



>>Entry Name: Aluminium phosphide (AIP), JMAF

Synonym(s): Agtoxin. Al-Phos. Celphide. Phostoxin

CAS Registry Number: 20859-73-8

AIP

Molecular Formula: AIP

Molecular Weight: 57.955

Accurate Mass: 57.955301

Percentage Composition: Al 46.56%; P 53.44%

General Statement: Zinc blende struct.

Source/Synthesis: Synth. from Zn_3P_2 and Al at 800° . Synth. from elements in exothermic reaction

Use/Importance: Fumigant and pesticide. Solid solns. with GaP are used in luminescence and optical devices

Physical Description: Grey to dark yellow moisture sensitive cryst. stable up to 1000°

Hazard & Toxicity: Reacts with H_2O to give PH_3 (inflammable, toxic). LD_{50} (rat, orl) 8.7 mg/kg

References:

White, W.E. *et al.*, *J.A.C.S.*, 1944, **66**, 1666, (*synth*)

Inorg. Synth., 1953, **4**, 23, (*synth*)

Addamiano, A., *J.A.C.S.*, 1960, **82**, 1537; *Acta Cryst.*, 1960, **13**, 505, (*cryst struct*)

Wang, C.C. *et al.*, *J. Inorg. Nucl. Chem.*, 1963, **25**, 326, (*synth, props*)

Van Vechten, J.A. *et al.*, *Phys. Rev.*, 1969, **182**, 891, (*cryst struct*)

O'Keefe, M. *et al.*, *Acta Cryst. B*, 1978, **34**, 3519, (*cryst struct*)

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