

Tripotassium Phosphate

Potassium Phosphate, Tribasic

Tertiary Potassium Phosphate

$K_3PO_4 \cdot nH_2O$ ($n = 3, 1\frac{1}{2}, 1$ or 0)

Mol. Wt. trihydrate 266.31

anhydrous 212.27

tripotassium phosphate

[7778-53-2]

Content Tripotassium Phosphate, when ignited, contains not less than 97.0% of tripotassium phosphate (K_3PO_4).

Description Tripotassium Phosphate occurs as colorless to white crystals or lumps or as a white powder.

Identification Tripotassium Phosphate solution (1 20) responds to all tests for Potassium Salt and for Phosphate as described in the Qualitative Tests.

Purity (1) Clarity and color of solution Colorless, very slightly turbid (1.0 g, water 20 ml).

(2) pH 11.5 - 12.5 (1.0 g, water 100 ml).

(3) Chloride Not more than 0.011% as Cl (1.0 g, Control solution 0.01 mol/l hydrochloric acid 0.30 ml).

(4) Sulfate Not more than 0.019% as SO_4 (1.0 g, Control solution 0.005 mol/l sulfuric acid 0.40 ml).

(5) Heavy metals Not more than 20 $\mu\text{g/g}$ as Pb.

Test Solution Weigh 1.0 g of Tripotassium Phosphate, dissolve in 30 ml of water, neutralize with diluted acetic acid (1 20), and add 2 ml of diluted acetic acid (1 20) and water to make 50 ml.

Control Solution Measure exactly 2 ml of Lead Standard Solution, add 2 ml of diluted acetic acid (1 20) and water to make 50 ml.

(6) Arsenic Not more than 4.0 $\mu\text{g/g}$ as As_2O_3 (0.50 g, Method 1, Apparatus B).

Loss on Ignition Not more than 23.0% (120 , 2 hours, then 300 - 400 , 1 hour).

Assay Weigh accurately about 2 g of Tripotassium Phosphate, previously ignited, dissolve in 50 ml of water, keep at about 15 , and titrate with 1 mol/l hydrochloric acid (indicator: 3 - 4 drops of methyl orange - xylene cyanol FF TS).

1 ml of 1 mol/l hydrochloric acid = 106.13 mg of K_3PO_4