## ACIDUM PHOSPHORICUM

(Ac. phos.)

**Chemical symbol** : $H_3PO_4$ **Mol. wt.**: 97.995

**Common names** : Orthophosphoric acid, Acidum ossium; *French*: Acide Phosphorique; *German*: Phosphorsaure.

**Description** : A colourless, odourless liquid of a syrupy consistency. At 200º, the acid gradually changes to pyrophosphoric acid and at higher temperature it passes into metaphosphoric acid. It is miscible with water or alcohol, with the evolution of heat. Its specific gravity is 1.71. It may be obtained by the oxidation of phosphorus in contact with water. Contains not less than 88 percent and not more than 90.0 percent w/w of $H_3PO_4$.

**Identification** : (i) It is strongly acidic even when freely diluted with *water*.

(ii) When carefully neutralised with *potassium hydroxide* test solution and a solution of *silver nitrate* added, a characteristic yellow precipitate, soluble in *ammonium hydroxide* is formed.

**Arsenic** : Not more than 5 parts per million

**Aluminium and Calcium** : 1 ml diluted with 10 ml of *water* gives no precipitate when made alkaline with *dilute solution of ammonia*.

**Lead** : Not more than 10 parts per million

**Iron, Chloride and Sulphate** : Complies with the *limit tests for Iron, chlorides* and *sulphates*

**Phosphorus and Hypo-phosphoric acid** : 0.05 ml diluted with 10 ml of *water* and it does not become brown on warming with a *solution of silver nitrate.*

**Assay** : Mix about 1.5 g accurately weighed with a solution of 10 g of *sodium chloride* in 30 ml of water and titrate with 1 N *sodium hydroxide*, using solution of *phenolphthalein* as indicator. Each ml of 1 N *sodium hydroxide* is equivalent to 0.04900 g of $H_3PO_4$.

**History and authority** : The drug was first proved and Hahnemann's directions. Allen's Encyclop. Mat. Med. Vol. VII, 346.

**Preparation** : (a) Mother Solution Drug strength 1/10 w/v

Acidum Phosphoricum 118 g

Purified Water in sufficient quantity

to make one thousand millilitres of the Mother Solution.

(b) Potencies: 2x and 3x with Purified Water to be freshly made for their immediate use only; 4x and 5x with *dilute alcohol*. 6x and above will be prepared in *Dispensing Alcohol.*

**Old method** : Class VB