

I-Pb (Iodine-Lead)

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The Pb-I phase diagram was unknown in [Massalski2], which was published in 1990.

Since then, [1995Kon] determined the phase diagram in the region between Pb and PbI_2 by differential thermal calorimetry. Figure 1 shows the Pb-I phase diagram of [1995Kon] revised by [2006Zhu]. A minor modification was made by this editor to avoid phase rule violation. In the phase diagram of [2006Zhu], PbI_2 was shown to have a homogeneity range expanding to the I-rich side as the temperature increases. The syntectic melting reaction of

PbI_2 was shown as a congruent type in the phase diagram of [1995Kon].

Figure 1 may need confirmation because the $L_1 + L_2$ miscibility gap is very close to the edge of the phase diagram, which is unlikely [1991Oka]. The syntectic melting of PbI_2 is also subject to further investigation because the syntectic reaction is unlikely to occur in binary systems unless the composition of the compound is very close to either side of the liquidus at the syntectic temperature [1993Oka].

Table 1 shows Pb-I crystal structure data.

Table 1 Pb-I crystal structure data

Phase	Composition, at.% I	Pearson symbol	Space group	Strukturbericht designation	Prototype
(Pb)	0	<i>cF4</i>	<i>Fm$\bar{3}m$</i>	A1	Cu
PbI_2	66.7	<i>hP6</i>	<i>P$\bar{3}m1$</i>

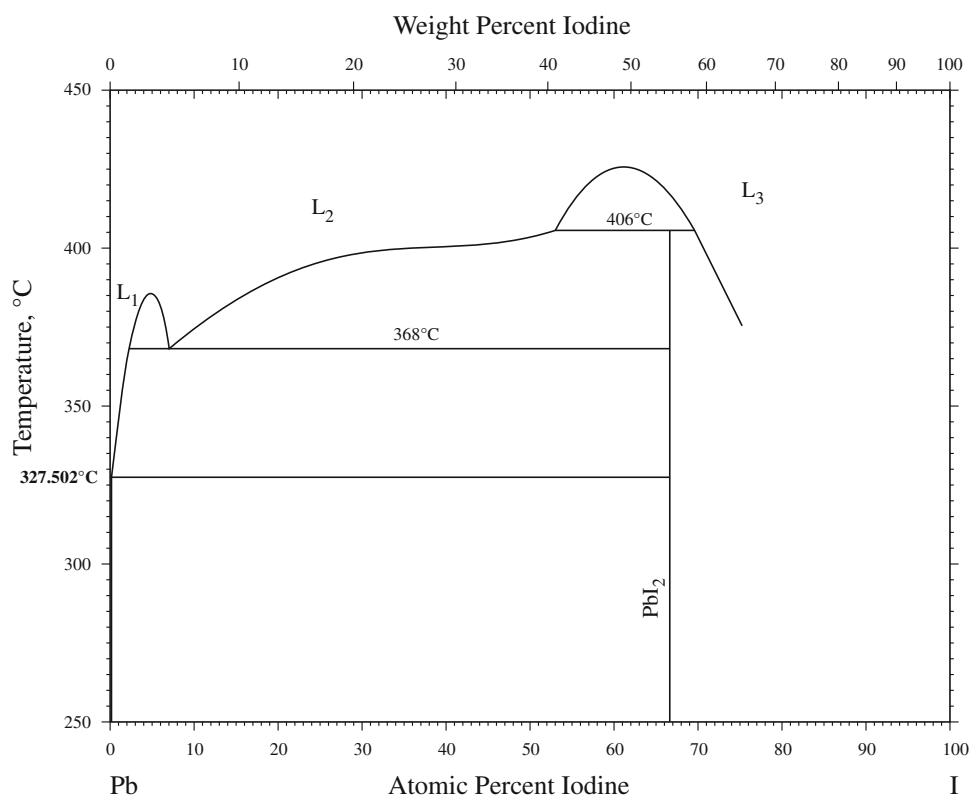


Fig. 1 Pb-I phase diagram

References

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