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## Potassium Nitrate Solution

» Potassium Nitrate Solution contains not less than 98.0 percent and not more than 102.0 percent of the labeled amount of  $\text{KNO}_3$ .

**Packaging and storage**—Preserve in tight containers.

**Identification**—It responds to the tests for [Potassium \(191\)](#) and for [Nitrate \(191\)](#).

**CHLORIDE (221)**—An accurately measured portion of Solution, equivalent to 500 mg of potassium nitrate, shows no more chloride than corresponds to 0.21 mL of 0.020 N hydrochloric acid (0.03%, based on the potassium nitrate content of the Solution).

**SULFATE (221)**—Dilute an accurately measured portion of Solution, equivalent to 100 mg of potassium nitrate, with water to obtain 10 mL of solution, add 15 mL of 6 N hydrochloric acid, and evaporate to dryness on a steam bath. To the residue so obtained add 7 mL of 6 N hydrochloric acid, and evaporate to dryness on a steam bath. Dissolve the residue so obtained in about 35 mL of water and, if necessary, neutralize with hydrochloric acid using litmus paper indicator. Filter, if necessary, to obtain a clear test solution. This test solution shows no more sulfate than corresponds to 0.10 mL of 0.020 N sulfuric acid (0.1%, based on the potassium nitrate content of the Solution).

**Change to read:**

▲ **ARSENIC (211), Procedures, Procedure 1** ▲ (CN 1-Jun-2023) : 3 ppm, based on the potassium nitrate content of the Solution, an accurately measured portion of Solution, equivalent to 1.0 g of potassium nitrate, being tested.

**Change to read:**

**Lead**—Dilute an accurately measured portion of Solution, equivalent to 500 mg of potassium nitrate, with water to obtain 20 mL of test solution. This test solution contains not more than 5 µg of lead (corresponding to not more than 0.001% of Pb, based on the potassium nitrate content of the Solution) when tested as directed under ▲ **Lead (251), Procedures, Procedure 1** ▲ (CN 1-Jun-2023) .

**Change to read:**

▲ **IRON (241), Procedures, Procedure 1** ▲ (CN 1-Jun-2023) : not more than 0.001%, based on the potassium nitrate content of the Solution, an accurately measured portion of Solution, equivalent to 1.0 g of potassium nitrate, being tested.

**Limit of sodium**—

**Stock test solution**—Transfer an accurately measured portion of Solution, equivalent to 1.0 g of potassium nitrate, to a 500-mL volumetric flask, dilute with water to volume, and mix. [NOTE—The concentration of potassium nitrate in this solution may be modified by using a different quantity or by further dilution to bring the absorption response within the working range of the atomic absorption spectrophotometer.]

**Stock standard solution**—Proceed as directed in the [Limit of sodium](#) test under [Potassium Nitrate](#).

**Procedure**—Proceed as directed in the [Limit of sodium](#) test under [Potassium Nitrate](#). Calculate the percentage of sodium in the portion of Solution taken by multiplying C by 0.25: the limit is 0.1%, based on the potassium nitrate content of the Solution.

**Limit of nitrite**—

**Sulfanilic acid solution, N-(1-Naphthyl)ethylenediamine dihydrochloride solution, and Standard solutions**—Proceed as directed in the [Limit of nitrite](#) test under [Potassium Nitrate](#).

**Test solution**—Transfer an accurately measured portion of the Solution, equivalent to 4.0 g of potassium nitrate, to a 50-mL beaker, add sufficient water to obtain 20 mL of solution, and mix.

**Procedure**—Proceed as directed in the [Limit of nitrite](#) test under [Potassium Nitrate](#). The absorbance of the solution from the *Test solution* does not exceed that of the solution from the *Standard solution* containing 20 µg of nitrite (5 µg per g, based on the potassium nitrate content of the Solution).

**Assay**—[NOTE—Use water that is carbon dioxide- and ammonia-free.]

**Cation-exchange column**—Transfer strongly acidic styrene-divinylbenzene cation-exchange resin (16- to 50-mesh) to a 2-cm diameter chromatographic column to a depth of about 20 cm.

**Procedure**—Transfer an accurately measured portion of Solution, equivalent to about 400 mg of potassium nitrate, to a beaker and add sufficient water to obtain 100 mL of solution. Proceed as directed in the [Assay](#) under [Potassium Nitrate](#) beginning with "Pass this solution through . . . ." Each mL of 0.1 N sodium hydroxide is equivalent to 10.11 mg of  $\text{KNO}_3$ .

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

Topic/Question	Contact	Expert Committee
POTASSIUM NITRATE SOLUTION	<a href="#">Documentary Standards Support</a>	SM22020 Small Molecules 2
REFERENCE STANDARD SUPPORT	RS Technical Services <a href="mailto:RSTECH@usp.org">RSTECH@usp.org</a>	SM22020 Small Molecules 2

**Chromatographic Database Information:** [Chromatographic Database](#)

**Most Recently Appeared In:**

Pharmacopeial Forum: Volume No. Information currently unavailable

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