Se-Sn (Selenium-Tin)

H. Okamoto

[96Feu] obtained phase boundary data by DSC and XRD in the whole composition range (28 compositions between 10 and 90 at.% Se) and calculated the Sn-Se phase diagram (Fig. 1) by optimization of their results together with thermodynamic data in the literature. The Sn-Se phase diagram in [Massalski2] was redrawn from [86Sha], but it included speculative phase boundaries because experimental data were insufficient. Sn-Se crystal structure data are summarized in Table 1.

Cited References

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78Wie: H. Wiedemeier and H.G. von Schnering, *Z. Kristallogr., 148,* 295-303 (1978).

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Table 1 Sn-Se Crystal Structure Data

Phase	Composition, at.% Se	Pearson symbol	Space group	Strukturbericht designation	Prototype	Reference
(βSn)	0	*tI*4	$I4_1/amd$	*A*5	βSn	...
(αSn)	0	*cF*8	$Fd\bar{3}m$	*A*4	C(diamond)	...
βSnSe	50	*oC*8	*Cmcm*	B_f	CrB	79Wie
αSnSe	50	*oP*8	*Pnma*	*B*16	GeS	78Wie
$SnSe_2$	66.7	*hP*3	$P\bar{3}m1$	*C*6	CdI_2	77Ala
(Se)	100	*hP*3	$P3_121$	*A*8	γSe	...

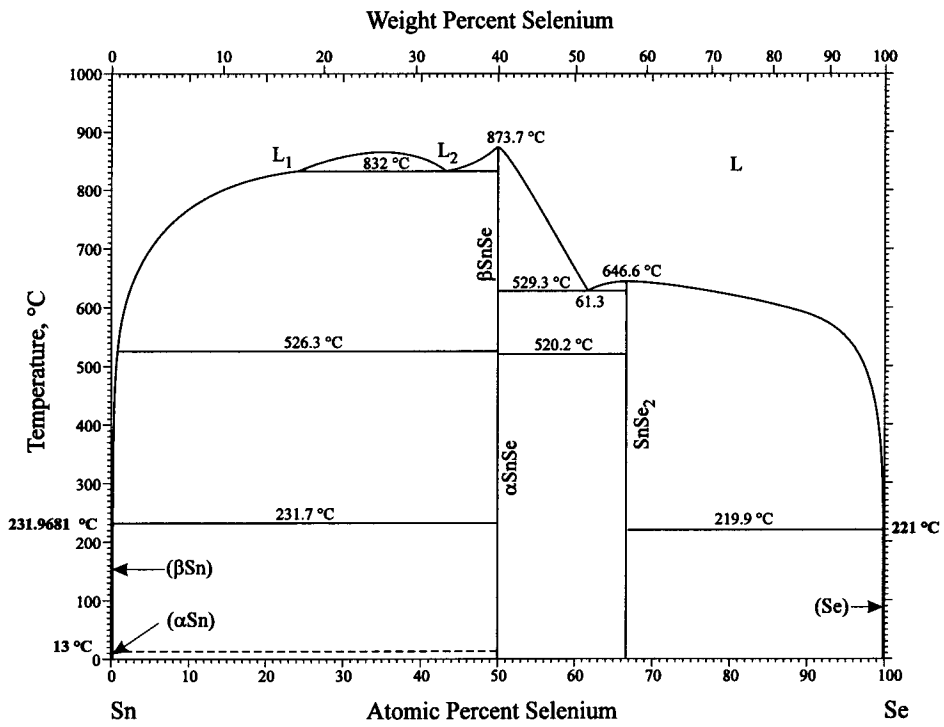

Fig. 1 The Sn-Se phase diagram.