chlorine Extended Range Test Kit, HI 38023, Total Chlorine Extended Range Test Kit, Chlorine Extended Range Test Kit, Extended Range Test Kit, Range Test Kit, Test Kit

References

- pH Meters, Photometers, Titrators, Controllers - Hanna Instruments