

H-Sm (Hydrogen-Samarium)

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The Sm-H phase diagram in [Massalski2] was updated by [1996Man]. However, it was still schematic.

[2002Zin] calculated the Sm-H phase diagram at pressures 1 atm (Fig. 1) and 10 MPa (Fig. 2). Phases ϵ and η in these figures are designated as $\text{SmH}_{2\pm x}$ and SmH_{3-y} in [2002Zin].

References

1996Man: F.D. Manchester and J.M. Pitre: "The H-Sm System (Hydrogen-Samarium)," *J. Phase Equilibria*, 1996, 17(5), pp. 432-41.

2002Zin: M. Zinkevich, N. Mattern, A. Handstein, and O. Gutfleisch: "Thermodynamics of Fe-Sm, Fe-H, and H-Sm Systems and Its Application to the Hydrogen-Disproportionation-Desorption-Recombination (HDDR) Process for the System $\text{Fe}_{17}\text{Sm}_2\text{-H}_2$," *J. Alloys Compd.*, 2002, 339, pp. 118-39.

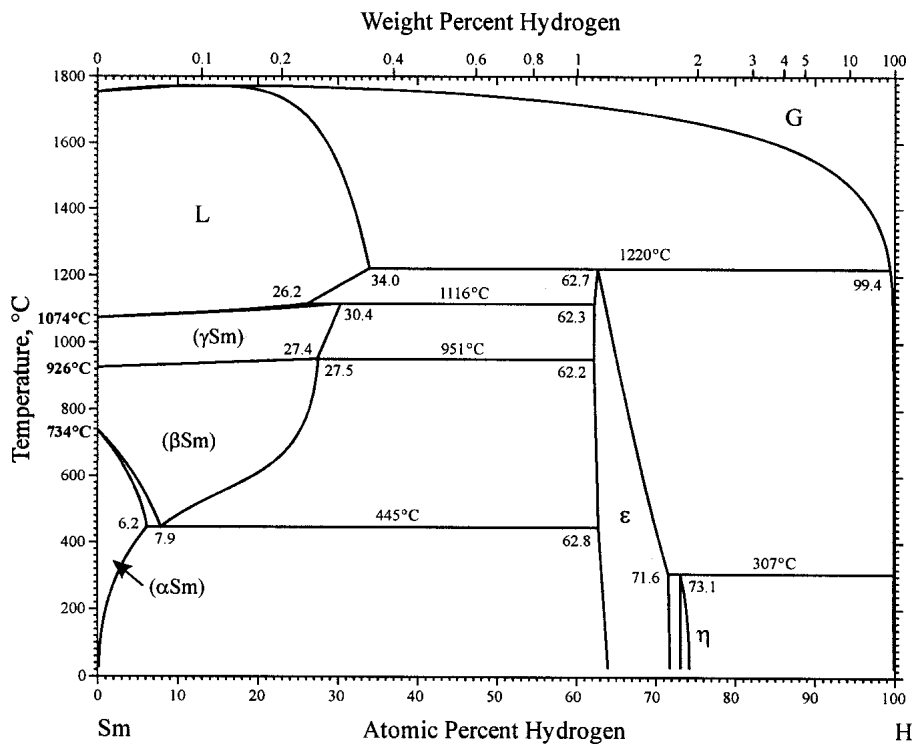


Fig. 1 Sm-H phase diagram at 1 atm (from [2002Zin])

Section III: Supplemental Literature Review

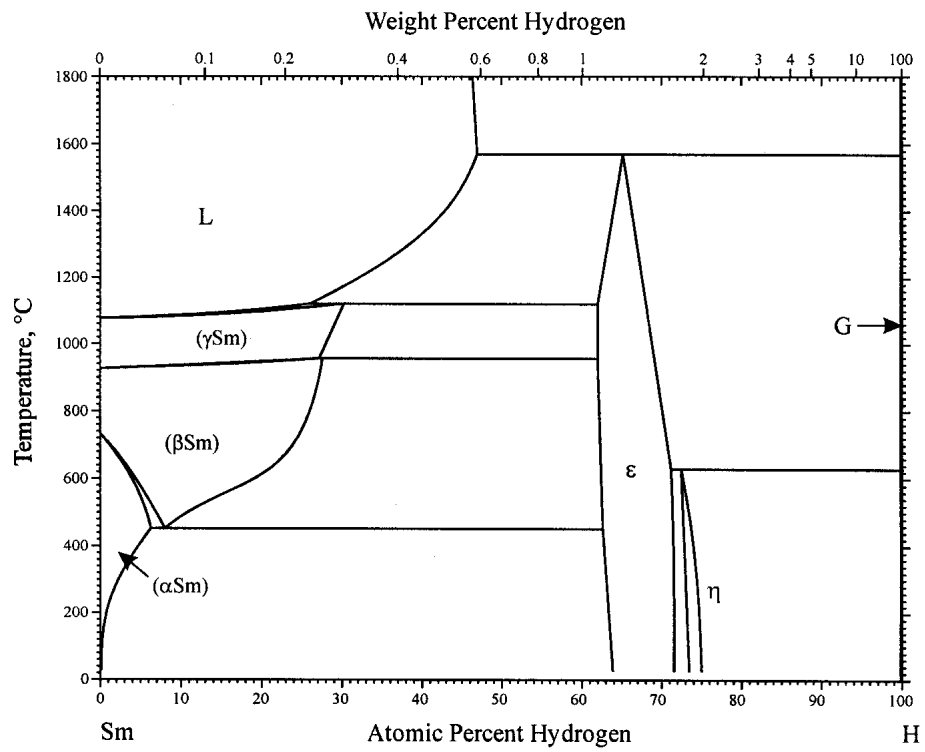


Fig. 2 Sm-H phase diagram at 10 MPa (from [2002Zin])