Technical Data Sheet

Bromine

DPD Method

Applications and Industries: Drinking and surface waters, industrial process waters

References: APHA Standard Methods, 22nd ed., Method 4500-Cl G - 2000; USEPA Methods for Chemical Analysis of Water and Wastes, Method 330.5 (1983)

Chemistry: The sample is treated with an excess of potassium iodide. Bromine oxidizes the iodide to iodine, and the iodine then oxidizes DPD (N,N-diethyl-p-phenylenediamine) to form a pink colored species in direct proportion to the bromine concentration. Results are expressed as ppm (mg/L) Br_2. This test measures total bromine and cannot be used to differentiate between free and combined bromine.

Interference Information:
Various oxidizing agents, including other halogens (chlorine, iodine), chloramines, peracetic acid, and ozone, and various halogenating agents will react with the chemistry to cause false high test results.
Bromine itself and halogens at concentrations significantly above the test range may prevent proper color development, causing a false low result.
Hydrogen peroxide and ferric iron at concentrations comparable to the test range do not interfere with this chemistry.
Chromate may interfere.
Permanganate, Mn^{+7}, interferes positively.
Manganese (II), Mn^{+2}, does not interfere at up to at least 4 ppm.
Cupric copper may interfere positively.
Nitrite at concentrations up to at least 5 ppm does not interfere.
Samples with extreme pHs or that are highly buffered should be adjusted to pHs of approximately 6 - 7 prior to analysis.

Safety Information: Safety Data Sheets (SDS) are available upon request and at www.chemetrics.com. Read SDS before using these products. Breaking the tip of an ampoule in air rather than water may cause the glass ampoule to shatter. Wear safety glasses and protective gloves.

Available Analysis Systems: Visual colorimetric: CHEMets®. Instrumental colorimetric: Vacu-vials®.

Storage Requirements: Products should be stored in the dark and at room temperature.

Shelf Life: *When stored in the dark and at room temperature:* Visual colorimetric: The CHEMets refill has a shelf life of 4 years. The color comparators and accessory solution have 2-year shelf lives. Instrumental colorimetric: The Vacu-vials test kit has a 2-year shelf life.

Accuracy: CHEMets kit: ± 1 color standard increment; Vacu-vials kit: ± 10% error at 75% of full range, ± 20% error at 25% of full range, ± 30% error at CHEMetrics' Practical Detection Limit (PDL).

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