

Method

Ethylene glycol and propylene glycol are the primary ingredients in commercially-available antifreezes. They are used with various corrosion inhibitors to protect metal surfaces in cooling water systems.

CHEMetrics glycol kits are used to monitor potable waters for glycol contamination originating from glycol in cooling systems. They are also used to detect glycol in storm water effluent and to monitor glycol recycling operations.

The Purpald-Periodate Method

Reference: Purpald® developed by Aldrich Chemical Company. Fritz, James S. and Schenk, George H., *Quantitative Analytical Chemistry*, 4th ed., p. 277 (1979).

In the colorimetric chemistry, periodic acid oxidizes ethylene glycol and/or propylene glycol to formaldehyde, which reacts with Purpald in alkaline solution. Test results may be expressed in either ppm (mg/L) ethylene or propylene glycol. Correction factors are supplied with all kits to convert to the alternate glycol form.

This test requires much less time to perform and involves fewer manipulations than the standard chromotropic acid procedure.

Shelf-life: five months. We recommend stocking quantities that will be used within four months.

Visual Kits

Range: 1-15 ppm as ethylene glycol; 2-30 ppm as propylene glycol

MDL: 1 ppm / Method: Purpald-Periodate

CHEMetrics Kit	Cat#
CHEMetrics Refill, 30 ampoules, Shelf-life 5 months	R-4815
Activator Solution Pack, six 10 mL bottles	A-4400 ¹
Activator Solution Pack, six 20 mL bottles	A-4401 ^{1,2}
Activator Solution Pack, six 10 mL bottles	A-4402 ¹
Comparator 1, 2, 3, 4, 5, 6, 8, 10, 15 ppm	C-4815

Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, Activator Solutions, 25 mL sample cup, sample cup top and instructions.

Range: 1000-15,000 ppm as ethylene glycol; 2000-30,000 ppm as propylene glycol

MDL: 1000 ppm / Method: Purpald-Periodate

VACUettes Kit	Cat#
VACUettes Refill, 30 ampoules, Shelf-life 5 months	R-4815C
Activator Solution Pack, six 10 mL bottles, Shelf-life 12 months	A-4404 ¹
Activator Solution Pack, six 20 mL bottles	A-4401 ^{1,2}
Activator Solution Pack, six 10 mL bottles	A-4402 ¹
Comparator 1000, 2000, 3000, 4000, 5000, 6000, 8000, 10,000, 15,000 ppm	C-4815C

Kit comes in a plastic case and contains everything needed to perform 30 tests (except distilled water): Refill, Comparator, Activator Solutions, dilutor snapper cup, sample cup top, micro test tube and instructions.



 Instrumental Kits

Multi-Analyte Photometers

V-2000 / V-3000 Series

(See page 14 for instrumental features)

Range: 0-10.00 ppm as ethylene glycol; 0-20.00 ppm as propylene glycol

Method: Purpald-Periodate

Vacu-vials Kit, Shelf-life 5 months

Cat#
K-4403²

Kit comes in a cardboard box and contains everything needed to perform 30 tests (except distilled water): thirty ampoules, Activator Solutions, 25 mL sample cup, sample cup top, ampoule blank and instructions.

Range: 0-65.0 ppm as propylene glycol; 0-32.5 ppm as ethylene glycol

Method: Purpald-Periodate

Vacu-vials Kit, Shelf-life 5 months

Cat#
K-4423²

Kit comes in a cardboard box and contains everything needed to perform 30 tests (except distilled water): thirty ampoules, Activator Solutions, Stabilizer Solution, 25 mL sample cup, sample cup top, 10 mL syringe, 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.

Kit Components common to Glycol

Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Sample Cup Top Pack for 25 mL Cup (6 ea)	A-0014
Micro Test Tube Pack (10 ea)	A-0015
Dilutor Snapper Cup Pack (6 ea)	A-0018
Ampoule Blank Pack (5 ea)	A-0023
Syringe Pack, 10 mL (6 ea)	A-0104

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

²The Activator Solutions, A-4401 and A-4406 are supplied as a dry chemical with NO expiration date. Once reconstituted, they have a limited shelf-life.

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.

