

As – Se (Arsenic – Selenium)

Phase diagram

The phase diagram was reinvestigated by Degterov et al. [97 Deg]. Taking their experimental results and after thermodynamic optimization Okamoto [98 Oka] has constructed a phase diagram, which is redrawn in Fig. 1. Also involved are findings by Blachnik et al. [84 Bla] and Bastow et al. [77 Bas].

Crystal structure

Intermediate phases occurring in this system are collected in Table 1 (see [Massalski.]). The polymorphic transition of As_4Se_3 occurs at 447 K.

Table 1. As–Se. Intermediate phases taken from [Massalski] and [Pearson].

Phase	Structure	Prototype	Lattice parameters [nm]			Reference
			<i>a</i>	<i>b</i>	<i>c</i>	
$\beta\text{-As}_4\text{Se}_3$	mon		2.582	0.652	2.301	[77 Bas]
$\alpha\text{-As}_4\text{Se}_3$	ort	As_4Se_3	1.041	0.946	0.791	[77 Bas]
AsSe	mon	AsSe	0.623	1.380	0.9920	[73 Bas]
As_2Se_3	mon	As_2Se_3	0.430	0.994	1.284	[73 Ren]

Figure

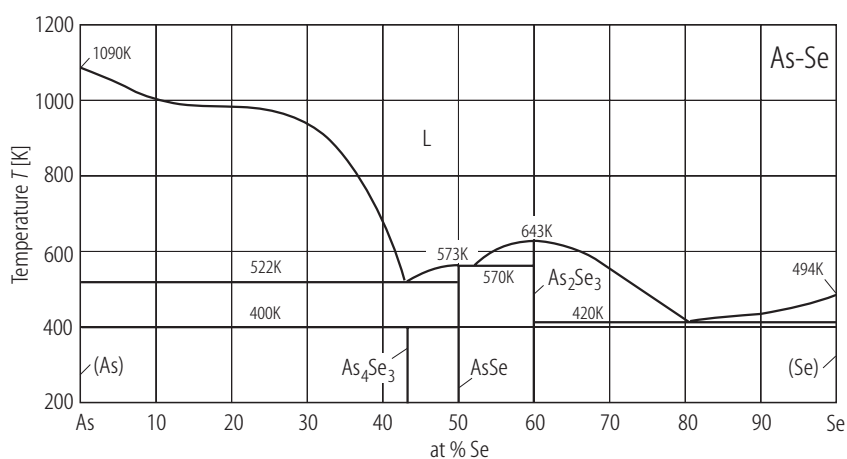


Fig. 1. As–Se. Phase diagram [98 Oka].

References

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