



Edition: BP 2025 (Ph. Eur. 11.6 update)

Potassium Selenate

[General Notices](#)

K_2SeO_4 221.2 7790-59-2

Action and use

Used, with Alpha Tocopheryl Acetate, in the treatment of nutritional muscular dystrophy.

DEFINITION

Potassium Selenate contains not less than 97.0% and not more than 100.5% of K_2SeO_4 , calculated with reference to the dried substance.

CHARACTERISTICS

Colourless crystals or a white, crystalline powder.

Freely soluble in [water](#).

IDENTIFICATION

- A. Yields the reactions characteristic of *potassium salts*, [Appendix VI](#).
B. To a solution of 0.1 g in 3 mL of [water](#) add 1 mL of [hydrochloric acid](#) and 0.5 mL of [hydrazine hydrate](#) and boil. A red precipitate is produced.
C. Acidify 1 mL of a 1% w/v solution with [2M hydrochloric acid](#) and add 0.15 mL of [barium chloride solution](#). Wash the precipitate with [water](#) and boil with [hydrochloric acid](#). Chlorine is evolved.

TESTS

Chloride

0.3 g complies with the [limit test for chlorides](#), [Appendix VII](#) (170 ppm).

Selenite

Not more than 0.1%, calculated as SeO_3 , when determined by the following method. Dissolve 2.0 g in 50 mL of [water](#), add 50 mL of 9M [sulfuric acid](#), 12 g of [disodium hydrogen orthophosphate](#) and 10 mL of 0.02M [potassium permanganate VS](#) and allow to stand for 20 minutes with occasional agitation. Titrate the excess of potassium permanganate with 0.1M [ammonium iron\(II\) sulfate VS](#). Each mL of 0.02M [potassium permanganate VS](#) is equivalent to 6.348 mg of SeO_3 .

[Loss on drying](#)

When dried to [constant weight](#) at 105°, loses not more than 0.1% of its weight. Use 1 g.

ASSAY

Dissolve 1 g in 60 mL of [water](#), add 15 mL of [hydrochloric acid](#) and 5 mL of a 50% w/v solution of [hydrazine hydrate](#), boil, heat on a water bath for 3 hours, and allow to stand overnight. Transfer the precipitated selenium to a weighed, sintered-glass crucible, wash with hot [water](#) until the washings are free from chloride ions, rinse with [absolute ethanol](#) and dry at 105° to [constant weight](#). Correct for the amount of selenium present as selenite found in the test for selenite. Each mg of selenium is equivalent to 2.801 mg of K_2SeO_4 .