POTASSIUM GLUCONATE


SYNONYMS
Potassium D-gluconate; INS No. 577

DEFINITION

Chemical names
Potassium D-gluconate

C.A.S. number
299-27-4 (Anhydrous)
35398-15-3 (Monohydrate)

Chemical formula
C$_6$H$_{11}$KO$_7$

Structural formula

\[ \text{OH} \quad \text{OH} \quad \text{H} \quad \text{OH} \\
\text{HOH}_2^+ \quad \text{C} \quad \text{C} \quad \text{C} \quad \text{COO}^- \quad \text{K}^+ \\
\text{H} \quad \text{H} \quad \text{OH} \quad \text{H} \]

Formula weight
234.25 (Anhydrous)
252.26 (Monohydrate)

Assay
Not less than 97.0% and not more than 103.0% on dried basis

DESCRIPTION
Odourless, free flowing white to yellowish white, crystalline powder or granules

FUNCTIONAL USES
Acidity regulator, nutrient supplement, yeast food

CHARACTERISTICS

IDENTIFICATION

Test for potassium (Vol. 4) Passes test

Test for gluconate (Vol. 4) Passes test

PURITY

Loss on drying (Vol. 4) Anhydrous: Not more than 3% (105$^\circ$, 4 h, under vacuum)
Monohydrate: Not less than 6% and not more than 7.5% (105$^\circ$, 4 h, under vacuum)

Reducing substances (Vol. 4) Not more than 1.0% calculated as D-glucose (Method I)

Lead (Vol. 4) Not more than 2 mg/kg
Determine using an atomic absorption technique appropriate to the
METHOD OF ASSAY

Transfer about 175 mg of the sample, accurately weighed, into a clean, dry 200-ml Erlenmeyer flask, add 75 ml of glacial acetic acid and dissolve by heating on a hot plate. Cool, add quinaldine red TS, and titrate with 0.1 N perchloric acid in glacial acetic acid, using a 10-ml microburet, to a colourless end point. Each ml of 0.1 N perchloric acid is equivalent to 23.42 mg of C₆H₁₄KO₇.