>>**Entry Name: Barium hydride (BaH_2),** 8Cl

CAS Registry Number: 13477-09-3

BaH_2

Molecular Formula: BaH_2
Molecular Weight: 139.343
Accurate Mass: 139.920882
Percentage Composition: Ba 98.55%; H 1.45%
General Statement: Isotypic with SrH_2 ($PbCl_2$)
Source/Synthesis: Manuf. by direct reaction of the elements at high temps. and pressures. Prepd. by reaction of $BaCl_2$ with H_2 in the presence of liq. Na at 383°
Use/Importance: Catalyst for polym. of dienes and lactones
Physical Description: Grey orthorhombic cryst. Moisture-sensitive, reacts with H_2O with formation of $Ba(OH)_2$ and H_2. Dec. on heating with evolution of H_2 gas and formation of Sr
Melting Point: Mp 675°
Other Data: ΔH_f° –179 kJ mol^{-1}; ΔG_f° –132 kJ mol^{-1}
Hazard & Toxicity: Toxic

References:

Zintl, E. *et al.*, *Z. Elektrochem.*, 1935, **41**, 33, *(cryst struct)*
Franzen, H.F. *et al.*, *J. Electron Spectrosc. Relat. Phenom.*, 1977, **11**, 439, *(pe)*
Nicol, A.T. *et al.*, *J. Chem. Phys.*, 1978, **69**, 5211, *(pmr)*
Shen, P. *et al.*, *Huaxue Tongbao*, 1984, 10; *CA*, 1985, **102**, 105112, *(synth)*
Lewis, R.J.*, Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold*, 1992, BAM250