



Iron Test Kit

IR-24 (255600)

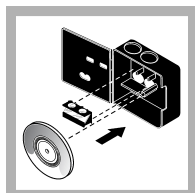
DOC326.97.00048

Test preparation

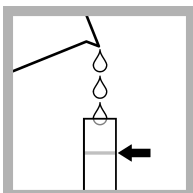
CAUTION: Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

- Put the color disc on the center pin in the color comparator box (numbers to the front).
- Use the color disc that is applicable to the test procedure range.
- Rinse the tubes with sample before the test. Rinse the tubes with deionized water after the test.
- This test is very sensitive to contamination. For best results, clean all glassware with 6.0 N (1:1) hydrochloric acid solution, then rinse fully with deionized water.
- Use the clippers to open the reagent solution pillow. As an alternative to the reagent solution pillow, add 0.5 mL of FerroZine Iron Reagent Solution that is available in a bottle.
- The long-path adapter for the low range test shows the color in the tubes from top to bottom. Make sure the light source is above the tubes during the color match.
- If the color match is between two segments, use the value that is in the middle of the two segments.
- If the color disc becomes wet internally, pull apart the flat plastic sides to open the color disc. Remove the thin inner disc. Dry all parts with a soft cloth. Assemble when fully dry.
- Copper or cobalt in the sample cause an interference that gives high results, but the effect is small.
- If the sample contains rust or iron hydroxides, pour the sample into a 50-mL Erlenmeyer flask after step 5. Boil the solution for 1 minute, then let the temperature decrease to 24 °C (75 °C). Continue the test procedure with step 7.
- If the sample contains magnetite (black iron oxide) or ferrites, use the test procedure that is for samples that contain magnetite or ferrites.
- To verify the test accuracy, use a standard solution as the sample.

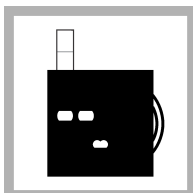
Test procedure—Iron (0–0.2 mg/L Fe)



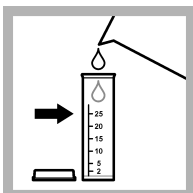
1. Install the long-path adapter in the color comparator box.



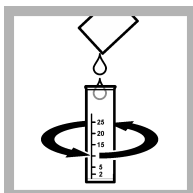
2. Fill a tube to the top line with sample.



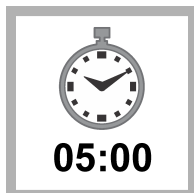
3. Put the tube into the left opening of the color comparator box.



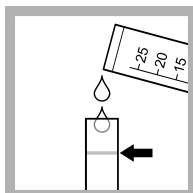
4. Fill the vial to the 25-mL mark with sample.



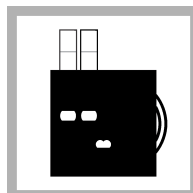
5. Add one FerroZine Iron Reagent Solution Pillow. Swirl to mix.



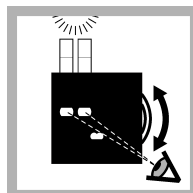
6. Wait 5 minutes. A purple color develops. Read the result within 30 minutes.



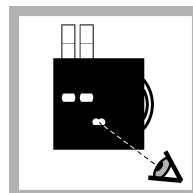
7. Fill a second tube to the top line with the prepared sample.



8. Put the second tube into the color comparator box.



9. Hold the color comparator box below a light source. Turn the color disc to find the color match.



10. Read the result in mg/L in the scale window.

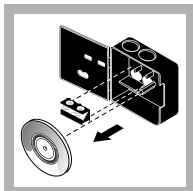
Replacement items

Description	Unit	Item no.
FerroZine Reagent Solution Pillows, 5 mL	50/pkg	230166
Clippers	each	96800
Color disc, iron, FerroZine, 0–0.2 mg/L	each	9264400
Color disc, iron, FerroZine, 0–1.0 mg/L	each	9266300
Color comparator box	each	173200
Long-path adapter	each	2412200
Glass viewing tubes, 18 mm	6/pkg	173006
Stoppers for 18-mm glass tubes and AccuVac Ampuls	6/pkg	173106
Vial, graduated to 2, 5, 10, 15, 20 and 25 mL	each	219300

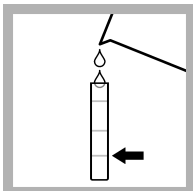
Optional items

Description	Unit	Item no.
FerroZine Iron Reagent Solution	500 mL	230149
Flask, Erlenmeyer, 50 mL	each	50541
Flask, Erlenmeyer, 125 mL	each	50543
Hot plate, 4-inch round, 120 V	each	1206701
Hydrochloric acid standard solution, 6.0 N (1:1)	500 mL	88449
Iron standard solution, 1 mg/L Fe	500 mL	13949
Mixing cylinder, graduated, 25 mL	each	189640
Water, deionized	500 mL	27249

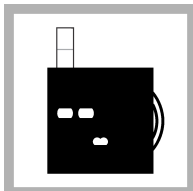
Test procedure—Iron (0–1 mg/L Fe)



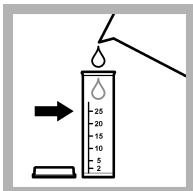
1. If installed, remove the long-path adapter.



