



>>Entry Name: Potassium hexafluorosilicate

Synonym(s): Hexafluorosilicate(2-), dipotassium salt, 8Cl. Potassium fluorosilicate. Potassium silicofluoride

CAS Registry Number: 16871-90-2

Related CAS Registry Numbers(s): 17084-08-1

$K_2[SiF_6]$

Molecular Formula: F_6K_2Si

Molecular Weight: 220.273

Accurate Mass: 219.894759

Percentage Composition: F 51.75%; K 35.50%; Si 12.75%

Source/Synthesis: Synth. from H_2SiF_6 and either KOH or KCl

Use/Importance: Commercially available. Used in electroplating of chromium and in high strength rapid setting cements

Physical Description: Colourless cubic cryst. Moisture-sensitive. Dec. on heating to form a complex mixt. of products which includes SiF_4 , K_3SiF_7 and KF

Solubility: Sol. H_2O (6.9 g per 100 cm^3 at 19°); prac. insol. EtOH

Other Data: $\Delta H_f -2807 \text{ kJ mol}^{-1}$

Hazard & Toxicity: Corrosive

Aldrich: 33666-1

Fluka: 60322

>>Variant: Mineral-form

Synonym(s): Hieratite

CAS Registry Number: 12021-73-7

Molecular Formula: F_6K_2Si

Molecular Weight: 220.273

Accurate Mass: 219.894759

Percentage Composition: F 51.75%; K 35.50%; Si 12.75%

Source/Synthesis: Found on Mt Vesuvius, Italy and Vulcano Island

Physical Description: Dense to spongy texture. Colourless, white, grey cryst.

References:

Cipriani, C., *Rend. Soc. Mineral. Ital.*, 1954, **10**, 253, (*polymorphs*)

Debeau, M. *et al.*, *C. R. Hebd. Seances Acad. Sci.*, 1965, **260**, 5229, (*Raman*)

Badachhape, R.B. *et al.*, *Inorg. Chem.*, 1966, **5**, 929, (*ir*)

Mokvich, Yu. *et al.*, *Zh. Neorg. Khim.*, 1982, **27**, 1972, (*F-19 nmr*)

Lochlin, J.H., *Acta Cryst. C*, 1984, **40**, 570, (*cryst struct, α -form*)

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