

Status: Currently Official on 16-Feb-2025
 Official Date: Official as of 01-Dec-2020
 Document Type: USP Monographs
 DocId: GUID-F24A7A75-5875-4B4C-8743-BC942BE00757_4_en-US
 DOI: https://doi.org/10.31003/USPNF_M67280_04_01
 DOI Ref: h0c36

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Potassium Carbonate

K_2CO_3 (anhydrous) 138.21
 $K_2CO_3 \cdot 1\frac{1}{2}H_2O$ 165.23
 Carbonic acid, dipotassium salt;
 Dipotassium carbonate CAS RN®: 584-08-7.

DEFINITION

Potassium Carbonate contains NLT 99.5% and NMT 100.5% of potassium carbonate (K_2CO_3), calculated on the dried basis.

IDENTIFICATION

- **A.** [IDENTIFICATION TESTS—GENERAL \(191\)](#), [Chemical Identification Tests, Potassium](#): Meets the requirements
- **B.** [IDENTIFICATION TESTS—GENERAL \(191\)](#), [Chemical Identification Tests, Carbonate](#): Meets the requirements

ASSAY

Change to read:

• PROCEDURE

▲ Use carbon dioxide-free water to prepare the solutions.

Sample solution: Dissolve 0.5 g of Potassium Carbonate from the dried Potassium Carbonate obtained in the test for *Loss on Drying* in 100 mL of [water, carbon dioxide-free](#). Use this solution promptly after preparation.

Titrimetric system

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

Mode: Direct titration

Titrant: [1 N hydrochloric acid VS](#)

Endpoint detection: Potentiometric

Analysis: Titrate the *Sample solution* with *Titrant*. Determine the endpoint potentiometrically at the second inflection point. Calculate the percentage of potassium carbonate (K_2CO_3) in the portion of Potassium Carbonate taken:

$$\text{Result} = V_s \times N_A \times F/W \times 100$$

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

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

F = equivalency factor, 69.11 mg/mEq

W = weight of the sample taken (mg) ▲ (USP 1-Dec-2020)

Acceptance criteria: 99.5%–100.5% on the dried basis

SPECIFIC TESTS

• [LOSS ON DRYING \(731\)](#)

Analysis: Dry at 180° for 4 h.

Acceptance criteria: NMT 0.5%

• INSOLUBLE SUBSTANCES

Sample solution: 1 g in 20 mL of [water](#)

Acceptance criteria: The solution is complete, clear, and colorless.

ADDITIONAL REQUIREMENTS

- **PACKAGING AND STORAGE:** Preserve in well-closed containers.

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

Topic/Question	Contact	Expert Committee
POTASSIUM CARBONATE	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:

Pharmacopeial Forum: Volume No. 45(1)

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