Ce-Sb (Cerium-Antimony)

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The Ce-Sb phase diagram in [Massalski2] was schematically drawn based on a presumed similarity to the Nd-Sb system. Figure 1 shows the Ce-Sb phase diagram determined by [1997Abu] using differential thermal analysis, x-ray powder diffraction, and metallography data. Ce-Sb crystal structure data are given in Table 1.

References

1997Abu: V.D. Abulkhaev: *Z. Neorg. Khim.*, 1997, vol. 42 (2), pp. 341-45 (in Russian); translation: *Russ. J. Inorg. Chem.*, 1997, vol. 42 (2), pp. 283-86.

Table 1 Ce-Sb crystal structure data

Phase	Composition, at.% Sb	Pearson symbol	Space group	Strukturbericht designation	Prototype
(δ Ce)	0	<i>cI2</i>	$\bar{Im}3m$	A2	W
(γ Ce)	0	<i>cF4</i>	$\bar{Fm}3m$	A1	Cu
(β Ce)	0	<i>hP4</i>	$P6_3/mmc$	A3'	α La
Ce ₂ Sb	33.3	<i>tI12</i>	$I4/mmm$	...	...
Ce ₄ Sb ₃	42.9	<i>cI28</i>	$I43d$	$D7_3$	Th ₃ P ₄
CeSb	50	<i>cF8</i>	$\bar{Fm}3m$	B1	NaCl
β CeSb ₂	66.7	...	...	...	...
α CeSb ₂	66.7	<i>oC24</i>	$Cmca$	...	Sb ₂ Sm
(Sb)	100	<i>hR2</i>	$\bar{R}3m$	A7	α As

Fig. 1 Ce-Sb phase diagram