



>>Entry Name: Barium iodate(V) (Ba(IO₃)₂)

Synonym(s): Iodic acid, barium salt, 8CI

CAS Registry Number: 10567-69-8

Ba(IO₃)₂

Molecular Formula: BaI₂O₆

Molecular Weight: 487.132

Accurate Mass: 487.683668

Percentage Composition: Ba 28.19%; I 52.10%; O 19.71%

Source/Synthesis: Prepd. by thermal dehydration of the monohydrate under vacuum

Physical Description: Colourless monoclinic cryst., hygroscopic. Dec. on heating with formation of barium periodate

Solubility: Spar sol. H₂O (0.04 g per 100 cm³ at 25°)

Other Data: ΔH_f° -1027 kJ mol⁻¹; ΔG_f° -865 kJ mol⁻¹; S° 249 J K⁻¹ mol⁻¹

>>Derivative: Monohydrate

CAS Registry Number: 7787-34-0

Source/Synthesis: Cryst. from aq. solns. of Ba(IO₃)₂ obt. by slow reduction of HIO₄ by lactic acid in the presence of Ba(NO₃)₂

Physical Description: Colourless monoclinic cryst.; dec. on heating with H₂O loss (-H₂O at 180°)

Solubility: Spar. sol. H₂O; insol. EtOH, Me₂CO

Other Data: ΔH_f° -1322 kJ mol⁻¹; ΔG_f° -1104 kJ mol⁻¹; S° 297 J K⁻¹ mol⁻¹

Aldrich: 44416-2

References:

Inorg. Synth., 1963, **7**, 13, (*synth, hydrate*)

Jones, A.L., *J. Cryst. Growth*, 1973, **20**, 99, (*soln*)

Lutz, H.D. *et al.*, *Ber. Bunsen-Ges. Phys. Chem.*, 1975, **79**, 98, (*ir, Raman, hydrate*)

Lutz, H.D. *et al.*, *Z. Anorg. Allg. Chem.*, 1976, **423**, 83, (*synth, ir, thermal dec, hydrate*)

Petricek, V., *Acta Cryst. B*, 1980, **36**, 2130, (*cryst struct*)

Biswas, P.K. *et al.*, *Thermochim. Acta*, 1980, **42**, 91, (*thermal dec, hydrate*)

Shishkin, V.A. *et al.*, *J. Mol. Struct.*, 1982, **83**, 349, (*nqr, hydrate*)

Lutz, H.D. *et al.*, *Z. Anorg. Allg. Chem.*, 1985, **535**, 31, (*hydrate, cryst struct*)

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