

Ag – I (Silver – Iodine)

Phase diagram

On the basis of some considerations Gulyaev et al. [68 Gul] have predicted a lowering of the melting point of Ag by 10^{-3} K if the concentration is higher than 10^{-3} at% I.

Crystal structure

Crystallographic structures of AgI are shown in Table 1.

Table 1. Ag-I. Crystallographic data of different modifications of AgI.

Modification	Structure	Prototype	Pressure [kbar]	Formation	Lattice parameters [nm]		Reference
					<i>a</i>	<i>c</i>	
AgI I		AgI-type	~ 14	HT			[54 Hos]
AgI II	hex	wurzite			0.45922	0.7510	[59 Swa]
AgI III	cub	sphalerite		RT	0.6495		[62 Ada]
AgI IV	cub	NaCl	33	HT	0.6067		[62 Pie]
AgI IV'	hex				0.459	0.751	[64 Dav]
AgI V	hex	α -SiC			0.450	2.240	[65 Kur]
AgI VI	tet		> 3	RT	0.5611	0.5020	[65 Bas]
AgI VII	tet		$3 \leq p \leq 4$ metastable		0.458	0.600	[68 Moo]

References

- [54 Hos] Hoshino, S., Miyake, S.: Sci. Ind. Phot. **25** (1954) 154
- [59 Swa] Swanson, H.E., Gilfrich, N.T., Cook, M.I., Stinchfield, R., Parhs, P.C.: Natl. Bur. Std. (U.S.) Circ. **539** Vol. VIII (1959)
- [62 Ada] Adams, J.W., Hildebrand, F.A., Havens, R.G.: U.S. Geol. Surv. Profess. Paper. **450-D** (1962) 6
- [62 Pie] Piermarini, G.J., Weir, C.E.: J. Res. Natl. Bur. Std. **66A** (1963) 325
- [64 Dav] Davis, B.L.: Science **125** (1964) 489
- [65 Bas] Bassett, W.A., Takahashi, T.: Am. Mineralogist **50** (1965) 1576
- [65 Kur] Kurdyumova, R.N.: Kristallografiya **10** (1965) 47
- [68 Gul] Gulyaev, B.B., Dvorshkaya, G.F., in: "Phase Diagrams of Metallic Systems", Savitskii, E.M. (ed.): Nauka Publ., Moscow (1968) 267
- [68 Moo] Moore, M.J., Kasper, J.S.: J. Chem. Phys. **48** (1968) 3007