



**JIANGSU KHONOR CHEMICALS CO.,LIMITED**

## **TECHNICAL DATA SHEET**

### **TRIMAGNESIUM PHOSPHATE**

Prepared at the 17th JECFA (1973), published in FNP 4 (1978) and in FNP 52 (1992). Metals and arsenic specifications revised at the 57th JECFA (2001). A group MTDI of 70 mg/kg bw, as phosphorus from all food sources, was established at the 26th JECFA (1982).

**SYNONYMS:** Magnesium phosphate, tribasic, tertiary magnesium phosphate; INS No. 343(iii)

**DEFINITION:** May contain 4, 5 or 8 molecules of water of hydration. The article of commerce can be specified further as to titration value.

**Chemical names** Trimagnesium orthophosphate

**C.A.S. number** 7757-87-1

**Chemical formula**  $Mg_3(PO_4)_2$  (various hydrates)

**Formula weight** 262.86 (anhydrous)

**Assay** Not less than 98% of  $Mg_3(PO_4)_2$  after ignition at 425o

**DESCRIPTION** White, odourless crystalline powder FUNCTIONAL

**USES** Anticaking agent

#### **CHARACTERISTICS**

##### IDENTIFICATION

**Solubility (Vol. 4)** Practically insoluble in water; insoluble in ethanol, soluble in dilute mineral acids.

**Test for phosphate:** To a warm solution of the sample in a slight excess of nitric acid add ammonium molybdate TS. A yellow precipitate of ammonium phosphomolybdate forms which is soluble in ammonia TS.

**Test for magnesium:** Dissolve about 100 mg of the sample in 0.7 ml of dilute acetic acid TS and 20 ml of water. Add 1 ml of ferric chloride TS, let stand for 5 min., and filter. Add ammonium chloride TS and ammonium carbonate TS. No precipitated is formed Add sodium phosphate TS. A white crystalline precipitate is formed which is insoluble in ammonia TS.

##### PURITY

**Loss on ignition (Vol. 4)** Tetrahydrate: Between 15% and 23% (425o to constant weight)  
Pentahydrate: Between 20% and 27% (425o to constant weight)  
Octahydrate: Between 30% and 37% (425o to constant weight)

**Fluoride (Vol. 4)** Not more than 5 mg/kg See description under TESTS

**Lead (Vol. 4)** Not more than 4 mg/kg

Determine using an atomic absorption technique appropriate to the specified level. The selection of sample size and method of sample preparation may be based on the principles of the method described in Volume 4, "Instrumental Methods."