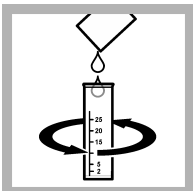
2. Fill a tube to the first line (5 mL) with sample.



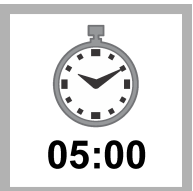
3. Put the tube into the left opening of the color comparator box.



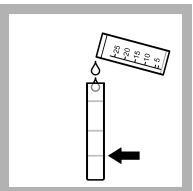
4. Fill the vial to the 25-mL mark with sample.



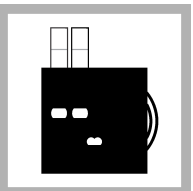
5. Add one FerroZine Iron Reagent Solution Pillow. Swirl to mix.



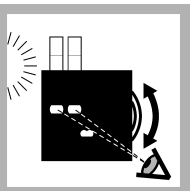
6. Wait 5 minutes. A purple color develops. Read the result within 30 minutes.



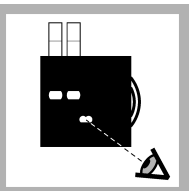
7. Fill a second tube to the first line (5 mL) with the prepared sample.



8. Put the second tube into the color comparator box.

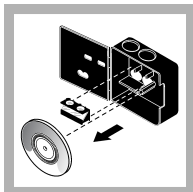


9. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.

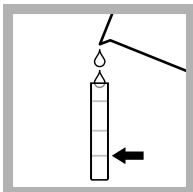


10. Read the result in mg/L in the scale window.

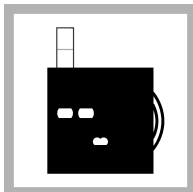
Test procedure for samples that contain magnetite or ferrites—Iron (0–1 mg/L Fe)



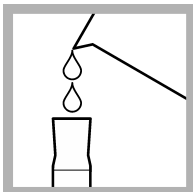
1. If installed, remove the long-path adapter.



2. Fill a tube to the first line (5 mL) with sample.



3. Put the tube into the left opening of the color comparator box.



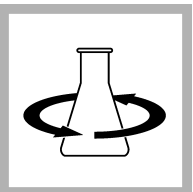
4. Fill a 25-mL graduated mixing cylinder to the 25-mL mark with sample.



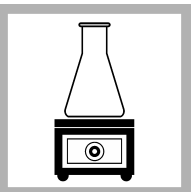
5. Pour the sample into a clean 125-mL Erlenmeyer flask.



6. Add one FerroZine Iron Reagent Solution pillow.



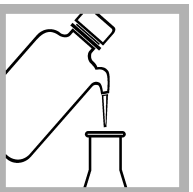
7. Swirl to mix. A purple color develops.



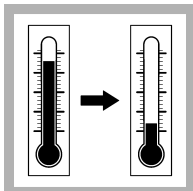
8. Put the flask on a hot plate. Adjust the controls to increase the temperature.



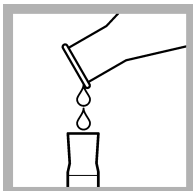
9. Boil the solution for 20 to 30 minutes.



10. If necessary, add some deionized water during the boil time to keep some solution in the flask.



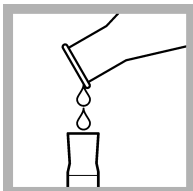
11. Remove the flask from the hot plate. Let the temperature decrease to room temperature.



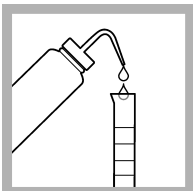
12. Pour the solution back into the graduated mixing cylinder.



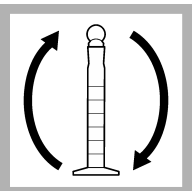
13. Rinse the flask with deionized water.



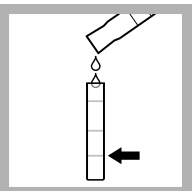
14. Add the rinse water to the graduated mixing cylinder.



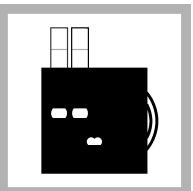
15. Add deionized water to the 25-mL mark.



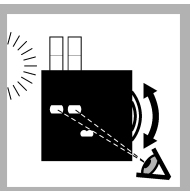
16. Put the stopper on the cylinder. Invert to mix.



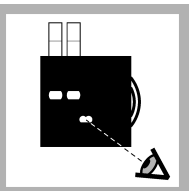
17. Fill a second tube to the first line (5 mL) with the prepared sample.



18. Put the second tube into the color comparator box.



19. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.



20. Read the result in mg/L in the scale window.

