



>>Entry Name: Holmium

CAS Registry Number: 7440-60-0

Related CAS Registry Numbers(s): 22541-22-6

Ho

Molecular Formula: Ho

Molecular Weight: 164.93

Accurate Mass: 164.930319

Percentage Composition: Ho 100.00%

Abundance: 1.4 ppm (earth's crust). Discovered in 1878-1879 by P.T. Cleve (Uppsala) and M. Delafontaine and J.L. Sonet (Geneva).  $\alpha$ -Form (hcp) converts into  $\beta$ -form (bcc) at just below Mp. A high pressure form also exists

Source/Synthesis: Main ores are monazite and bastnaesite. Metal obt. from  $\text{HoCl}_3$  and  $\text{HoF}_3$  with Ca

Physical Description: Soft, malleable bright silvery metal, stable in dry air, reacts with  $\text{H}_2\text{O}$ , sol. in dil. acids

Melting Point: Mp  $1474^\circ$  ( $1461^\circ$ )

Boiling Point: Bp  $2700^\circ$  ( $2600^\circ$ )

Aldrich: 45795-7

Fluka: 53430

>>Variant: Holmium 163

CAS Registry Number: 14391-21-0

Source/Synthesis: Daughter of Er

Other Data:  $I = -7/2$ ;  $\mu = +4.23 \mu_N$ . Decays by orbital electron capture to  $^{163}\text{Dy}$

>>Variant: Holmium 165

Other Data:  $I = -7/2$ ;  $\mu = +4.173 \mu_N$ . Nmr relative sensitivity ( $^1\text{H}=1.00$ ) 0.18; receptivity ( $^{13}\text{C}=1.00$ ) 1160

>>Variant: Holmium 166

CAS Registry Number: 13967-65-2

Source/Synthesis: Prod. from Ho (n, $\gamma$ ) (commercial production route). Daughter of  $^{166}\text{Dy}$

Other Data:  $I = +0$ . Decays by  $\beta^{(-)}$  emission to  $^{166}\text{Er}$

>>Variant: Holmium 166m

Source/Synthesis: Prod. from Ho (n, $\gamma$ ) (commercial production route)

Other Data:  $I = -7$ ;  $\mu = 3.6 \mu_N$ . Decays by  $\beta^{(-)}$  emission to  $^{166}\text{Er}$

References:

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