

Bi-Cl (Bismuth-Chlorine)

H. Okamoto

The Bi-Cl phase diagram shown in Fig. 1 has been redrawn from [Massalski2] by including an additional new phase, $\text{Bi}_7\text{Cl}_{10}$, discovered by [2005Ham]. The peritectoid formation temperature of $\text{Bi}_7\text{Cl}_{10}$ is $190 \pm 5^\circ\text{C}$.

Bi-Cl crystal structure data are given in Table 1.

Reference

2005Ham: S. Hampel, P. Schmidt, and M. Ruck, Synthesis, Thermochemical Properties, and Crystal Structure of $\text{Bi}_7\text{Cl}_{10}$. *Z. Anorg. Allg. Chem.*, 2005, **631**, p 272-283, in German

Table 1 Bi-Cl crystal structure data

Phase	Composition, at.% Cl	Pearson symbol	Space group	Strukturbericht designation	Prototype
(Bi)	0	<i>hR2</i>	$R\bar{3}m$	<i>A7</i>	αAs
Bi_6Cl_7	53.8	<i>oP104</i>	<i>Pnmm</i>
$\text{Bi}_7\text{Cl}_{10}$	58.8	<i>tI1088</i>	$I4_1/acd$
BiCl_3	75	<i>oP16</i>	<i>Pn2_1a</i>
(Cl)	100	<i>oC8</i>	<i>Cmca</i>	<i>A14</i>	I

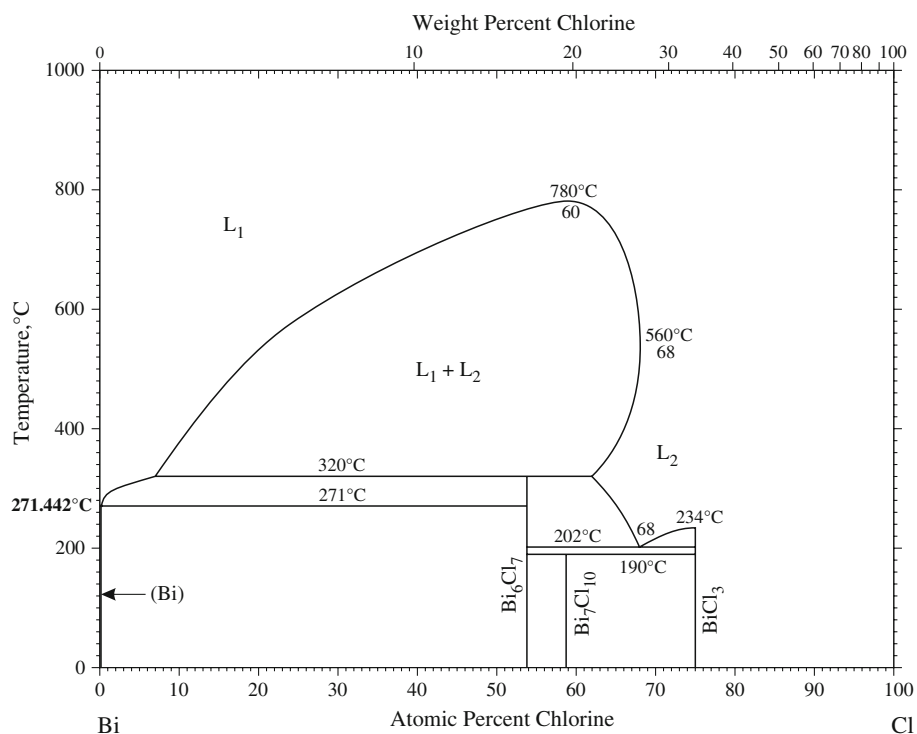


Fig. 1 Bi-Cl phase diagram