



>>Entry Name: Terbium hydrides

Related CAS Registry Numbers(s): 58127-77-8 71367-24-3 85323-74-6 85323-75-7

Molecular Formula: [HTb]

>>Variant: Terbium hydride (TbH₂)

CAS Registry Number: 13823-39-7

Molecular Formula: H₂Tb

Molecular Weight: 160.941

Accurate Mass: 160.940992

Percentage Composition: H 1.25%; Tb 98.75%

Other Data: Existence range TbH_{1.9-2.15}. $\Delta H_f -213.1 \text{ kJ mol}^{-1}$, $\Delta S_f -141.5 \text{ J mol}^{-1} \text{ K}^{-1}$, $\Delta G_f -170.8 \text{ kJ mol}^{-1}$. $\mu_{\text{eff}} = 9.8\mu_B$. Magnetic behaviour depends on composition

>>Variant: Terbium hydride (TbH₃)

CAS Registry Number: 13598-54-4

Molecular Formula: H₃Tb

Molecular Weight: 161.949

Accurate Mass: 161.948817

Percentage Composition: H 1.87%; Tb 98.13%

Physical Description: Semiconductor

Other Data: Existence range TbH_{2.81-3}. $\mu_{\text{eff}} = 9.7\mu_B$

References:

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Wallace, W.E., *Ber. Bunsen-Ges. Phys. Chem.*, 1972, **76**, 832, (*magnetism, TbH₃*)
Bieganski, Z. *et al.*, *Solid State Commun.*, 1975, **17**, 353, (*TbH₂*)
McQuillan, A.D., *J. Less-Common Met.*, 1976, **49**, 431, (*TbH₂*)
Shaked, A. *et al.*, *Phys. Rev. B*, 1977, **16**, 340; 1984, **30**, 328, (*cryst struct, magnetism, TbH₂*)
Magee, C.B., *J. Less-Common Met.*, 1980, **71**, 273, (*struct, TbH₂*)
Weaver, J.H. *et al.*, *J. Less-Common Met.*, 1980, **74**, 207, (*pe, TbH₂*)
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Bishof, R.E. *et al.*, *Helv. Phys. Acta*, 1982, **55**, 348, (*magnetism, TbH₂*)
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