

Status: Currently Official on 16-Feb-2025
 Official Date: Official Prior to 2013
 Document Type: Reagents
 DocId: GUID-93052D9A-3BD6-4A36-8FBF-D8504E376D0D_1_en-US
 DOI: https://doi.org/10.31003/USPNF_R1506_01_01
 DOI Ref: c0kus

© 2025 USPC
 Do not distribute

Strontium Hydroxide

(*Strontium Hydroxide Octahydrate*), $\text{Sr}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$ 265.76 CAS RN[®]: 18480-07-4.—White, crystalline, free-flowing powder.

Sparingly soluble in water. May absorb carbon dioxide from the air. Keep tightly closed.

Assay and Carbonate: Accurately weigh about 5 g, dissolve in 200 mL of warm carbon dioxide-free water in a glass-stoppered, 500-mL flask, add phenolphthalein TS, and titrate with 1 N hydrochloric acid VS to determine the hydroxide alkalinity. Then add methyl orange TS, and titrate with 1 N hydrochloric acid VS. Each mL of 1 N hydrochloric acid required to reach the phenolphthalein endpoint is equivalent to 132.9 mg of $\text{Sr}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$, and each additional mL of 1 N hydrochloric acid VS required to reach the methyl orange endpoint is equivalent to 73.8 mg of SrCO_3 . Not less than 95.0% of $\text{Sr}(\text{OH})_2 \cdot 8\text{H}_2\text{O}$ and not more than 3.0% of SrCO_3 are found.

Chloride (Reagent test): Dissolve 1.0 g in 100 mL of water, and filter if necessary: 1.0 mL of the solution shows not more than 0.01 mg of Cl (0.1%).

Calcium (Reagent test)

Test solution: Dissolve 5.0 g in water, and dilute with water to 100 mL.

Sample solution: Dilute 10.0 mL of the *Test solution* with water to 100 mL.

Control solution: To 10.0 mL of the *Test solution* add 0.50 mg of calcium ion (Ca), and dilute with water to 100 mL.

Procedure: Determine the background emission at 416.7 nm: the limit is 0.1%.

Iron: Dissolve 1 g in warm water, and dilute with water to 100 mL. To 20 mL of this solution add 2 mL of hydrochloric acid and 0.1 mL of 0.1 N potassium permanganate, allow to stand for 5 minutes, and add 3 mL of ammonium thiocyanate solution (3 in 10). Any red color produced is not darker than that of a control containing 0.03 mg of added Fe (0.015%).

Heavy Metals: Dissolve 2.0 g in 14 mL of dilute hydrochloric acid (1 in 6), and evaporate on a steam bath to dryness. Take up the residue in 25 mL of water, filter, and dilute with water to 100 mL (*Test solution*). To 5.0 mL of the *Test solution* add 0.02 mg of lead (Pb), and dilute with water to 30 mL, to provide the standard. For the test specimen, use 30 mL of the *Test solution*. Adjust each solution with diluted acetic acid or ammonia TS to a pH between 3.0 and 4.0 (using short-range pH paper), dilute with water to 40 mL, and add 10 mL of freshly prepared hydrogen sulfide TS: any brown color developed in the sample solution is not darker than that in the control solution (0.004%).

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

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

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. Information currently unavailable

Current DocID: [GUID-93052D9A-3BD6-4A36-8FBF-D8504E376D0D_1_en-US](#)

DOI: https://doi.org/10.31003/USPNF_R1506_01_01

DOI ref: [c0kus](#)