

## Au – Hf (Gold – Hafnium)

### Phase diagram

Lomello-Tafin [00 Lom], using several different experimental methods, have reinvestigated the phase diagram. The results are plotted in Fig. 1.

### Thermodynamics

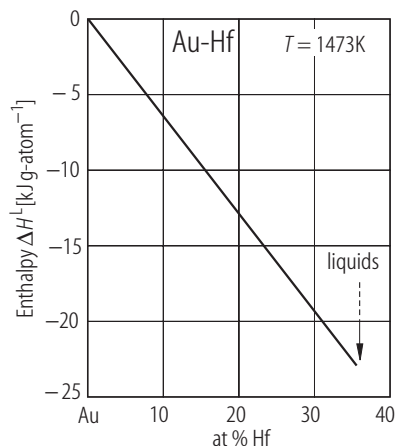
Enthalpies of mixing have been determined for liquid alloys at high Au-concentrations by Fitzner et al. [92 Fit]. The authors used the direct synthesis calorimetry at 1473 K. The results they obtained are plotted in Fig. 2.

The same authors have determined experimentally enthalpies of the formation of intermediate phases. The results are given in Table 1.

**Table 1. Au–Hf.** Enthalpies of formation of intermediate phases [92 Fit].

Phase	$\Delta H^S$ [kJ g-atom <sup>-1</sup> ]
Au <sub>3</sub> Hf	- 54.77 ± 2.67
Au <sub>2</sub> Hf	- 61.98 ± 2.11
AuHf	- 57.03 ± 1.29
AuHf <sub>2</sub>	- 40.76 ± 4.14

### Figures



**Fig. 2. Au–Hf.** Enthalpies of mixing of liquid alloys at high Au-concentrations [92 Fit].

### References

- [92 Fit] Fitzner, K., Kleppa, O.J.: Metallurg. Trans. A **23A** (1992) 997  
 [00 Lom] Lomello-Tafin, M., Galez, P., Feschotte, P., Jorda, J.L.: J. Alloys and Comp. 296 (2000) 103