

Method

Chlorine dioxide is used as an oxidizing microbicide in industrial cooling water treatment, the dairy industry, the meat industry, and many other food and beverage industry applications. It is used as a bleaching agent in the pulp and paper industry, and as a disinfectant in municipal water treatment. Industrial waste treatment facilities use chlorine dioxide because of its selectivity for certain compounds, including phenols, sulfides, cyanides, thiosulfates, and mercaptans. The oil and gas industry uses chlorine dioxide for downhole applications and as a stimulation enhancement additive. The Maximum Residual Disinfectant Level for chlorine dioxide is 0.8 mg/L in drinking water.

The DPD Method

References: USEPA Methods for Chemical Analysis of Water and Wastes, Method 330.5 (1983). APHA Standard Methods, 20th ed., Method 4500-ClO₂ D - 1993 and 22nd ed., Method 4500-Cl G - 2000.

In the standard DPD methodology, chlorine dioxide reacts with DPD (N, N-diethyl-p-phenylenediamine) to form a pink product. Interference from free Cl₂ is prevented (up to 6 ppm Cl₂) by the addition of glycine to the sample. Results are expressed as ppm (mg/L) ClO₂.

Visual Kit

Range: 0-2 & 0-10 ppm
MDL: 0.1 ppm / Method: DPD

	Cat#
CHEMets Kit	K-2705
CHEMets Refill, 30 ampoules	R-2705
Neutralizer Solution Pack, six 10 mL bottles, Shelf-life 8 months	A-2700 ¹
Low Range Comparator 0, 0.2, 0.4, 0.6, 0.8, 1.2, 1.6, 2.0 ppm	C-2702
High Range Comparator 0, 2, 3, 4, 5, 6, 7, 8, 10 ppm	C-2710

Kit comes in a plastic case and contains everything needed to perform 30 tests: Refill, Low and High Range Comparators, Neutralizer Solution, 25 mL sample cup and instructions.

Instrumental Kits

Multi-Analyte Photometers

V-2000 / V-3000 Series

(See page 14 for instrumental features)

Range: 0-11.00 ppm

Method: DPD

	Cat#
Vacu-vials Kit , Shelf-life 8 months	K-2703

Kit comes in a cardboard box and contains everything needed to perform 30 tests: thirty ampoules, Neutralizer Solution, 25 mL sample cup, ampoule blank and instructions.

Vacu-vials Kits require the use of a CHEMetrics Direct-Readout Photometer (photometers sold separately) or a spectrophotometer capable of accepting a 13 mm diameter round cell. See page 14 for details.

SAM Single-Analyte Photometer

(See page 17 for instrumental features)

Range: 0-11.0 ppm

Method: DPD

	Cat#
SAM Kit	I-2005

Vacu-vials Kit, 30 ampoules, Neutralizer Solution, 25 mL sample cup, ampoule blank and instructions. Shelf-life 8 months.

SAM Kit comes in a plastic case and contains everything needed to perform 30 tests: Vacu-vials Kit, SAM Photometer, light shield, 4 AAA batteries, screwdriver, and instructions.

Kit Components common to Chlorine Dioxide

Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Ampoule Blank Pack (5 ea)	A-0023

¹The accessory pack supplies enough solution to perform at least 200 tests.

Instructions and MSDS(s) are posted on our website.

If no shelf-life is listed for a product, then the shelf-life is at least 2 years.

