

COPPER

DIETHYLDITHIOCARBAMATE METHOD • CODE 3646-SC

QUANTITY	CONTENTS	CODE
15 mL	*Copper 1	*6446-E

*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.

The copper content of drinking water generally falls below 0.03 parts per million, but copper levels as high as 1.0 part per million will give water a bitter taste. Waters testing as high as 1.0 part per million copper have probably been treated with a copper compound, like those used in the control of algae, or have become contaminated from untreated industrial wastes. The addition of copper sulfate to lakes causes an increase in the copper content of the sediments. Acid waters and those high in free carbon dioxide may cause the corrosion or “eating away” of copper, brass and bronze pipes and fittings. This corrosion results in the addition of copper into the water supply.

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

RANGE: 0.00–6.00 ppm Copper

METHOD: Copper ions form a yellow colored chelate with diethyldithiocarbamate around pH 9-10 in proportion to the concentration of copper in the sample.

SAMPLE HANDLING & PRESERVATION: Copper has a tendency to be adsorbed to the surface of the sample container. Samples should be analyzed as soon as possible after collection. If storage is necessary, 0.5 mL of 20% hydrochloric acid per 100 mL of sample will prevent “plating out.” However, a correction must be made to bring the reaction into the optimum pH range.

INTERFERENCES: Bismuth, cobalt, mercurous, nickel and silver ions and chlorine (6 ppm or greater) interfere and must be absent.

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 32 Copper DDC) from TESTING MENU.
 5. Scroll to and select 32 Copper DDC 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 and add 5 drops of *Copper 1 (6446). Cap and mix. Solution will turn yellow if copper is present.
 9. Insert tube into chamber, close lid and select SCAN SAMPLE. Record result.
 10. Press **OFF** button to turn colorimeter off or press **EXIT** button to exit to a previous menu or make another menu selection.
- NOTE: The reaction may stain the tubes. Scrub the tubes thoroughly after each use.