

As – Ge (Arsenic – Germanium)

Thermodynamics

Fitzner et al. [96 Fit], by synthesis calorimetry, have determined the standard enthalpies of formation of the two intermediate phases. The obtained results are given in Table 1.

Table 1. As–Ge. Enthalpies of formation of intermediate phases taken from [96 Fit] .

Phase	ΔH° [kJ g-atom ⁻¹]
AsGe	- 5.5 ± 2.6
As ₂ Ge	- 5.8 ± 3.2

Starting from these results [96 Fit] have calculated the enthalpies of mixing of liquid alloys. Adopting the subregular solution model for $T = 1058$ K the enthalpy of mixing as a function of concentration can be expressed by the equation:

$$\Delta H^L = (-9.86 - 2.77 \cdot x_{\text{As}}) \cdot x_{\text{As}} \cdot x_{\text{Ge}}$$

Reference

[96 Fit] Fitzner, K., Kleppa, O.J.: J. Alloys and Comp., **238** (1996) 187