

Status: Currently Official on 17-Feb-2025
Official Date: Official Prior to 2013
Document Type: Reagents
DocId: GUID-75813249-C75F-4692-AAF5-FA0BA3D9DA3C_1_en-US
DOI: https://doi.org/10.31003/USPNF_R1631_01_01
DOI Ref: 56vmb

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Vanadyl Sulfate,

$\text{VOSO}_4 \cdot x\text{H}_2\text{O}$ (anhydrous) 163.00 CAS RN[®]: 27774-13-6.—Blue, hygroscopic crystals. Slowly and usually incompletely soluble in water.

Assay: Accurately weigh about 400 mg of the dried test specimen obtained in the test for *Water*, and transfer with 15 to 20 mL of water into a beaker. Add 3 mL of sulfuric acid, cover the beaker with a watch glass, and heat on a steam bath until all dissolves. Cool, dilute with 125 mL of water, and titrate with 0.1 N potassium permanganate VS to the production of a pinkish color that persists for 1 minute: each mL of 0.1 N potassium permanganate is equivalent to 16.30 mg of VOSO_4 . Not less than 97% is found.

Water: Dry about 1 g, accurately weighed, at 220° to constant weight: it loses not more than 50.0% of its weight.

Pentavalent Vanadium: Heat 1 g, accurately weighed, with 50 mL of water and 5 mL of hydrochloric acid in a flask until dissolved. Cool, add 2 g of potassium iodide, insert the stopper, and allow to stand for 30 minutes. Add 50 mL of water, and titrate the liberated iodine with 0.1 N sodium thiosulfate VS, adding 3 mL of starch TS as the indicator. Correct for the volume of thiosulfate consumed by a blank. Each mL of 0.1 N thiosulfate is equivalent to 5.095 mg of vanadium (V). Not more than 0.5% is found, calculated on the dried basis.

Substances Not Precipitated By Ammonia: Dissolve 1.0 g by heating with 20 mL of water and 2 mL of hydrochloric acid. Dilute with water to about 75 mL, and neutralize to litmus paper with ammonia TS. Transfer the solution to a cylinder, slowly add 5 mL of ammonia TS and sufficient water to make 100 mL, and allow to stand overnight. Decant 50 mL of the supernatant through a filter, add 5 drops of sulfuric acid, evaporate to dryness, and ignite: the residue weighs not more than 10 mg (2.0%).

Auxiliary Information - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
VANADYL SULFATE	Margareth R.C. Marques Principal Scientific Liaison	HDQ Headquarters

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