



>>Entry Name: Sodium tetrathionate

Synonym(s): Tetrathionic acid, disodium salt, 8Cl. Tetrathione

CAS Registry Number: 10101-86-7

$\text{Na}_2(\text{O}_3\text{S-S-S-SO}_3)$

Molecular Formula: $\text{Na}_2\text{O}_6\text{S}_4$

Molecular Weight: 270.24

Accurate Mass: 269.837304

Percentage Composition: Na 17.01%; O 35.52%; S 47.46%

Source/Synthesis: Synth. by oxidation of aq. solns. of $\text{Na}_2\text{S}_2\text{O}_3$ with iodine. Cryst. as the dihydrate

>>Derivative: Dihydrate

CAS Registry Number: 13721-29-4

Molecular Formula: $\text{H}_4\text{Na}_2\text{O}_8\text{S}_4$

Molecular Weight: 306.27

Accurate Mass: 305.858434

Percentage Composition: H 1.32%; Na 15.01%; O 41.79%; S 41.88%

Use/Importance: Commercially available

Physical Description: Colourless monoclinic cryst. Dec. on heating with formation of Na_2SO_4 and evolution of SO_2 , H_2O and sulfur

Solubility: V. sol. H_2O (99 g per 100 cm^3 at 20°)

Aldrich: 25449-5

Fluka: 72030

Sigma: S5758

References:

Eucken, M. *et al.*, *Acta Phys. Austriaca*, 1948, **1**, 339, (*dihydrate, Raman*)

Lecomte, J. *et al.*, *C. R. Hebd. Seances Acad. Sci.*, 1963, **257**, 326, (*dihydrate, ir*)

Foss, O. *et al.*, *Acta Chem. Scand.*, 1964, **18**, 662, (*dihydrate, cryst struct*)

Zilberman, Ya.I. *et al.*, *Zh. Neorg. Khim.*, 1969, **14**, 2287, (*thermal dec*)

Cleghorn, H.P. *et al.*, *J.C.S.(A)*, 1970, 137, (*thermal dec, dihydrate*)

Somay, M. *et al.*, *CA*, 1974, **81**, 180543, (*thermal dec, dihydrate*)

Sigma-Aldrich Library of Chemical Safety Data, 1988, **2**, 3156C, (*dihydrate, haz*)