



CHEMICAL OXYGEN DEMAND

Method 8000 For water, wastewater and
seawater

Reactor Digestion Method* USEPA approved for
reporting wastewater analysis**
Digestion



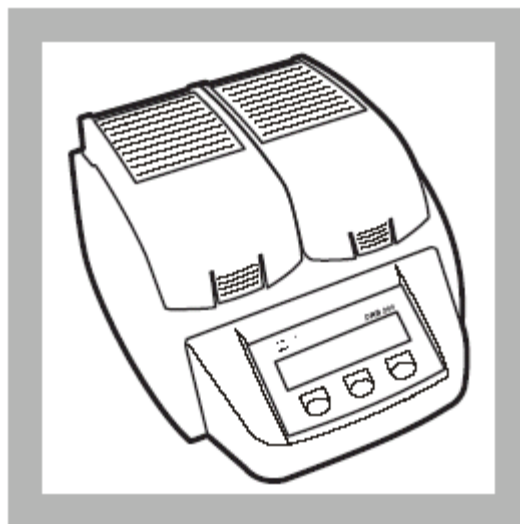
1. Homogenize 500 mL of sample for 2 minutes in a blender.

Note: For the 0-15,000 mg/L range, homogenize 100 mL of sample. Pour the blended sample into a 250-mL beaker. Stir with a magnetic stirrer while withdrawing a sample aliquot.

This improves accuracy and reproducibility.



CHEMICAL OXYGEN DEMAND

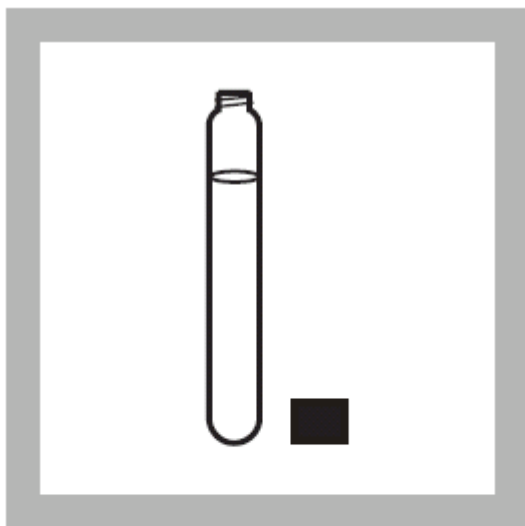


2. Turn on the DRB 200 Reactor. Preheat to 150 °C.

Note: See DRB 200 user manual for selecting pre-programmed temperature applications.



CHEMICAL OXYGEN DEMAND



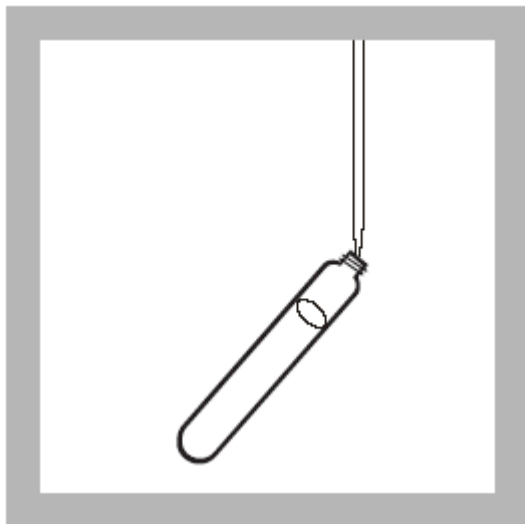
3. Remove the cap of a COD Digestion Reagent Vial for the appropriate range:

Sample Conc. Range (mg/L)	COD Digestion Reagent Vial Type
0 to 150	Low Range
0 to 1500	High Range
0 to 15,000	High Range Plus

Note: The reagent mixture is light-sensitive. Keep unused vials in the opaque shipping container, in a refrigerator if possible. The light striking the vials during the test will not affect results.



CHEMICAL OXYGEN DEMAND



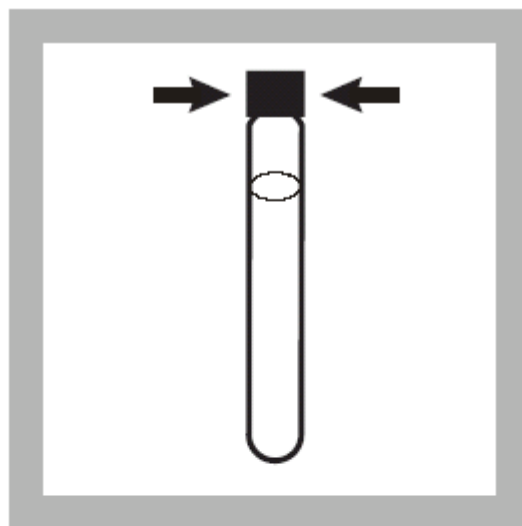
4. Hold the vial at a 45-degree angle. Pipet 2.00 mL (0.2 mL for the 0 to 15,000 mg/L range) of sample into the vial.

