

Instruction Manual

HI 3850 Ascorbic Acid Test Kit



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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.

Each kit is supplied with:

- HI 3850A-0 Ascorbic Acid Reagent, 1 bottle (100 mL);
- Starch Indicator, 1 bottle with dropper (25 mL);
- HI 3850C-0 Ascorbic Acid Reagent, 1 bottle (100 mL);
- 2 calibrated plastic vessels (50 mL);
- 1 plastic pipette (3 mL);
- 2 plastic pipettes (1 mL);
- 1 plastic test tube, graduated with cap.

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

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SPECIFICATIONS

Range	10 to 200 ppm Ascorbic Acid
Smallest Increment	10 ppm Ascorbic Acid
Analysis Method	Drop-Count Iodometric Titration
Sample Size	10 mL
Number of Tests	100 (average)
Case Dimensions	235x175x115 mm (9.2x6.9x4.5")
Shipping Weight	519 g (18.3 oz.)

SIGNIFICANCE AND USE

Ascorbic acid (Vitamin C) is added as a flavoring and preservative agent to juice-based beverages. This kit is especially designed for the determination of the content in Vitamin C of beverages. It is based on drop-count titration and is practical also with intensively colored samples.

Reducing substances interfere in the determination of Ascorbic Acid with this test kit.

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

CHEMICAL REACTION

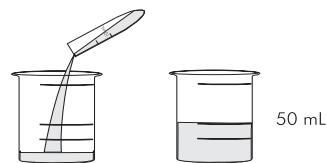
Ascorbic acid ($C_6H_8O_6$) undergoes an oxidation reaction with potassium iodate in acidic condition. The quantity of potassium iodate consumed is then determined iodometrically.

INSTRUCTIONS

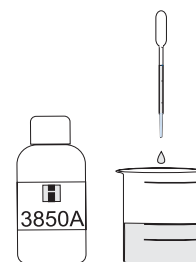
READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

- Fill the graduated plastic test tube up to the 10 mL mark with the sample and pour it in the calibrated vessel. Add deionized water up to the 50 mL mark to dilute. Similarly prepare another sample using the

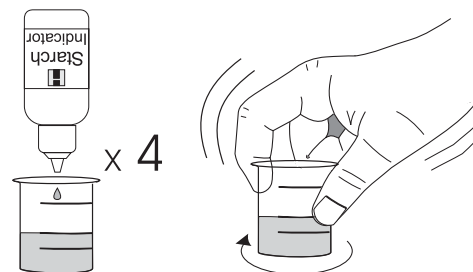
other calibrated vessel and keep it as a reference for the initial color.



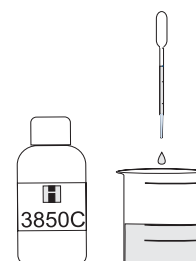
- Using the plastic dropper add 1 mL of HI 3850A-0 reagent to one sample only. Swirl to mix.



- Add 4 drops of Starch Indicator and swirl to mix.



- Add drops of HI 3850C-0 reagent, while swirling and counting the drops, until a persistent blue color is



developed. Compare the solution to the unreacted sample to be sure of the color change.

- Count the drops needed to obtain the color change. To calculate the concentration of Ascorbic Acid multiply by 10 the number of drops of HI 3850C-0 titration reagent used:

$$\# \text{ of DROPS} \times 10 = \text{ppm } C_6H_8O_6$$

REFERENCES

Skoog, West, Holler; Fundamentals of Analytical Chemistry; Saunders College Publishing International Edition (5th ed.)

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.

