

SULFIDE-LOW RANGE

METHYLENE BLUE METHOD • CODE 3654-01-SC

| QUANTITY | CONTENTS | CODE |
|-----------|-------------------------|-----------|
| 2 x 30 | *Sulfide Reagent A | *V-4458-G |
| 15 mL | *Sulfide Reagent B | *V-4459-E |
| 2 x 60 mL | Sulfide Reagent C | 4460-H |
| 2 | Pipets, 1.0 mL, plastic | 0354 |

*WARNING: Reagents marked with an * are considered hazardous substances. To view or print a Material Safety Data Sheet (MSDS) for these reagents see MSDS CD or our web site. To obtain a printed copy, contact us by e-mail, phone or fax.

Sulfide occurs in many well water supplies and sometimes is formed in lakes or surface waters. In distribution systems, it may be formed as a result of bacterial action on organic matter under anaerobic conditions. It may also be found in waters receiving sewage or industrial wastes. Lake muds rich in sulfates produce hydrogen sulfide during periods of very low oxygen levels that result from stagnation. Concentrations of a few hundredths of a part per million (or milligram per liter) cause a noticeable odor. At low concentrations, this odor is described as “musty”; at high concentration, as “rotten eggs.” Removal of sulfide odor is accomplished by aeration or chlorination. Hydrogen sulfide, a toxic substance, acts as a respiratory depressant in both humans and fish.

APPLICATION: Drinking, surface and saline waters; domestic and industrial wastes.

RANGE: 0.00–1.50 ppm Sulfide

METHOD: Under suitable conditions the sulfide ion reacts with p-aminodimethylaniline and ferric chloride to produce methylene blue in proportion to the sulfide concentration. Ammonium phosphate is added to remove the color due to the ferric iron.

SAMPLE HANDLING & PRESERVATION: Samples must be taken with a minimum of aeration since sulfide is volatilized by aeration and any oxygen which is taken up will destroy sulfides by chemical action. Samples that are used for total sulfide concentrations may be preserved by adding 2M zinc acetate solution at a dosage of 2 mL per liter of sample. This precipitates sulfide as inert zinc sulfide. Determination of dissolved sulfides in samples not preserved with zinc acetate must be started within 3 minutes of sampling.

INTERFERENCES: Strong reducing agents such as sulfite, thiosulfate, and hydrosulfite prevent the formation of the color or diminish its intensity. High concentrations of sulfide will inhibit the reaction, but dilution of the sample prior to analysis eliminates this problem.

PROCEDURE

1. Press and hold **ON** button until colorimeter turns on.
2. Press **ENTER** to start.
3. Press **ENTER** to select TESTING MENU.
4. Select ALL TESTS (or another sequence containing 90 Sulfide-LR) from TESTING MENU.
5. Scroll to and select 90 Sulfide-LR from menu.
6. Rinse a clean tube (0290) with sample water. Fill to the 10 mL line with sample.
7. Insert tube into chamber, close lid and select SCAN BLANK.
8. Remove tube from colorimeter. Use the 1.0 mL pipet (0354) to add 1.0 mL of *Sulfide Reagent A (V-4458). Cap and mix.
9. Add 6 drops of Sulfide Reagent B (V-4459). Cap and mix. Wait 1 minute. Solution will turn blue if sulfides are present.
10. Use the 1.0 mL pipet (0354) to add 2.0 mL of Sulfide Reagent C (4460). Cap and mix. Color development is immediate and stable.
11. Insert tube into chamber, close lid and select SCAN SAMPLE. Record result.
12. Press **OFF** button to turn colorimeter off or press **EXIT** button to exit to a previous menu or make another menu selection.