

SPECIFICATION

Product Name: Tri Calcium Phosphate IP Grade
Chemical Formula: $\text{Ca}_3(\text{PO}_4)_2$
CAS Number: 7758-87-4
Molecular Weight: 310.18 g/mol
Appearance: White amorphous almost odorless powder comparable to control
Odor: Odorless

Chemical Composition

Parameter	Unit	Typical Value	Specification (Min/Max)
Solubility	%	Complies	Practically insoluble in water
Identification Test A	g/ml	Complies	Gives reaction(a) of calcium salts (2.3.1)
Test B		Complies	Dissolve 0.1 gm in mixture of 5 ml of 2 M nitric acid and 5 ml of water; the solution gives reaction C of phosphates (2.3.1)
Acid insoluble substance	%	0.23 w/w	Not more than 0.30% w/w
pH of 1% solution in purified water	%	7.2	6.5 – 7.5
Sieve analysis	%	Complies	Not less than 100% should pass through 100 mesh on slurry. (10% w/v in purified water)
Water soluble substance	%	<0.5 w/w	Not more than 0.5% w/w

Arsenic	PPM	4.3	Not more than 5.0% ppm
Heavy metals (Cumulative value of lead, mercury, arsenic, cadmium, and lithium)	PPM	29	Not more than 40 ppm
Iron	PPM	Complies	Not more than 200 ppm
Carbonate	%	Complies	No effervescence is produced
Chloride	%	Complies	Not more than 0.1%
Calcium	%	38.5	35.0% w/w - 40.0% w/w
Phosphorus	%	17.3	17 - 18
Sulphate	%	Complies	Not more than 0.6%
Protein impurities	-	Complies	No changed in color is observed and no unpleasant odor is emitted
Loss on ignition at 800°C	%	7.2	Not more than 8.0% w/w
Water	%	1.9	Not more than 2.5 % w/w
Assay	%	98	90.0 – 100.5

Physical Properties

- Solubility: Practically insoluble in water. Insoluble in ethanol. Soluble in dilute acids.

Shelf Life & Storage

- Shelf Life: 5 years from date of manufacture under recommended storage.
 - Storage Conditions: Store in a cool, dry, and well-ventilated place. Keep containers tightly closed to prevent moisture absorption. Protect from humidity and direct sunlight. Store at room temperature (15–30°C). Keep away from strong acids, as it reacts with acids. Use airtight HDPE drums or bags with inner liners for bulk storage.

Applications

- Use: Diluent/filler in tablet and capsule formulations. Acts as an anti-caking agent to improve powder flow. Used as a calcium supplement in medicinal formulations. Helps in tablet compression due to good flow properties.
- Dosage: Depends on the intended application (pharmaceutical, nutraceutical, or food use).

Packaging

- Standard Packing: 25 kg woven PP bags with inner liner, 1Kgs and 100grams, or as per customer requirement.
- Labeling: Product name, batch number, net weight, manufacture date, expiry date, and manufacturer details.

* Specifications are based on the manufacturer's provided specifications.