

As – Ga (Arsenic – Gallium)

Phase diagram

Yamaguchi et al. [96 Yam] have, using an associated solution model, optimized phase equilibria and thermodynamic values of liquid alloys. The phase diagram thus obtained is shown in Fig. 1. It is in agreement with phase equilibria experimentally determined by Yamaguchi et al. [88 Yam] and with Ansara's database values [94 Ans].

Thermodynamics

On the basis of experimentally determined enthalpies of mixing of liquid alloys published by Yamaguchi et al. [88 Yam], Yamaguchi et al. [96 Yam] have calculated optimized ΔH^L - values which are given in Fig. 2. The experimental ΔH^L - values are in agreement with the calculated ones.

From enthalpy of dissolution Yamaguchi et al. [94 Yam] have calculated the enthalpy of formation of AsGa. Its value is

$$\Delta H^S = 43.8 \pm 0.3 \text{ kJ g-atom}^{-1}$$

Figures

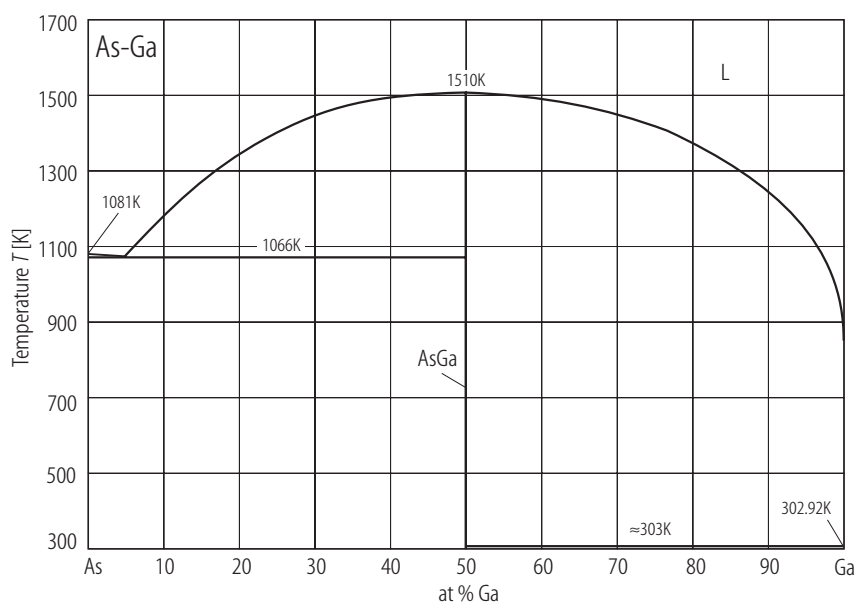


Fig. 1. As–Ga. Phase diagram [96 Yam].

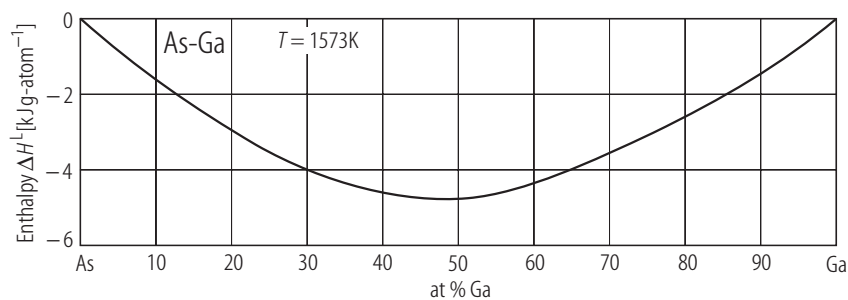


Fig. 2. As–Ga. Enthalpies of mixing of liquid alloys [96 Yam].

References

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