



Test method T1006

Quantitative determination of chromate ion in water where chromate content is more than 10 ppm

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Revision Summary

Ed/Rev Number	Clause Number	Description of Revision	Authorisation	Date
		Reformatted and Revision Summary Added	D.Dash	June 2001
Ed 2/ Rev 0	All	Reformatted RMS template	J Friedrich	November 2012

Note that Roads and Maritime Services is hereafter referred to as 'RMS'.

The most recent revision to Test method T1006 (other than minor editorial changes) are indicated by a vertical line in the margin as shown here.

Test method T1006

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1. Scope

This test method sets out the procedure for determination of the chromate ion content in water by titration

2. Apparatus

- (a) Laboratory glassware including burettes, pipettes, etc.
- (b) A balance of 200 g capacity, accurate and readable to 0.0001 g.

3. Reagents

- (a) 30% Sulphuric Acid Solution.
Pour 30 mL of concentrated sulphuric acid slowly into 70 mL distilled water. Allow to cool and dilute to 100 mL with distilled water.

CAUTION: Sulphuric acid can cause severe burns. Avoid contact with eyes, skin and clothing. Always dilute by carefully adding acid to water NEVER THE REVERSE. Always wear safety glasses when handling acid.

- (b) 10% Potassium Iodide Solution.
Dissolve 10 g of potassium iodide in 100 mL distilled water.
- (c) "Vitrex" Indicator.
- (d) 0.1 N Sodium Thiosulphate Solution.
Dissolve 25 g of A.R. sodium thiosulphate crystals, $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$, in freshly boiled distilled water and make up to 1 litre in a volumetric flask with freshly boiled distilled water. Store in a dark bottle and do not keep more than a few days.

4. Procedure

- (a) Pipette 100 mL of the sample into a 400 mL beaker.
- (b) Add 8 mL of 30% sulphuric acid solution and 8 mL of 10% potassium iodide solution and mix thoroughly. Allow to stand for ten minutes.
- (c) Titrate with 0.1 N sodium thiosulphate solution until the colour of the solution weakens to pale straw.
- (d) Add a small amount of "Vitrex" indicator (enough to cover about one half of a one cent piece). The solution will turn blue-black.
- (e) Continue to titrate with the sodium thiosulphate solution until the blue colour disappears.

5. Calculation and Reporting

Chromate Content (ppm) = Titre in mL x 39 as CrO_4 .