



>>Entry Name: Ytterbium hydrides

Related CAS Registry Numbers(s): 13967-92-5 85323-76-8

Molecular Formula: [HYb]

>>Variant: Ytterbium hydride (YbH₂)

CAS Registry Number: 13598-40-8

Molecular Formula: H₂Yb

Molecular Weight: 175.056

Accurate Mass: 173.951028

Percentage Composition: H 1.15%; Yb 98.85%

Use/Importance: Catalyses hydrogenation of propene. YbH_{1.2} and YbH_{1.5} are semiconductors

Physical Description: Air-stable powder

Other Data: Existence range YbH_{1.50-2}. Diamagnetic. Under high H₂ pressure forms phase of limiting composition YbH_{2.55}. $\Delta H_f -181.3 \text{ kJ mol}^{-1}$

>>Variant: Ytterbium hydride (YbH₃)

CAS Registry Number: 32997-62-9

Molecular Formula: H₃Yb

Molecular Weight: 176.064

Accurate Mass: 174.958853

Percentage Composition: H 1.72%; Yb 98.28%

Physical Description: Black solid

Other Data: Exhibits temp. independent paramagenation over range 1.2-4.2K. Obeys Curie-Weiss law 78-295K; $\mu_{\text{eff}} = 4.37\mu_B$

References:

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Weaver, J.H. *et al.*, *J. Less-Common Met.*, 1980, **24**, 207, (*pe*)
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