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Do not distribute

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 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 KNO_3 .

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

Topic/Question	Contact	Expert Committee
POTASSIUM NITRATE SOLUTION	Documentary Standards Support	SM22020 Small Molecules 2
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM22020 Small Molecules 2

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

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