Sc-Zn (Scandium-Zinc)

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[97Pal] determined the Sc-Zn phase diagram (Fig. 1) in the range 40 to 100 at.% Zn, using DTA, metallographic analysis, XRD, and electron microscopy. Five intermediate phases exist, and their crystal structure data are summarized in Table 1.

Cited References

63Lau: E. Laube and H. Nowotny, *Monatsh. Chem., 94,* 162-163 (1963).

65Kri: P.I. Kripyakevich, V.S. Potasov, and Yu.B. Kuz'ma, *Vis. L'viv Derzh. Univ. Ser. Khim., 8,* 80 (1965): as quoted in [97Pal].

66Kri: P.I. Kripyakevich, V.S. Potasov, and Yu.B. Kuz'ma, *Izv. Akad. Nauk SSSR, Neorg. Mater., 2*(9), 1574-1578 (1966) in Russian; TR: *Inorganic Mater., 2*(9), 1351-1355 (1966).

97Pal: A. Palenzona and P. Manfrinetti, *J. Alloy. Compd., 247,* 195-197 (1997).

Table 1 Sc-Zn Crystal Structure Data

Phase	Composition, at.% Zn	Pearson symbol	Space group	Strukturbericht designation	Prototype	Reference
(αSc)	0 to ?	*hP2*	$P6_3/mmc$	*A3*	Mg	...
(βSc)	0 to ?	*cI2*	$Im\bar{3}m$	*A2*	W	...
ScZn	50	*cP2*	$Pm\bar{3}m$	*B2*	CsCl	[63Lau]
$ScZn_2$	66.7	*hP3*	*P6/mmm*	*C32*	AlB_2	[65Kri]
$Sc_{13}Zn_{58}$	81.7	*hP*142	$P6_3/mmc$	...	$Gd_{13}Cd_{58}$	[97Pal]
Sc_3Zn_{17}	85	*cI*160	$Im\bar{3}$	...	Ru_3Be_{17}	[66Kri]
$ScZn_{12}$	92.3	*tI*26	*I4/mmm*	$D2_b$	$Mn_{12}Th$	[66Kri]
(Zn)	100	*hP2*	$P6_3/mmc$	*A3*	Mg	...

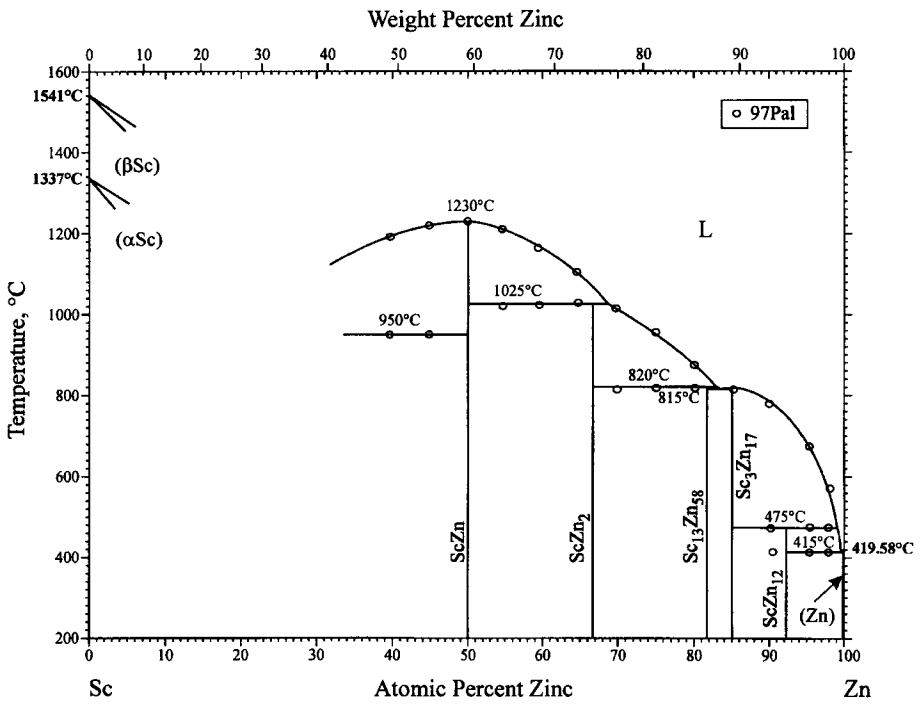

Fig. 1 The Sc-Zn phase diagram.