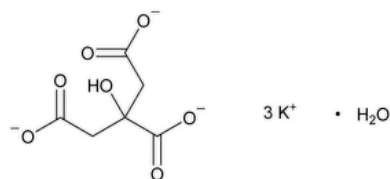


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Potassium Citrate



$C_6H_5K_3O_7 \cdot H_2O$ 324.41

$C_6H_5K_3O_7$ 306.40

1,2,3-Propanetricarboxylic acid, 2-hydroxy-, tripotassium salt, monohydrate;

Tripotassium citrate monohydrate CAS RN®: 6100-05-6.

Anhydrous CAS RN®: 866-84-2.

DEFINITION

Potassium Citrate contains NLT 99.0% and NMT 100.5% of potassium citrate ($C_6H_5K_3O_7$), calculated on the dried basis.

IDENTIFICATION

• **A.** [IDENTIFICATION TESTS—GENERAL, Potassium\(191\)](#) and [Citrate\(191\)](#): A 100-mg/mL solution meets the requirements.

ASSAY

• PROCEDURE

Sample: 200 mg of Potassium Citrate

Blank: 25 mL of glacial acetic acid

Titrimetric system

(See [Titrimetry \(541\)](#).)

Mode: Direct titration

Titrant: 0.1 N perchloric acid VS

Endpoint detection: Visual

Analysis: Dissolve the *Sample* in 25 mL of glacial acetic acid, add 2 drops of crystal violet TS, and titrate with the *Titrant* to a green endpoint.

Perform a *Blank* determination.

Calculate the percentage of potassium citrate ($C_6H_5K_3O_7$) in the *Sample* taken:

$$\text{Result} = \{[(V_s - V_b) \times N \times F] / W\} \times 100$$

V_s = *Titrant* volume consumed by the *Sample* (mL)

V_b = *Titrant* volume consumed by the *Blank* (mL)

N = actual normality of the *Titrant* (mEq/mL)

F = equivalency factor, 102.1 mg/mEq

W = *Sample* weight (mg)

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

IMPURITIES

• TARTRATE

Sample: 1 g of Potassium Citrate

Analysis: Dissolve the *Sample* in 1.5 mL of water in a test tube, add 1 mL of 6 N acetic acid, and scratch the walls of the test tube with a glass rod.

Acceptance criteria: No crystalline precipitate is formed.

SPECIFIC TESTS

• **ALKALINITY**

Sample solution: Dissolve 1 g of Potassium Citrate in 20 mL of water.

Analysis: To the *Sample solution* add 0.20 mL of 0.10 N sulfuric acid, and add 1 drop of phenolphthalein TS.

Acceptance criteria: The *Sample solution* is alkaline to litmus. No pink color is produced after the addition of phenolphthalein TS.

- **Loss on Drying (731):** Dry a sample at 180° for 4 h: it loses 3.0%–6.0% of its weight.

ADDITIONAL REQUIREMENTS

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

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

Topic/Question	Contact	Expert Committee
POTASSIUM CITRATE	Nagaphani Batchu Senior Scientist I, Documentary Standards	NBDS2020 Non-botanical Dietary Supplements
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	NBDS2020 Non-botanical Dietary Supplements

Chromatographic Database Information: [Chromatographic Database](#)

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