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P-Ti (Phosphorus-Titanium)

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The Ti-P phase diagram in [Massalski2] was redrawn from [1987Mur]. The phosphorus-rich part (>55 at.% P) unknown in [1987Mur] was estimated by [2006Oht] by thermodynamic modeling. The result is shown in Fig. 1.

Ti-P crystal structure data are shown in Table 1.

References

1987Mur: J.L. Murray, The P-Ti (Phosphorus-Titanium) System, in *Phase Diagrams of Binary Titanium Alloys*, J.L. Murray, Ed., ASM International, Metals Park, OH, 1987, p 234-236

2006Oht: H. Ohtani, N. Hanaya, M. Hasebe, S. Teraoka, and M. Abe, Thermodynamic Analysis of the Fe-Ti-P Ternary System by Incorporating First-Principles Calculations into the CALPHAD Approach, *CALPHAD*, 2006, **30**(2), p 147-158

Table 1 Ti-P crystal structure data

Phase	Composition, at.% P	Pearson symbol	Space group	Struktur bericht designation	Prototype
(βTi)	0	*cI*2	$Im\bar{3}m$	*A*2	W
(αTi)	0	*hP*2	$P6_3/mmc$	*A*3	Mg
Ti_3P	25	*tP*32	$P4_2/n$	...	Ti_3P
Ti_2P	33.3	*hP*36	*P*6/*mmm*	...	...
$Ti_{1.7}P$	37.0	*oP**	$P2_12_12_1$	...	...
Ti_5P_3	36 to 39	*hP*16	$P6_3/mcm$	$D8_8$	Mn_5Si_3
Ti_4P_3	42.9	*c***	...	...	...
TiP	48 to 50	*hP*8	$P6_3/mmc$	B_i	TiAs
TiP_2	66.7	*tI*12	I4/*mcm*	*C*16	Al_2Cu

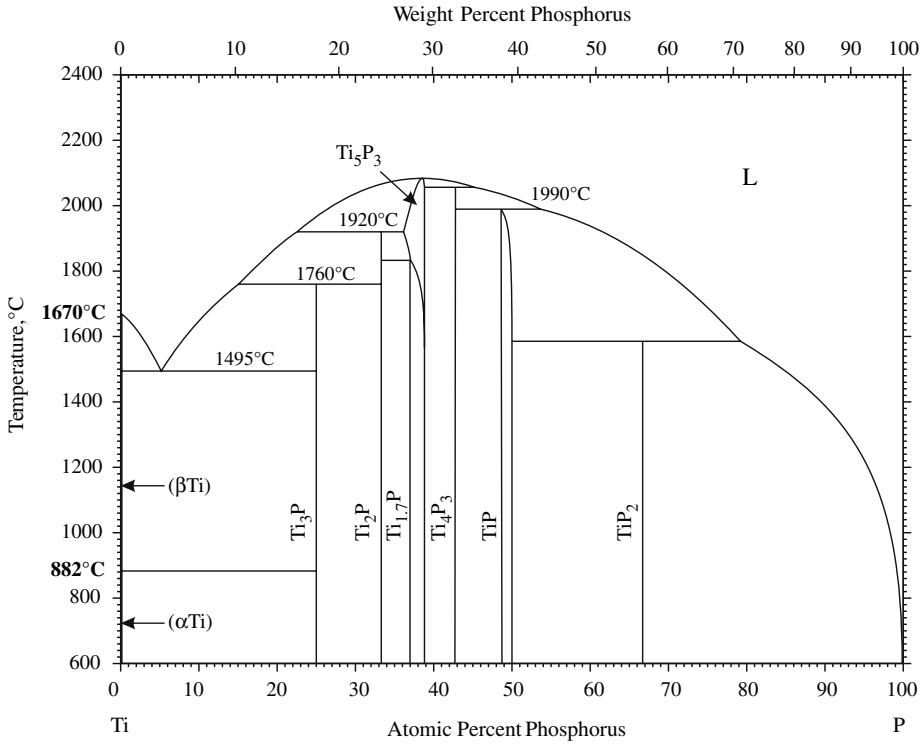

Fig. 1 P-Ti phase diagram