

Ag – P (Silver – Phosphorus)

Phase diagram

Karakaya et al. [88 Kar] have constructed a phase diagram, which was redrawn by [Moffatt]. This diagram is reproduced in Fig. 1.

[88 Kar] have also calculated an approximate phase diagram at $5 \cdot 10^8$ Pa. It is shown in Fig. 2.

Crystal structure

Crystallographic data of intermediate phases are given in Table 1.

Table 1. Ag-P. Crystal structures in the Ag-P system.

Phase	Composition [at% P]	Structure	Lattice parameters [nm]			Reference
			<i>a</i>	<i>b</i>	<i>c</i>	
AgP ₂	66.7	mon	0.6218	0.5056 $\beta = 113.48^\circ$	0.7804	[65 Olo]
Ag ₃ P ₁₁	78.4	mon	1.2999	0.7555 $\beta = 118.84^\circ$	0.6612	[81 Mol]

Thermodynamics

From model calculations [88 Kar] have obtained thermodynamic activities of phosphorus at $T = 1173$ K (see Fig. 3). These activities are in agreement with experimentally determined activities found by [74 Uga].

Figures

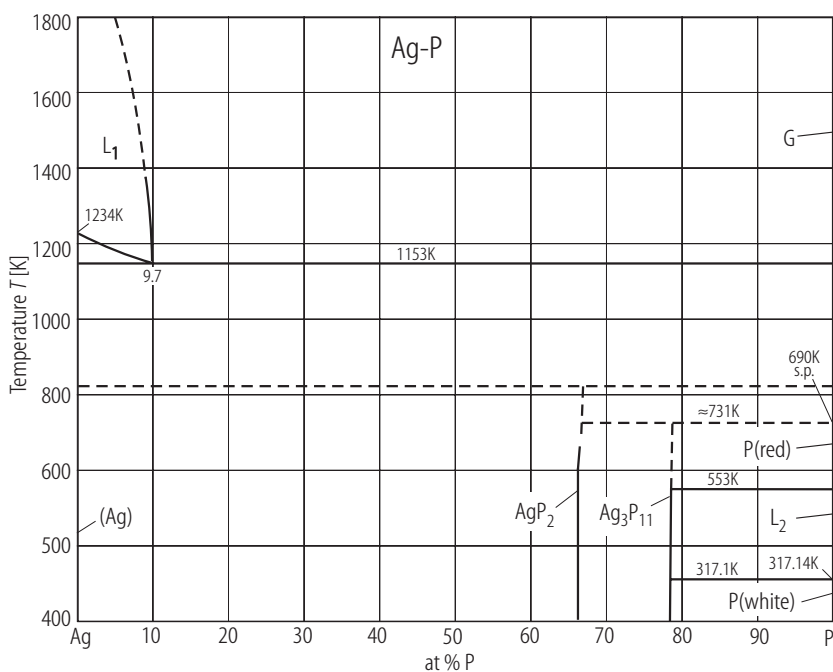
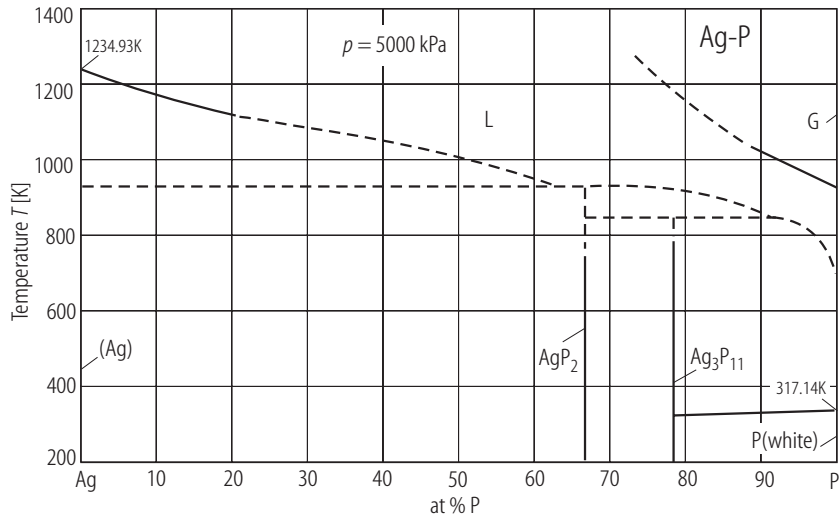


Fig. 1. Ag-P. Phase diagram constructed by [Moffatt].

Fig. 2. Ag-P. Approximated phase diagram at $5 \cdot 10^8 \text{ Pa}$ [88 Kar].

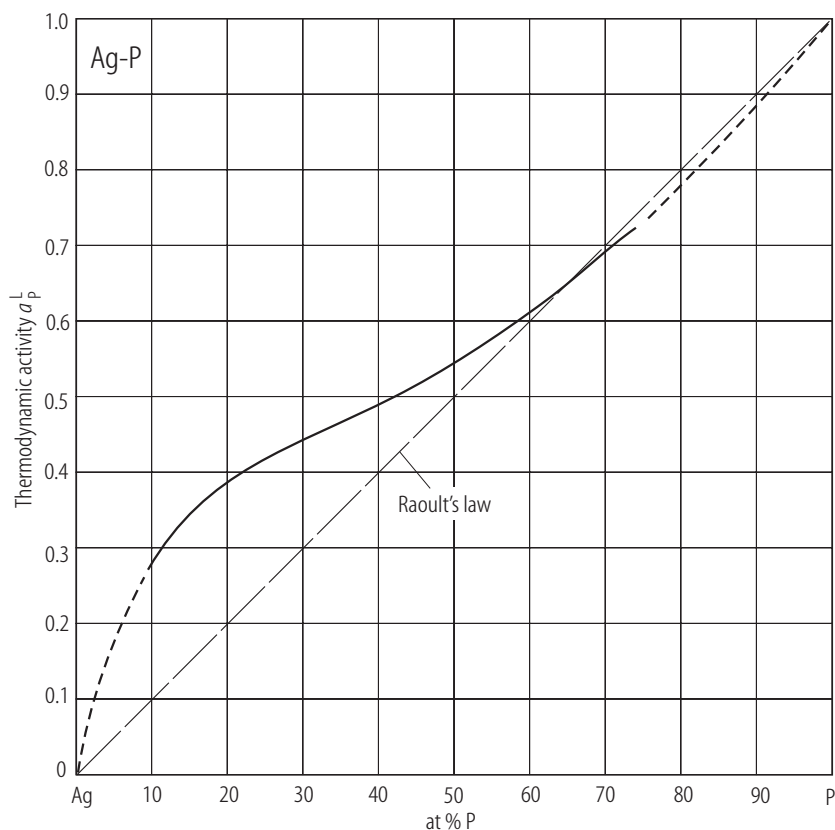


Fig. 3. Ag-P. Thermodynamic activities of P at 1173 K. Solid curve: experimental data from 1070 K [74 Uga]. Dashed curve: calculated data at 1170 K [88 Kar].

References

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