

Method

Sulfate is present at widely varying concentrations in natural waters. The USEPA has established a Secondary Drinking Water Standard of 250 mg/L for sulfate in potable water, as higher concentrations affect odor and taste. Sulfate levels are also measured in the beverage industry due to its effect on odor and taste. Sulfate levels must be monitored in cooling water and ion exchange systems in order to prevent calcium sulfate scale formation.

The Turbidimetric Method

References: APHA Standard Methods, 15th ed., Method 426 C (1980). USEPA Methods for Chemical Analysis of Water and Wastes, Method 375.4 (1983). ASTM D 516-07, Sulfate Ion in Water.

The Sulfate Vacu-vials[®] test kit employs the turbidimetric method. Sulfate ion reacts with barium chloride in an acidic solution to form a suspension of barium sulfate crystals of uniform size. The resulting turbidity is proportional to the sulfate concentration of the sample. Results are expressed as ppm (mg/L) SO₄.



Instrumental Kits

V-2000 Multi-Analyte Photometer

(See page 14 for instrumental features)

Range: 8.0-100.0 ppm

Method: Turbidimetric

Vacu-vials Kit

Cat#

K-9203

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

Kit Component common to Sulfate

Description

Cat#

Sample Cup Pack, 25 mL (6 ea)

A-0013

Ampoule Blank Pack (5 ea)

A-0023

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.

