

As-I (Arsenic-Iodine)

H. Okamoto

The As-I phase diagram was missing in [Massalski2].

Figure 1 shows the As-I phase diagram determined by [1973Che] by means of DTA, x-ray diffraction, and metallography.

Earlier, [1968Rol] reported the existence of AsI_2 . However, this phase is metastable [1973Che].

The crystal structure of AsI_3 was determined by [1965Tro] (Table 1).

References

- 1965Tro:** J. Trotter, The Crystal Structure of Arsenic Triiodide, AsI_3 , *Z. Kristallogr.*, 1965, **121**, p 81-86
- 1968Rol:** R.F. Rolsten, Iodine Metals and Metal Iodides, *Izd. Metallurgiya, Moscow*, 1968, p 387, as quoted in [1973Che]
- 1973Che:** A.P. Chernov, S.A. Dembovskii, and A.F. Borisenkova, Equilibrium Diagram of the As-I System, *Russ. J. Inorg. Chem.*, 1973, **18**(10), p 1530-1531

Table 1 As-I crystal structure data

Phase	Composition, at.% I	Pearson symbol	Space group	Strukturbericht designation	Prototype
(As)	0	<i>hR2</i>	$R\bar{3}m$	A7	αAs
AsI_3	75	<i>hR24</i>	$R\bar{3}$
(I)	100	<i>oC8</i>	<i>Cmca</i>	A14	I

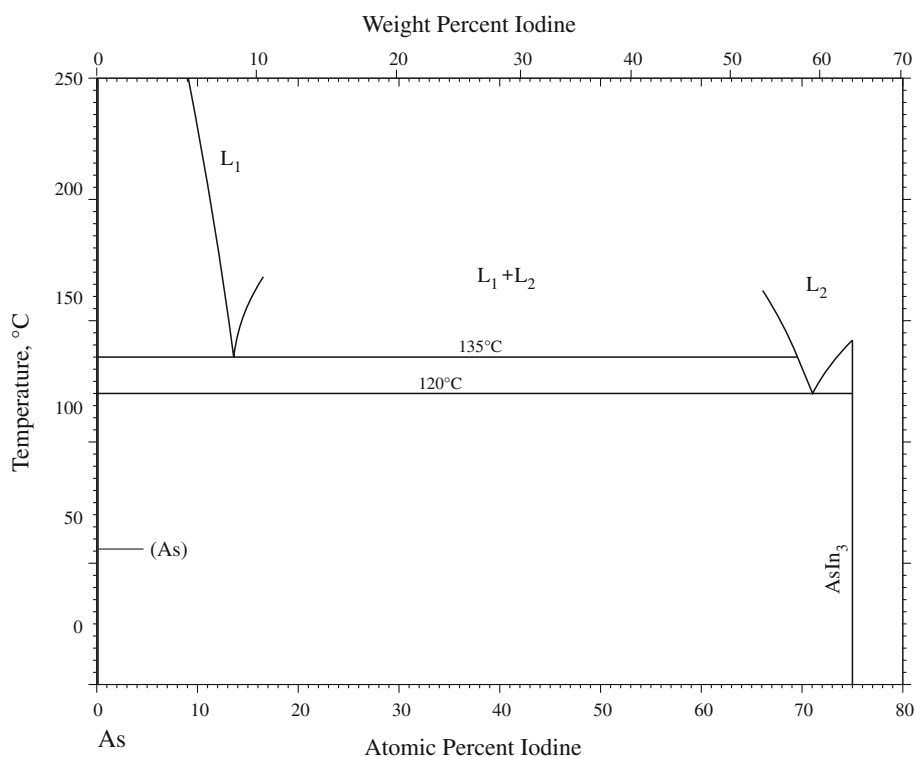


Fig. 1 As-I phase diagram