

Oxygen CHEMets® Kit

K-7518: 5 - 180 ppb

K-7540: 0 - 40 ppb

K-7599: 0 - 100 ppb

Sampling

The most critical part of any dissolved oxygen test is sampling. The sample stream must be completely leak-free. To accomplish this, the sampling tube is vertically mounted with a tube of inert material connecting the sample point to the bottom of the sampling tube. Use stainless steel, type 304 or 316, or glass tubing with short neoprene connections. Do not use copper tubing, long sections of neoprene or other polymeric tubing.

Test Procedure

1. To remove trapped air bubbles, the system should be purged with water that is flowing at the fastest possible rate, and has a temperature of 180 - 210°F (80 - 100°C). New sampling systems should be purged for several hours, while those used routinely may require only a few minutes. When the system is fully purged, reduce the flow to 500 - 1000 mL per minute and cool the sample to ambient temperature.
2. Insert an ampoule so that the tapered tip is at the bottom of the sampling tube. Snap the ampoule tip by gently pressing the upper end of the ampoule toward the wall of the sampling tube (fig. 1). The ampoule will fill, leaving a bubble to facilitate mixing.
3. Quickly mix the contents by inverting the ampoule, allowing the bubble to travel from end to end. Dry the ampoule. The color comparison must be made **within 30 seconds**.

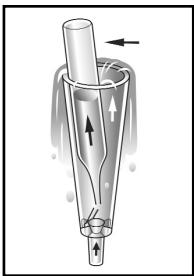


Figure 1

4. Place the ampoule, flat end downward into the center tube of the comparator. Direct the top of the comparator up toward a source of light while viewing from the bottom. Rotate the comparator until the color standard below the ampoule shows the closest match (fig 2). If the color of the ampoule is between two color standards, a concentration estimate can be made.

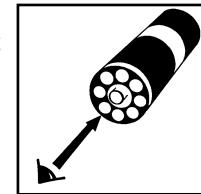


Figure 2

Test Method

The Oxygen CHEMets®¹ test kit employs the Rhodazine D™ Method.^{2,3} Dissolved oxygen reacts with the pale yellow colored leuco form of Rhodazine D to produce a deep rose color. The resulting color is proportional to the dissolved oxygen concentration in the sample. Results are expressed in ppb ($\mu\text{g}/\text{Liter}$) O_2 .

1. CHEMets is a registered trademark of CHEMetrics, Inc. U.S. Patent No. 3,634,038
2. Rhodazine D methodology was developed by and is a trademark of CHEMetrics, Inc.
3. ASTM D 5543 - (2005), Standard Test Methods for Low Level Dissolved Oxygen in Water

Safety Information

Read MSDS before performing this test. Wear safety glasses and disposable gloves.

Important Note

The CHEMet ampoules contain a light sensitive reagent. They will remain stable only if stored in the dark.



CHEMetrics, Inc., 4295 Catlett Road, Calverton, VA 20138-0214 U.S.A.
Phone: (800) 356-3072; Fax: (340) 788-4856; E-Mail: orders@chemetrics.com
www.chemetrics.com

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