Note: For the 0-15,000 mg/L range, pipet only 0.20 mL of sample, not 2.00 mL of sample, using a TenSette Pipet. For greater accuracy analyze a minimum of three replicates and average the results.

Note: Spilled reagent will affect test accuracy and is hazardous to skin and other materials. Do not run tests with vials which have been spilled. If spills occur, wash with running water.



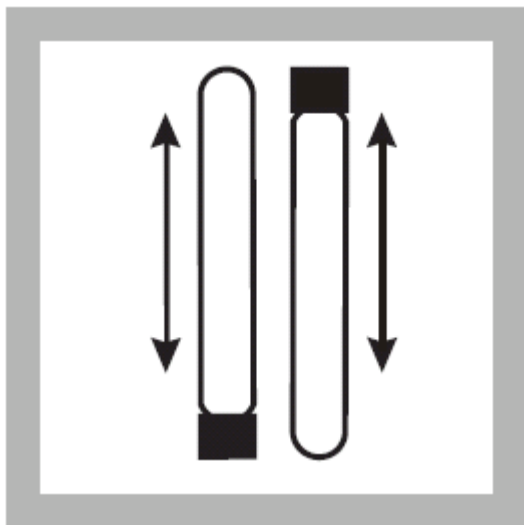
CHEMICAL OXYGEN DEMAND



5. Replace the vial cap tightly. Rinse the outside of the COD vial with deionized water and wipe the vial clean with a paper towel.



CHEMICAL OXYGEN DEMAND



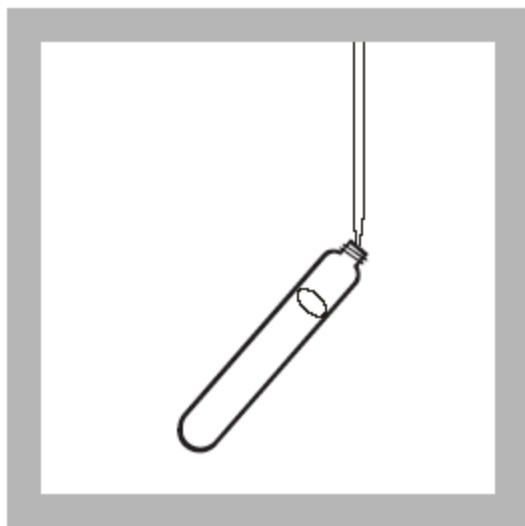
6. Hold the vial by the cap and over a sink. Invert gently several times to mix the contents. Place the vial in the preheated DRB 200 Reactor.

Note: *The vial will become very hot during mixing.*

.



CHEMICAL OXYGEN DEMAND



7. Prepare a blank by repeating Steps 3 to 6, substituting 2.00 mL (0.2 mL for the 0 to 15,000 mg/L range) deionized water for the sample.

Note: Be sure the pipet is clean.

Note: One blank must be run with each set of samples. Run samples and blanks with vials from the same lot number (lot # is on the container label).



CHEMICAL OXYGEN DEMAND

Heat for 2



8. Heat the vials for 2 hours.

Note: Many samples are digested completely in less than two hours. If desired, measure the concentration (while still hot) at 15 minute intervals until the reading remains unchanged. Cool vials to room temperature for final measurement.



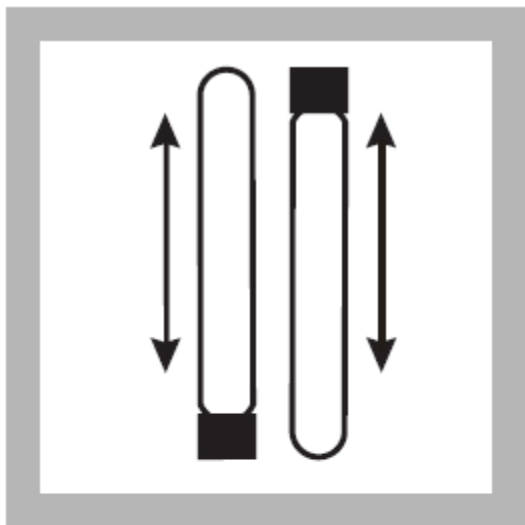
CHEMICAL OXYGEN DEMAND



9. Turn the reactor off.
Wait about 20 minutes for
the vials to cool to 120 °C
or less.



CHEMICAL OXYGEN DEMAND



10. Invert each vial several times while still warm. Place the vials into a rack. Wait until the vials have cooled to room temperature.

Note: *If a pure green color appears in the reacted sample, measure the COD and, if necessary, repeat the test with a diluted sample.*



CHEMICAL OXYGEN DEMAND

**Choose a
range**

11. Use one of the following analytical techniques to measure the COD:

- Colorimetric method, 0-150 mg/L COD
- Colorimetric method, 0-1,500 mg/L COD
- Colorimetric method, 0-15,000 mg/L COD