

## Method

**References:** Purpald® developed by Aldrich Chemical Company

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.

In the colorimetric chemistry, periodic acid oxidizes ethylene glycol and/or propylene glycol to formaldehyde, which reacts with Purpald in alkaline solution. Test kits are available that report test results 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**  
MDL: 1 ppm / Method: Purpald-Periodate

|  | <b>Cat#</b>           |
|--|-----------------------|
| <b>CHEMets Kit</b>                               | <b>K-4815</b>         |
| CHEMets Refill, 30 ampoules, Shelf-life 5 months | R-4815                |
| Activator Solution Pack, six 10 mL bottles       | A-4400 <sup>1</sup>   |
| Activator Solution Pack, six 20 mL bottles       | A-4401 <sup>1,2</sup> |
| Activator Solution Pack, six 10 mL bottles       | A-4402 <sup>1</sup>   |
| Comparator<br>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, instructions, and MSDS.

**Range: 1000-15,000 ppm as ethylene glycol**  
MDL: 1000 ppm / Method: Purpald-Periodate

|  | <b>Cat#</b>           |
|--|-----------------------|
| <b>VACUettes Kit</b>   | <b>K-4815C</b>        |
| VACUettes Refill, 30 ampoules, Shelf-life 5 months                         | R-4815C               |
| Activator Solution Pack, six 10 mL bottles, Shelf-life 12 months           | A-4404 <sup>1</sup>   |
| Activator Solution Pack, six 20 mL bottles                                 | A-4401 <sup>1,2</sup> |
| Activator Solution Pack, six 10 mL bottles                                 | A-4402 <sup>1</sup>   |
| Comparator<br>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, diluter snapper cup, micro test tube, instructions, and MSDS.





## Instrumental Kits

### V-2000 Multi-Analyte Photometer

(See page 12 for instrumental features)

**Range: 0.60-10.00 ppm as ethylene glycol**

Method: Purpald-Periodate

Cat#

Vacu-vials Kit, Shelf-life 5 months

K-4403<sup>2</sup>

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, instructions, calibration table, and MSDS.

**Range: 5-65 ppm as propylene glycol**

Method: Purpald-Periodate

Cat#

Vacu-vials Kit, Shelf-life 5 months

K-4423<sup>2</sup>

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, instructions, calibration table and MSDS.

*Vacu-vials Kits require the use of the V-2000 Photometer or a spectrophotometer capable of accepting a 13 mm diameter round cell. Instrument sold separately.*

### 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 |
| Sample Cup & Cap Pack, 50 mL (6 ea)      | A-0058 |
| Syringe Pack, 10 mL (6 ea)               | A-0104 |

<sup>1</sup>The accessory pack supplies enough solution to perform at least 200 tests.

<sup>2</sup>The Activator Solution, A-4401, is supplied as a dry chemical with NO expiration date. Once reconstituted, it has a shelf-life of 6 weeks that can be extended to 4 months if stored in the refrigerator when not in use.

*Instructions are posted on our website.*

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

