



>>Entry Name: Holmium hydrides

Related CAS Registry Numbers(s): 13596-16-2 18830-09-6

Molecular Formula: [HHo]

>>Variant: Holmium hydride (HoH₂)

CAS Registry Number: 13823-40-0

Molecular Formula: H₂Ho

Molecular Weight: 166.946

Accurate Mass: 166.945969

Percentage Composition: H 1.21%; Ho 98.79%

Other Data: Existence range HoH_{1.95-2.24}. $\Delta H_f -226.1 \text{ kJ mol}^{-1}$, $\Delta S_f -153.7 \text{ J mol}^{-1} \text{ K}^{-1}$, $\Delta G_f -180.0 \text{ kJ mol}^{-1}$. $\mu_{\text{eff}} = 9.9\mu_B$

>>Variant: Holmium hydride (HoH₃)

CAS Registry Number: 13598-41-9

Molecular Formula: H₃Ho

Molecular Weight: 167.954

Accurate Mass: 167.953794

Percentage Composition: H 1.80%; Ho 98.20%

Other Data: Obeys Curie-Weiss law to 2.6K. Existence range HoH_{2.95-3}. $\mu_{\text{eff}} = 10.1\mu_B$

References:

- Pebler, A. *et al.*, *J. Phys. Chem.*, 1962, **66**, 148, (*HoH₂*)
Mansmann, M. *et al.*, *J. Phys. (Paris)*, 1964, **25**, 454, (*HoH₂*)
Perkins, F.C. *et al.*, *J. Electrochem. Soc.*, 1968, **115**, 21, (*HoH₂*)
Wallace, W.E., *Ber. Bunsen-Ges. Phys. Chem.*, 1972, **76**, 832, (*magnetism, HoH₂*)
Flood, D.J., *Bull. Am. Phys. Soc.*, 1976, **21**, 447, (*HoH₂*)
Bieganski, Z. *et al.*, *CA*, 1976, **84**, 25155, (*spec heat, HoH₂*)
CA, 1976, **85**, 115777, (*magnetism, HoH₂*)
Magee, C.B., *J. Less-Common Met.*, 1980, **72**, 273, (*struct, HoH₂*)
Bishof, R.E. *et al.*, *Helv. Phys. Acta*, 1982, **55**, 348, (*thermodyn, HoH₂*)
Bloch, J. *et al.*, *J. Nucl. Mater.*, 1982, **110**, 251, (*synth, HoH₂*)
Shaked, H. *et al.*, *Phys. Rev. B*, 1984, **30**, 328, (*struct, magnetism, HoH₂*)
Raman Khan, M.S., *J. Mater. Sci. Lett.*, 1987, **6**, 15, (*HoH₃*)