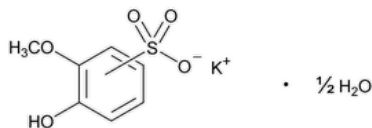


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Potassium Guaiacolsulfonate



$C_7H_7KO_5S \cdot \frac{1}{2}H_2O$ 251.30

Benzenesulfonic acid, hydroxymethoxy-, monopotassium salt, hemihydrate;

Potassium hydroxymethoxybenzenesulfonate hemihydrate CAS RN[®]: 78247-49-1; UNII: TTK33Z47F1.

Anhydrous 242.30

DEFINITION

Potassium Guaiacolsulfonate contains NLT 98.0% and NMT 102.0% of potassium guaiacolsulfonate ($C_7H_7KO_5S$), calculated on the anhydrous basis.

IDENTIFICATION

- **A. [SPECTROSCOPIC IDENTIFICATION TESTS \(197\)](#), [Infrared Spectroscopy](#):** 197M

Analytical wavelength: 7–13 μm

Analysis: Dry at 105° for 18 h.

Acceptance criteria: Meets the requirements

- **B. [SPECTROSCOPIC IDENTIFICATION TESTS \(197\)](#), [Ultraviolet-Visible Spectroscopy](#):** 197U

Solution: 50 $\mu g/mL$, prepared as directed in the Assay

Acceptance criteria: Meets the requirements

- **C. [IDENTIFICATION TESTS—GENERAL \(191\)](#), [Chemical Identification Tests](#), [Potassium](#)**

Sample: A 1 in 10 solution

Acceptance criteria: Meets the requirements

ASSAY

• PROCEDURE

Sample stock solution: Transfer about 250 mg of Potassium Guaiacolsulfonate to a 500-mL volumetric flask. Dissolve in 400 mL of water, dilute with water to volume, and mix.

Sample solution: Dilute 10.0 mL of *Sample stock solution* with pH 7.0 phosphate buffer to 100.0 mL, and mix.

Standard solution: About 50 $\mu g/mL$ of [USP Potassium Guaiacolsulfonate RS](#) in the same diluent used for the *Sample solution*

Instrumental conditions

Mode: UV

Analytical wavelength: Maximum absorbance at about 279 nm

Cell: 1 cm

Blank: A 1 in 10 mixture of water and pH 7.0 phosphate buffer

Analysis

Samples: *Sample solution* and *Standard solution*

Concomitantly determine the absorbances of the *Sample solution* and *Standard solution*, and calculate the percentage of potassium guaiacolsulfonate ($C_7H_7KO_5S$) in the portion of Potassium Guaiacolsulfonate taken:

$$\text{Result} = (A_U/A_S) \times (C_S/C_U) \times 100$$

A_U = absorbance of the *Sample solution*

A_S = absorbance of the *Standard solution*

C_s = concentration of [USP Potassium Guaiacolsulfonate RS](#) in the *Standard solution* (µg/mL)

C_u = concentration of Potassium Guaiacolsulfonate in the *Sample solution* (µg/mL)

Acceptance criteria: 98.0%–102.0% on the anhydrous basis

IMPURITIES

Delete the following:

▲ **[SELENIUM \(291\)](#):** 0.003% ▲ (USP 1-May-2022)

• **SULFATE**

Analysis: To 10 mL of a solution (1 in 20) add 5 drops of barium chloride TS, and acidify with hydrochloric acid.

Acceptance criteria: No turbidity is produced in 1 min.

SPECIFIC TESTS

• **[WATER DETERMINATION \(921\)](#), [Method I](#):** 3.0%–6.0%

ADDITIONAL REQUIREMENTS

• **PACKAGING AND STORAGE:** Preserve in well-closed, light-resistant containers.

• **[USP REFERENCE STANDARDS \(11\)](#).**

[USP Potassium Guaiacolsulfonate RS](#)

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

Topic/Question	Contact	Expert Committee
POTASSIUM GUAIACOLSULFONATE	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](#)

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