

Method

Aluminum forms a variety of minerals in the earth's crust. Aluminum and its alloys have many uses: heat exchangers, construction materials, and aircraft parts. Alum (aluminum potassium sulfate) is used in water treatment to flocculate suspended particles but may raise the level of aluminum in finished drinking water. The maximum secondary contaminant limit for drinking water is 0.05-0.2 mg/L.

The Eriochrome Cyanine R (ECR) Method

References: APHA Standard Methods, 21st ed., Method 3500-AI B (2005). Rapid Modified Eriochrome Cyanine R (ECR) Method for Determination of Aluminum in Water, Kenneth E. Shull and Gene R. Guthan, pp 1456-1468, J. AWWA, Nov. 1967.

The Aluminum Vacu-vials[®] test method is based on the reaction between aluminum and Eriochrome Cyanine R (ECR), which forms a red dye-lake at approximately pH 6.0 in proportion to the amount of aluminum present in the sample. Results are expressed as ppm (mg/L) aluminum.



Instrumental Kit

V-2000 Multi-Analyte Photometer

(See page 14 for instrumental features)

Range: 0.04-0.25 ppm

Method: Eriochrome Cyanine R (ECR)

	Cat#
Vacu-vials Kit	K-0603 ^{1,2}

Kit comes in a cardboard box and contains everything needed to perform up to 29 tests (except distilled water): thirty ampoules, Activator Solution, Neutralizer Solution, 25 mL sample cup, ampoule blank, 1.0 mL syringe, instructions, 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.

¹ Although the test kit contains 30 ampoules, a fresh reagent ampoule blank must be prepared for each series of tests; therefore, the number of samples that can be tested with each kit will vary from a maximum of 29 to a minimum of 15.

² The Neutralizer Solution 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 3 months if stored in the refrigerator when not in use.

Kit Components common to Aluminum

Description	Cat#
Sample Cup Pack, 25 mL (6 ea)	A-0013
Ampoule Blank Pack (5 ea)	A-0023
Syringe Pack, 1.0 mL (6 ea)	A-0027

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.

