MERCURY

TMK METHOD • CODE 4861

QUANTITY	CONTENTS	CODE
50	*TMK Tablets	*4862-H
2 x 250 mL	*Propyl Alcohol	*4863-K
250 mL	*Acetate Buffer	*4864-K
1	Tablet Crusher	0175
1	Test Tube, 10 , glass, w/cap	0778
1	Pipet, 1.0 mL, plastic	0354
1	0.5 mL, plastic	0353

*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.

Mercury occurs in small amounts in soil, streams and groundwater. It is used in the production of amalgams, mirror coatings and measuring devices such as thermometers, barometers and manometers. Pharmaceuticals and paints contain mercury. It is also used in fungicides and pesticides and as a mold retardant on paper. Some forms of mercury are very toxic and can accumulate in the aquatic food chain.

APPLICATION: Drinking and surface waters; domestic and industrial wastewater.

RANGE: 0.00–1.50 Mercury

METHOD: Mercuric ions (Hg^{+2}) form a colored complex with 4, 4'-bis (dimethylamino) thiobenzophenone (Thio-Michler's ketone, TMK) at pH 3.

SAMPLE HANDLING & PRESERVATION: Analyze sample as soon as possible. If sample must be stored, treat with HNO_3 to reduce th pH to less than 2 and store in a glass container.

INTERFERENCES: Palladium and other noble metals (gold, platinum, rhodium, iridium, ruthenium), iodide and reducing agents such as hydroxylamine hydrochloride, ascorbic acid, sulfite and thiosulfate. Interference due to silver is eliminated if chloride is present.

PREPARATION OF *TMK INDICATOR

☑ NOTE: Prepare *TMK Indicator daily. Keep out of direct sunlight.

1. Fill test tube (0778) to the 10 mL line with *Propyl Alcohol (4863).
2. Add one *TMK Tablet (4862).
3. Use tablet crusher (0175) to completely crush tablet.
4. Cap and mix. Shake vigorously for 30 seconds.

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 57 Mercury) from TESTING MENU.
5. Scroll to and select 57 Mercury from menu.
6. Rinse a tube (0290) with sample water. Fill to 10 mL with sample.
7. Insert the tube into chamber, close lid and select SCAN BLANK.
8. Remove the tube from colorimeter.
9. Use the 1.0 mL pipet (0354) to add 3 mL of *Acetate Buffer (4864). Cap and mix.
10. Use the 0.5 mL pipet (0353) to add 0.5 mL of prepared *TMK Indicator. Cap and mix.
11. Wait one minute.
12. Insert tube into chamber, close lid and select SCAN SAMPLE. Record result as ppm Mercury.
13. Press **OFF** button to turn the colorimeter off or press **EXIT** button to exit to a previous menu or make another menu selection.

☑ NOTE: For best possible results, a reagent blank should be determined to account for any contribution to the test result by the reagent system. To determine the reagent blank, follow the above test procedure using distilled or deionized water. This test result is the reagent blank. Subtract the reagent blank results from all subsequent test results of unknown samples. It is recommended that a reagent blank be determined each time *TMK Indicator is prepared.