

Au – Sn (Gold – Tin)

Phase diagram

A short review of this system is given by Okamoto [93 Oka]. He pointed out that due to [87 Leg] modifications are necessary concerning the existence of the β and ζ phase. Both intermediate phases, as [93 Ciu] has experimentally evidenced (DTA, DSC, EPMA), are existing at least up to 473 K. A decomposition at lower temperature possibly may occur, but it is not sure. ζ' forms at 463 K on cooling in a peritectoidal reaction from ζ and δ . These phase equilibria are shown in Fig. 1 taken from [93 Ciu].

Thermodynamics

Kameda [83 Kam] has published enthalpies of mixing of liquid Au-Sn alloys as shown in Fig. 1. The ΔH^L values in Fig. 2 differ only little from enthalpies of mixing as given a bit earlier by Hayer et al. [81 Hay] (see also [Landolt-Börnstein]).

Figures

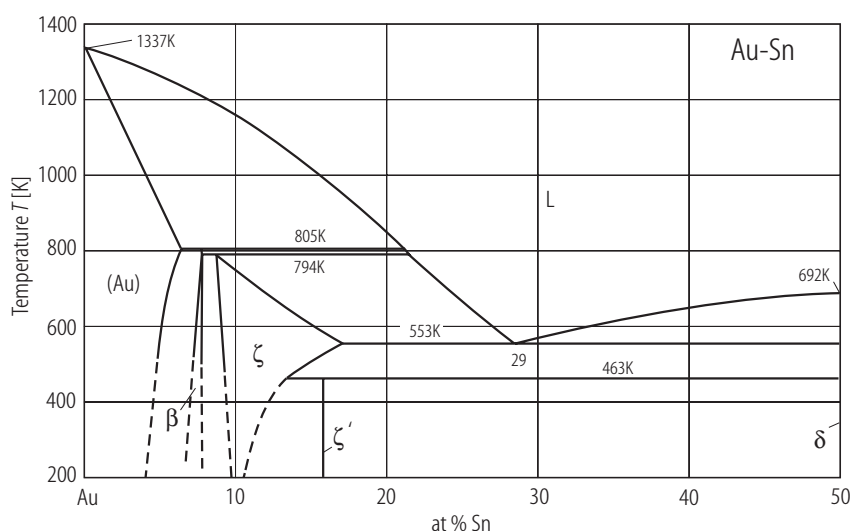


Fig. 1. Au-Sn. Partial phase diagram (taken from [93 Ciu]).

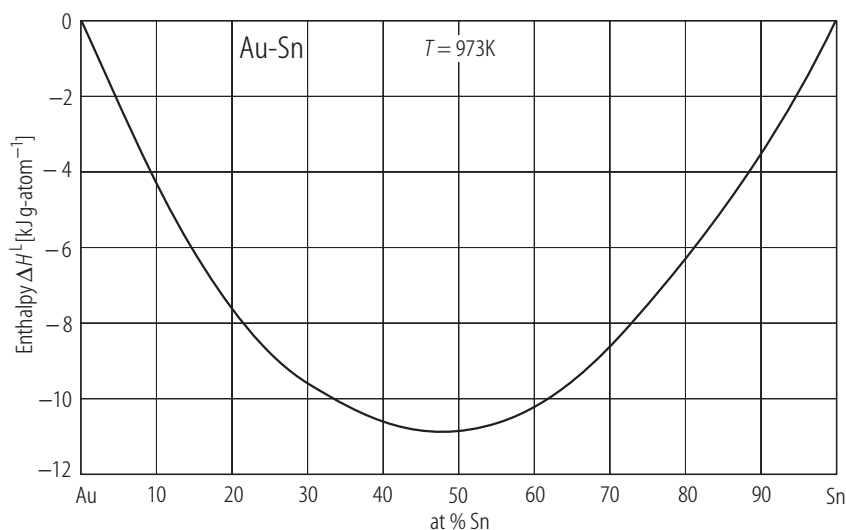


Fig. 2. Au-Sn. Enthalpies of mixing of liquid alloys [83 Kam].

References

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