Oxygen Scavenger

Range(s): 0-1.000 ppm Carbohydrazide, 0-0.700 ppm DEHA, 0-2.450 ppm Erythorbic Acid, 0-2.000 ppm Hydroquinone, 0-3.000 ppm MEKO

Procedure

Note: Glassware that has not been properly cleaned may contaminate the sample and affect test results. Clean glassware thoroughly before use with phosphate-free detergent (available in local stores); then rinse with Hydrochloric Acid 3N (R-0737) followed by DI Water (R-0833) or sample water.

Note: Sample temperature should be 72ºF-77ºF (22ºC-25ºC).

1. Turn on the Colorimeter.
2. Select a test menu (ALL TESTS, RECENT TESTS, or FAVORITES) containing Oxygen Scav DEHA 0.7 or alternative oxygen scavenger test (Oxygen Scav Carbo 1, Oxygen Scav Eryth 2.45, Oxygen Scav Hydro 2, or Oxygen Scav MEKO 3) using ◀▶.
3. Select appropriate oxygen scavenger test using ▲▼; then press ENTER ⊙.
4. Rinse and fill one 25 mm sample cell to 10 mL mark with DI Water (R-0833). (This will be the blank sample cell.)
5. Rinse and fill a second 25 mm sample cell to 10 mL mark with sample.
6. Add 1 mL Oxygen Scavenger - Reagent A to each cell.
7. Add 1 mL Oxygen Scavenger - Reagent B to each cell; then cap and swirl to mix thoroughly for 10 seconds.
8. Place cells in the dark during the reaction period.
9. Select TIMER using ◀▶; then press ENTER ⊙.
10. Select START using ◀▶; then press ENTER ⊙. (A 10-minute [10:00] countdown will begin. For Hydroquinone, a 2-minute [02:00] countdown will begin.)
11. When timer beeps, insert blank sample cell into sample cell compartment. Align marks per User's Manual.
12. Select ZERO using ◀▶; then press ENTER ⊙. Zero will be displayed.
13. Remove blank sample cell and insert the second sample cell into sample cell compartment. Align marks.
14. Select READ using ◀▶; then press ENTER ⊙. The instrument will read the sample and the result will be displayed.

Interferences

Ferrous Iron, all levels – positive interference

To remove interference: Repeat the above procedure, but do not add Oxygen Scavenger - Reagent B (Step 7). Record this value; then subtract this value from the initial test result.

Iron Chelants, all levels – negative interference

Strong Reducing Agents, all levels – positive interference

Sample temperature affects color development.

Test Method

Iron Reduction

Under acidic conditions, oxygen scavengers reduce ferric iron to ferrous iron. Ferrozine complexes with ferrous iron to produce a magenta-colored complex that is proportional to the concentration of oxygen scavenger in a sample.

(over)

Estimated Detection Limit

0.012 ppm Carbohydrazide
0.010 ppm DEHA
0.033 ppm Erythorbic Acid
0.027 ppm Hydroquinone
0.037 ppm MEKO

Precision

Using a single lot of reagent and a standard solution of 0.234 ppm DEHA, an individual analyst obtained a standard deviation of 0.003 ppm DEHA (equivalent to 0.004 Carbohydrazide, 0.010 ppm Erythorbic Acid, 0.008 ppm Hydroquinone, and 0.010 ppm MEKO).

Application

Industrial Water

Ordering Info

Reagent Pack

K-8016 Oxygen Scavenger
Formulated for exclusive use with Taylor's TTi® Colorimeter.

Reagent Pack Components

R-8016A Oxygen Scavenger - Reagent A
R-8016B Oxygen Scavenger - Reagent B
R-0833 DI Water

Optional Reagents & Accessories

R-0737 Hydrochloric Acid 3N

taylor
31 Loveton Circle, Sparks, MD 21152 U.S.A.
800-TEST KIT (837-8548) • 410-472-4340
customerservice@taylortechnologies.com