



>>Entry Name: Potassium hexafluoroarsenate(V), 9CI

Synonym(s): Hexafluoroarsenate(1-), potassium salt, 8CI

CAS Registry Number: 17029-22-0

K[AsF₆]

Molecular Formula: AsF₆K

Molecular Weight: 228.01

Accurate Mass: 227.875719

Percentage Composition: As 32.86%; F 49.99%; K 17.15%

Source/Synthesis: Synth. by reaction of a mixt. of a potassium halide and excess arsenious oxide with BrF₃

Use/Importance: Commercially available. Herbicide

Physical Description: Thick, colourless plates

Other Data: Melts at red heat with part. dec. Forms a hemihydrate

Hazard & Toxicity: Highly toxic, cancer suspect agent

Aldrich: 34224-6

>>Variant: Rhombohedral-form

Molecular Formula: AsF₆K

Molecular Weight: 228.01

Accurate Mass: 227.875719

Percentage Composition: As 32.86%; F 49.99%; K 17.15%

Other Data: At 101.5° transformed into cubic form

>>Variant: Cubic-form

Molecular Formula: AsF₆K

Molecular Weight: 228.01

Accurate Mass: 227.875719

Percentage Composition: As 32.86%; F 49.99%; K 17.15%

References:

Woolf, A.A. *et al.*, *J.C.S.*, 1950, 1050, (*synth*)

Roof, R.B., *Acta Cryst.*, 1955, **8**, 739, (*cryst struct*)

Kemmitt, R.D.W. *et al.*, *J.C.S.*, 1963, 4408, (*cryst struct*)

Haase, D.J. *et al.*, *Chem. Zvesti*, 1965, **19**, 167, (*cryst struct*)

Brauer, G., *Handb. Prep. Inorg. Chem.*, 2nd edn., Academic Press, 1965, 196, (*synth*)

Heyns, A.M. *et al.*, *Spectrochim. Acta A*, 1975, **31**, 1293, (*ir, Raman, polymorphs*)

Gabuda, S.P. *et al.*, *Koord. Khim.*, 1979, **5**, 850, (*F-19, As-75 nmr*)

Guo, Q.Z. *et al.*, *J. Magn. Reson.*, 1984, **57**, 136, (*F-19 nmr*)

Heyns, A.M., *S. Afr. J. Chem.*, 1988, **41**, 97, (*Raman*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, PLH500