



>>Entry Name: Sodium tetrahydroxyborate

Synonym(s): Sodium metaborate dihydrate

CAS Registry Number: 16800-11-6

Related CAS Registry Numbers(s): 14312-40-4 70599-31-4

Na[B(OH)4]

Molecular Formula: BH4NaO4

Molecular Weight: 101.83

Accurate Mass: 102.010032

Percentage Composition: B 10.62%; H 3.96%; Na 22.58%; O 62.85%

Source/Synthesis: Synth. from NaOH, H3BO3 and Ca(OH)2 (14.5:9.0:10.7) in H2O

Use/Importance: Component in cloth finishing treatments, detergents, photographic solns. and agricultural sprays

Physical Description: Colourless cryst. (H2O), loses H2O on standing at r.t.

Solubility: Sol. H2O, MeOH, spar. sol. EtOH

Other Data: Reacts with CO2

>>Derivative: Dihydrate

Synonym(s): Sodium tetrahydroxyborate dihydrate. Disodium diborate tetrahydrate

CAS Registry Number: 10555-76-7

Molecular Formula: BH8NaO6

Molecular Weight: 137.86

Accurate Mass: 138.031162

Percentage Composition: B 7.84%; H 5.85%; Na 16.68%; O 69.63%

Physical Description: Colourless cryst.

Other Data: Dehydrates *in vacuo*

Fluka: 71308

Sigma: S0251

References:

- Manzel, H. *et al.*, *Z. Anorg. Allg. Chem.*, 1943, **251**, 167, (*synth*)
Krc, J., *Anal. Chem.*, 1951, **23**, 806, (*struct*)
Block, S. *et al.*, *Acta Cryst.*, 1963, **16**, 1233, (*cryst struct, dihydrate*)
Kessler, G. *et al.*, *Z. Anorg. Allg. Chem.*, 1965, **338**, 179, (*ir, dihydrate*)
Nies, N.P. *et al.*, *J. Chem. Eng. Data*, 1967, **12**, 303, (*synth, dihydrate*)
Tolédano, P. *et al.*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1970, **271**, 1577, (*thermal anal*)
Janda, R. *et al.*, *Z. Naturforsch., B*, 1979, **34**, 585, (*Raman*)
Janda, R. *et al.*, *Spectrochim. Acta A*, 1980, **36**, 997, (*ir, Raman*)
Csetenyi, L.J. *et al.*, *Acta Cryst. C*, 1993, **49**, 1039, (*synth, cryst struct*)