



Total Chromium Test Kit

CH-12 (222800)

DOC326.97.00053

Test preparation

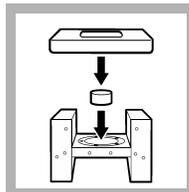
CAUTION: Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

- Put the color disc on the center pin in the color comparator box (numbers to the front).
- Use the indoor light color disc when the light source is fluorescent light. Use the outdoor light color disc when the light source is sunlight.
- Rinse the tubes with sample before the test. Rinse the tubes with deionized water after the test.
- 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.
- Undissolved reagent does not have an effect on test accuracy.
- Add some boiling chips to the Erlenmeyer flask before the sample is heated to prevent spills.
- This kit measures total and hexavalent chromium. To determine trivalent chromium, subtract the results of a separate hexavalent chromium test from the results of the total chromium test.
- To record the test result as mg/L CrO_4^{2-} , multiply the test result by 2.23. To record the test result as mg/L Na_2CrO_4 , multiply the test result by 3.12.

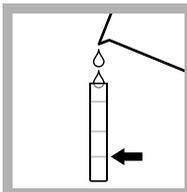
Replacement items

Description	Unit	Item no.
Sulfuric acid standard solution, 5.25 N	100 mL MDB	244932
Bottle, square, 29 mL, with 10, 15, 20 and 23-mL marks	6/pkg	232706

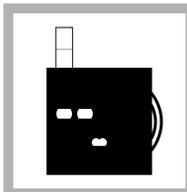
Test procedure—Total Chromium (0-1.3 mg/L Cr^{6+})



1. Assemble the heating apparatus.



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



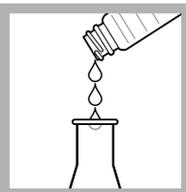
3. Put the tube into the left opening of the color comparator box.



4. Fill the bottle to the 23-mL mark with sample.



5. Add one Chromium 1 Reagent Powder Pillow. Swirl to mix.



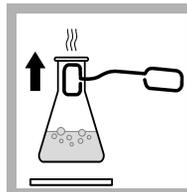
6. Pour the solution into the Erlenmeyer flask.



7. Put the flask on the heating apparatus.



8. Boil the solution for 1 minute.



9. Use the clamp to remove the flask.



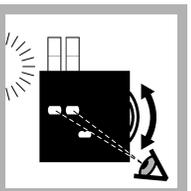
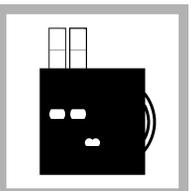
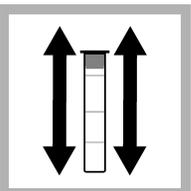
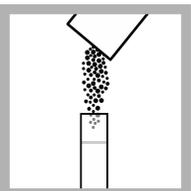
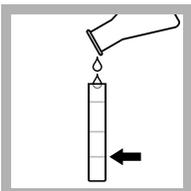
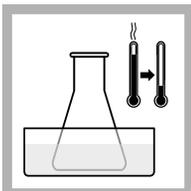
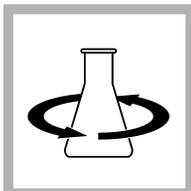
10. Wait 5 minutes.

Replacement items (continued)

Description	Unit	Item no.
ChromaVer 3 Chromium Reagent Powder Pillows, 5 mL	100/pkg	1271099
Chromium 1 Reagent Powder Pillows	100/pkg	204399
Chromium 2 Reagent Powder Pillows	100/pkg	204499
Clamp, test tube holder	each	63400
Color disc, chromium, indoor light, 0–1.3 mg/L	each	9265300
Color disc, chromium, outdoor light, 0–1.3 mg/L	each	9267400
Color comparator box	each	173200
Cookit stove with Heatab fuel tablets	each	220600
Cookit support cover	each	217900
Flask, Erlenmeyer, 50 mL	each	50541
Heatab dry fuel tablets for Cookit stove	21/pkg	220700
Glass viewing tubes, 18 mm	6/pkg	173006
Stoppers for 18-mm glass tubes and AccuVac Ampuls	6/pkg	173106

Optional items

Description	Unit	Item no.
Boiling chips, carbon	227 g	1483531
Water, deionized	500 mL	27249



11. Add one Chromium 2 Reagent Powder Pillow. Swirl to mix.

12. Add four drops of 5.25 N Sulfuric Acid.

13. Swirl to mix.

14. Put the flask in cold water. For best results, wait until the temperature is 25 °C (77 °F).

15. Fill a second tube to the first line (5 mL) with the solution.

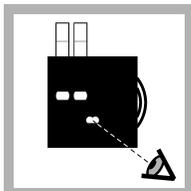
16. Add one ChromaVer 3 Chromium Reagent Powder Pillow to the second tube.

17. Put a stopper on the tube. Shake to mix. A purple color develops.

18. Wait 5 minutes. Read the result within 20 minutes.

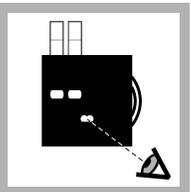
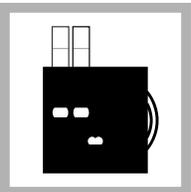
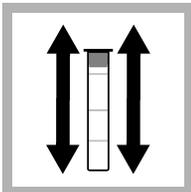
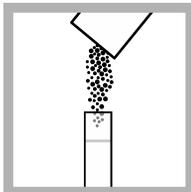
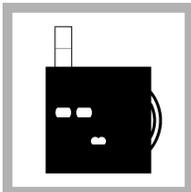
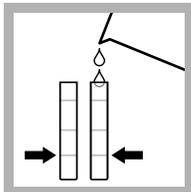
19. Put the second tube into the color comparator box.

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



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

Test procedure—Hexavalent Chromium (0–1.3 mg/L Cr⁶⁺)



1. Fill two tubes to the first line (5 mL) with sample.

2. Put one tube into the left opening of the color comparator box.

3. Add one ChromaVer 3 Chromium Reagent Powder Pillow to the second tube.

4. Put a stopper on the tube. Shake to mix. A purple color develops.

5. Wait 5 minutes. Read the result within 20 minutes.

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

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

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

