Potassium Gluconate

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\begin{align*}
\text{OH} & \quad \text{OH} & \quad \text{H} & \quad \text{OH} \\
\text{HOH}_2\text{C} & \quad \text{C} & \quad \text{C} & \quad \text{C} & \quad \text{COOK} \\
\text{H} & \quad \text{H} & \quad \text{OH} & \quad \text{H}
\end{align*}
\]

\[\text{C}_6\text{H}_{11}\text{KO}_7\quad \text{Mol. Wt.} 234.24\]

\(299-27-4\)

**Content** Potassium Gluconate, when dried, contains 97.0 - 103.0% of potassium gluconate (\(\text{C}_6\text{H}_{11}\text{KO}_7\)).

**Description** Potassium Gluconate occurs as a white to yellowish white crystalline powder or granules. It is odorless.

**Identification** (1) Potassium Gluconate responds to all tests for Potassium Salt as described in the Qualitative Tests.

(2) Take 5 ml of a solution of Potassium Gluconate (1 ‒ 10) and proceed as directed under Identification (2) for Glucono-\(\Deltalactone\).

**Purity** (1) Clarity and color of solution Colorless, almost clear (1.0 g, water 10 ml).

(2) pH 7.3 - 8.5 (1.0 g, water 10 ml).

(3) Heavy metals Not more than 20 \(\mu\)g/g as Pb (1.0 g, Method 2, Control solution Lead Standard Solution 2.0 ml).

(4) Lead Not more than 10 \(\mu\)g/g (2.5 g).

(5) Arsenic Not more than 4.0 \(\mu\)g/g as As\(\text{O}_3\) (0.50 g, Method 1, Apparatus B).

(6) Reducing sugar Not more than 0.50% as glucose Weigh 1.0 g of Potassium Gluconate and proceed as directed under Purity (3) for Zinc Gluconate. Titrate excess iodine with 0.1 mol/l sodium thiosulfate solution. The consumed volume is not less than 8.15 ml.

**Loss on Drying** Not more than 3.0% (105\(\degree\), 4 hours).

**Assay** Weigh accurately about 0.15 g of Potassium Gluconate, previously dried, and dissolve in 75 ml of acetic acid, and titrate with 0.1 mol/l perchloric acid solution until the red color of the solution disappears (indicator: 10 drops of quinaldine red TS). Perform a blank test in the same manner.

1 ml of 0.1 mol/l perchloric acid solution = 23.43 mg of \(\text{C}_6\text{H}_{11}\text{KO}_7\)