



>>Entry Name: Barium bromate(V) (Ba(BrO₃)₂)

Synonym(s): Bromic acid, barium salt, 8Cl

CAS Registry Number: 13967-90-3

Ba(BrO₃)₂

Molecular Formula: BaBr₂O₆

Molecular Weight: 393.131

Accurate Mass: 391.751394

Percentage Composition: Ba 34.93%; Br 40.65%; O 24.42%

Physical Description: Colourless orthorhombic cryst. Dec. on heating with O₂ evolution and BaBr₂ formation

Other Data: $\Delta H_f^\circ -753 \text{ kJ mol}^{-1}$; $\Delta G_f^\circ -577 \text{ kJ mol}^{-1}$; $S^\circ 243 \text{ J K}^{-1} \text{ mol}^{-1}$

Aldrich: 43172-9

Sigma: B6507

>>Derivative: Monohydrate

CAS Registry Number: 10326-26-8

Molecular Formula: BaBr₂H₂O₇

Molecular Weight: 411.147

Accurate Mass: 409.761959

Percentage Composition: Ba 33.40%; Br 38.87%; H 0.49%; O 27.24%

Source/Synthesis: Cryst. from aq. solns. of Ba(BrO₃)₂

Physical Description: Colourless monoclinic cryst. Dec. on heating with H₂O loss (–H₂O at 85°)

Solubility: Mod. sol. H₂O (0.3 g per 100 cm³ at 0°; 5.7 g per 100 cm³ at 100°); sol. Me₂CO; insol. EtOH

Other Data: $\Delta H_f^\circ -1055 \text{ kJ mol}^{-1}$; $\Delta G_f^\circ -825 \text{ kJ mol}^{-1}$; $S^\circ 293 \text{ J K}^{-1} \text{ mol}^{-1}$

References:

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Lutz, H.D. *et al.*, *Z. Anorg. Allg. Chem.*, 1976, **423**, 83; 1985, **529**, 46, (*anhyd, synth, ir, Raman, hydrate, cryst structs*)
Harada, A. *et al.*, *Phys. Rep. Kumamoto Univ.*, 1977, **3**, 1; *CA*, 1978, **88**, 143907; 161099, (*nqr, anhyd, hydrate*)
Firsching, F.H. *et al.*, *Sep. Sci.*, 1977, **12**, 65; *CA*, **86**, 22405, (*purif*)
Ramaprabhu, S. *et al.*, *Pramana*, 1984, **23**, 141; *CA*, **101**, 182484, (*nqr, hydrate*)
Lutz, H.D. *et al.*, *Spectrochim. Acta A*, 1985, **41**, 637, (*ir, Raman, hydrate*)
Eckers, W. *et al.*, *Spectrochim. Acta A*, 1985, **41**, 1321, (*ir, Raman, hydrate*)
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