

Cd-Hg (Cadmium-Mercury)

H. Okamoto

The Cd-Hg phase diagram in [Massalski2] was taken from the full evaluation subsequently published by [92Gum]. According to the criteria on phase boundaries given by [93Oka], the forms of the (Cd) + ω and ω + (Hg) two-phase fields were abnormal because the boundaries of the (Cd) + ω two-phase field would extrapolate to cross one another at a temperature slightly above the equilibrium range shown in the phase diagram, and the boundaries of the latter were widening at higher temperatures. [92Gum] attempted thermodynamic modeling of this system. Calculated liquidus and solidus were shown, but boundaries of these 2 two-phase fields were not shown.

Figure 1 shows the Cd-Hg phase diagram calculated by [95Yan]. This diagram appears to represent the equilibrium state of this system more adequately because the problems de-

scribed above have been solved. The ω' and ω'' phases were not included in the [95Yan] thermodynamic model. These phases are not reproduced from [92Gum] in Fig. 1 because the boundaries of these phases in [92Gum] were also abnormal according to [94Oka].

Cited References

- 92Gum:** C. Guminski and L.A. Zabdyr, *J. Phase Equilibria*, 13(4), 401-410 (1992).
93Oka: H. Okamoto and T.B. Massalski, *J. Phase Equilibria*, 14(3), 316-335 (1993).
94Oka: H. Okamoto and T.B. Massalski, *J. Phase Equilibria*, 15(5), 500-521 (1994).
95Yan: J. Yang, N.J. Silk, A. Watson, A.W. Bryant, T.G. Chart, and B.B. Argent, *Calphad*, 19(3), 415-428 (1995).

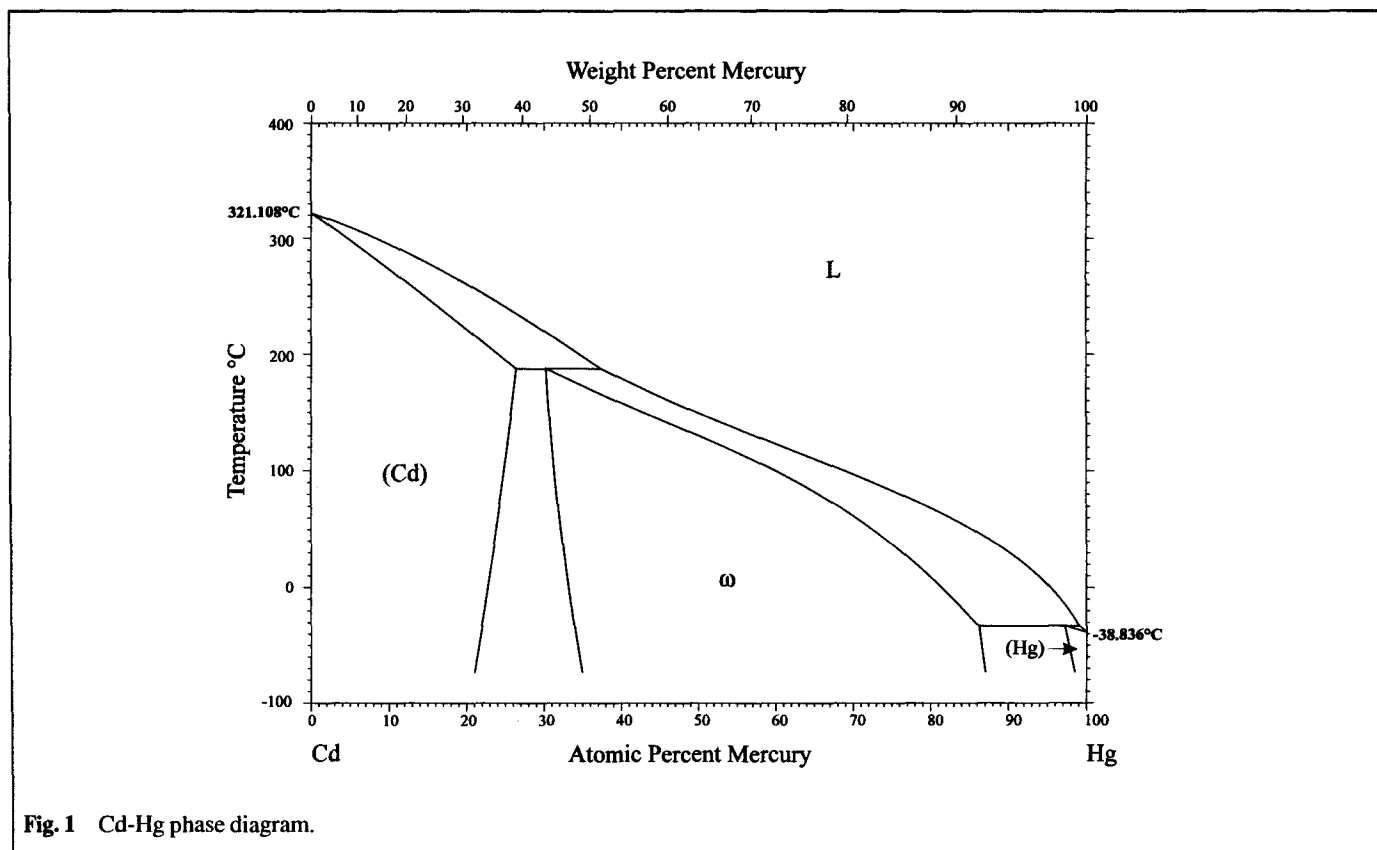


Fig. 1 Cd-Hg phase diagram.