



>>Entry Name: Terbium sulfides

Molecular Formula: [STb]

>>Variant: Terbium sulfide (Tb₄S₃)

CAS Registry Number: 12210-83-2

Molecular Formula: S₃Tb₄

Molecular Weight: 731.899

Accurate Mass: 731.617578

Percentage Composition: S 13.14%; Tb 86.86%

>>Variant: Terbium sulfide (TbS)

CAS Registry Number: 12143-71-4

Molecular Formula: STb

Molecular Weight: 190.991

Accurate Mass: 190.897412

Percentage Composition: S 16.79%; Tb 83.21%

>>Variant: Terbium sulfide (Tb₃S₄)

CAS Registry Number: 53169-51-0

Molecular Formula: S₄Tb₃

Molecular Weight: 605.04

Accurate Mass: 604.664306

Percentage Composition: S 21.20%; Tb 78.80%

>>Variant: Terbium sulfide (Tb₅S₇)

CAS Registry Number: 12363-46-1

Molecular Formula: S₇Tb₅

Molecular Weight: 1019.089

Accurate Mass: 1018.4312

Percentage Composition: S 22.03%; Tb 77.97%

>>Variant: Terbium sulfide (Tb₂S₃)

Synonym(s): Diterbium trisulfide

CAS Registry Number: 12138-11-3

Molecular Formula: S₃Tb₂

Molecular Weight: 414.049

Accurate Mass: 413.766894

Percentage Composition: S 23.23%; Tb 76.77%

Source/Synthesis: U-form of Tb₂S₃ with U₂S₃ struct. is prepd. from TbClH_{0.67} with S at 850° in Ta container in presence of NaCl flux

>>Variant: Terbium sulfide (TbS₂)

CAS Registry Number: 27112-61-4

Molecular Formula: S₂Tb

Molecular Weight: 223.057

Accurate Mass: 222.869482

Percentage Composition: S 28.75%; Tb 71.25%

References:

Flahaut, J. *et al.*, *Acta Cryst.*, 1965, **19**, 14, (*struct*)

Sleight, A.W. *et al.*, *Inorg. Chem.*, 1968, **7**, 2282, (*synth, struct*)

Inorg. Synth., 1968, **14**, 152, (*synth*)

Eatough, N.L. *et al.*, *Inorg. Chem.*, 1969, **8**, 2069, (*struct*)

Batsanov, S.S. *et al.*, *Zh. Strukt. Khim.*, 1975, **16**, 698; *J. Struct. Chem. (Engl. Transl.)*, 1975, **16**, 651

Gmelin Handbook Inorg. Chem., Syst. No. 39, 1983, **C7**, 69; 526, (*rev*)

Schleid, T., *Z. Naturforsch., B*, 1992, **47**, 45, (*U-form, synth, cryst struct, Tb₂S₃*)