



>>Entry Name: Barium oxalate (BaC₂O₄)

Synonym(s): Ethanedioic acid, barium salt, 9Cl. Oxalic acid, barium salt, 8Cl

CAS Registry Number: 516-02-9

Ba(C₂O₄)

Molecular Formula: C₂BaO₄

Molecular Weight: 225.347

Accurate Mass: 225.884892

Percentage Composition: C 10.66%; Ba 60.94%; O 28.40%

Source/Synthesis: Synth. by reaction of BaCl₂ and either sodium oxalate or oxalic acid in aq. soln. Cryst. as dihydrate. Thermal dec. yields the anhydrous material

Physical Description: White powder. Dissolves in acids. Dec. on heating with BaCO₃ formn.

Solubility: Prac. insol. H₂O (0.0093 g per 100 cm³ at 18°; 0.023 g per 100 cm³ at 100°); insol. EtOH

Aldrich: 45756-6

>>Derivative: Hemihydrate

CAS Registry Number: 18581-89-0

Source/Synthesis: Prepd. by partial dehydration of the dihydrate

Physical Description: Colourless cryst. Dec. on heating with H₂O loss

>>Derivative: Monohydrate

CAS Registry Number: 13463-22-4

Molecular Formula: C₂H₂BaO₅

Molecular Weight: 243.362

Percentage Composition: C 9.87%; H 0.83%; Ba 56.43%; O 32.87%

Source/Synthesis: Prepd. by partial dehydration of the dihydrate

Physical Description: Colourless monoclinic cryst. Dec. on heating with H₂O loss

>>Derivative: Dihydrate

CAS Registry Number: 18581-91-4

Molecular Formula: C₂H₄BaO₆

Molecular Weight: 261.377

Percentage Composition: C 9.19%; H 1.54%; Ba 52.54%; O 36.73%

Source/Synthesis: Cryst. from soln. formed by mixing aq. BaCl₂ with either aq. sodium oxalate or aq. oxalic acid

Physical Description: Colourless monoclinic cryst. Dec. on heating with H₂O loss to form the lower hydrates and then the anhydrous compd.

References:

- Gerard, N. *et al.*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1967, **265**, 1436, (*thermal dissoc, hydrates*)
Mutin, J.C., *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1971, **273**, 1512; 1974, **278**, 1001, (*cryst structs, dihydrate, monohydrate*)
Fabbri, G. *et al.*, *Atti Soc. Nat. Mat. Modena*, 1975, **106**, 57; 81; *CA*, 1977, **86**, 182308; 182309, (*ir, thermal dec monohydrate*)
Derouane, E.G. *et al.*, *Thermochim. Acta*, 1975, **11**, 287, (*thermal dec*)
Mutin, J.C. *et al.*, *Colloq. Int. C.N.R.S.*, 1977, 1978, **277**, 123; *CA*, 1979, **90**, 178453, (*struct chem, hydrates*)
Mutin, J.C. *et al.*, *J. Solid State Chem.*, 1981, **36**, 356, (*cryst struct, hemihydrate*)
Mu, J. *et al.*, *Thermochim. Acta*, 1981, **49**, 207, (*thermal dec*)
Ben Amor, M. *et al.*, *J. Solid State Chem.*, 1983, **48**, 231; 242, (*thermal dec, dihydrate, synth, monohydrate*)
Zaki, M.I. *et al.*, *Thermochim. Acta*, 1984, **78**, 29, (*synth, props, hemihydrate*)
Bhatti, A.S. *et al.*, *Thermochim. Acta*, 1984, **78**, 63, (*synth*)