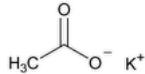


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Potassium Acetate



$C_2H_3KO_2$ 98.14

Acetic acid, potassium salt;

Potassium acetate CAS RN®: 127-08-2; UNII: M911911U02.

DEFINITION

Potassium Acetate contains NLT 99.0% and NMT 100.5% of $C_2H_3KO_2$, calculated on the dried basis.

IDENTIFICATION

- A. [IDENTIFICATION TESTS—GENERAL, Potassium \(191\)](#).

Sample solution: 100 mg/mL

Acceptance criteria: Meets the requirements

- B. [IDENTIFICATION TESTS—GENERAL, Acetate\(191\)](#).

Sample solution: 100 mg/mL

Acceptance criteria: Meets the requirements

ASSAY

- **PROCEDURE**

Sample: 200 mg of Potassium Acetate, previously dried

Analysis: Dissolve the **Sample** in 25 mL of glacial acetic acid, add 2 drops of crystal violet TS, and titrate with 0.1 N perchloric acid VS to a green endpoint. Perform a blank determination, and make any necessary correction (see [Titrimetry \(541\)](#)). Each mL of 0.1 N perchloric acid is equivalent to 9.814 mg of potassium acetate ($C_2H_3KO_2$).

Acceptance criteria: 99.0%–100.5% on the dried basis

IMPURITIES

- **LIMIT OF SODIUM**

Solution A: 100 mg/mL of potassium chloride in water

Standard stock solution: Transfer 127.1 mg of sodium chloride, previously dried at 105° for 2 h into a 500-mL volumetric flask, add water to volume, and mix. Transfer 10.0 mL of this solution to a 100-mL volumetric flask, dilute with water to volume, and mix.

Standard solutions: Transfer 2.0, 5.0, and 10.0 mL of the **Standard stock solution** into separate 100-mL volumetric flasks, add 10.0 mL of **Solution A** to each flask, and dilute with water to volume. These **Standard solutions** contain 0.2, 0.5, and 1.0 µg/mL of sodium, respectively. [NOTE—Concentrations of sodium in the **Standard solutions** may be modified to fit the linear or working range of the atomic absorption spectrophotometer.]

Sample solution: Transfer about 0.2 g of Potassium Acetate into a 100-mL volumetric flask containing about 50 mL of water, and swirl to dissolve. Add 10.0 mL of **Solution A**, dilute with water to volume, and mix. [NOTE—The concentration of Potassium Acetate in the **Sample solution** may be modified by using a different quantity or by further dilution to bring the absorption response within the range of responses from the **Standard solutions**.]

Instrumental conditions

(See [Atomic Absorption Spectroscopy \(852\)](#).)

Mode: Atomic absorption spectrophotometry

Analytical wavelength: Sodium emission line at 589 nm

Lamp: Sodium hollow-cathode

Flame: Oxidizing air–acetylene

Blank solution: Transfer 10.0 mL of **Solution A** into a 100-mL volumetric flask, dilute with water to volume, and mix.

Analysis

Samples: **Standard solutions**, **Sample solution**, and **Blank solution**

Determine the absorbances of the **Standard solutions** and the **Sample solution**, using the **Blank solution** to zero the instrument. Plot the absorbances of the **Standard solutions** versus the concentration, in µg/mL, of sodium, and draw the straight line best fitting the plotted points. From the graph so obtained, determine the concentration, C , in µg/mL, of sodium in the **Sample solution**.

Calculate the percentage of sodium in the portion of Potassium Acetate taken:

$$\text{Result} = (C/W) \times (V/F) \times 100$$

C = concentration of the *Sample solution*, determined from the graph ($\mu\text{g/mL}$)

W = weight of Potassium Acetate taken to prepare the *Sample solution* (g)

V = final volume of the *Sample solution*, taking into account any dilution necessary (mL)

F = conversion factor (1,000,000 $\mu\text{g/g}$)

Acceptance criteria: NMT 0.03%

SPECIFIC TESTS

- [pH \(791\)](#)

Sample solution: 50 mg/mL

Acceptance criteria: 7.5–8.5

- [Loss on Drying \(731\)](#): Dry a sample at 150° for 2 h: it loses NMT 1.0% of its weight.

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in tight containers.

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

Topic/Question	Contact	Expert Committee
POTASSIUM ACETATE	Documentary Standards Support	SM32020 Small Molecules 3
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	SM32020 Small Molecules 3

Chromatographic Database Information: [Chromatographic Database](#)

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