



# Technical Data Sheet

## Persulfate

### Ferric Thiocyanate Method

**Applications and Industries:** Groundwater remediation, pools and spas

**References:** D.F. Boltz and J.A. Howell, eds., Colorimetric Determination of Nonmetals, 2<sup>nd</sup> ed., Vol. 8, page 304 (1978).

**Chemistry:** In an acidic solution, persulfate oxidizes ferrous iron. The resulting ferric ion reacts with ammonium thiocyanate to form ferric thiocyanate, a red-orange colored complex, in direct proportion to the persulfate concentration. Results are expressed as ppm (mg/L) sodium persulfate ( $\text{Na}_2\text{S}_2\text{O}_8$ ).

**Interference Information:**

Ferric iron and hydrogen peroxide interfere positively if present at any level.

Ozone and chlorine up to at least 1 ppm do not develop color with this chemistry.

Cupric copper may interfere positively.

Peracetic acid (PAA) interferes positively.

Oxidized manganese (permanganate,  $\text{Mn}^{7+}$ ) will interfere positively.

Sample pHs between 1 and 8 are tolerated. Samples with extreme pHs or that are highly buffered should be adjusted to pHs of approximately 4-7 prior to analysis.

**Safety Information:** Safety Data Sheets (SDS) are available upon request and at [www.chemetrics.com](http://www.chemetrics.com). Read SDS before using these products. Breaking the tip of an ampoule in air rather than water may cause the glass ampoule to shatter. Wear safety glasses and protective gloves.

**Available Analysis Systems:** Visual colorimetric: CHEMets®

**Storage Requirements:** Products should be stored in the dark and at room temperature.

**Shelf Life:** *When stored in the dark and at room temperature:* The CHEMets refill has a shelf life of 4 years. The color comparators have 2-year shelf lives.

**Accuracy:** CHEMets kit:  $\pm 1$  color standard increment

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