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The Mg-Sb System

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Addenda

The Al-Sb System

In Vol. 5, No. 5, page 462, Table 1, the space group for AlSb should be $F\bar{4}3m$, and the space group for (Sb) should be $R\bar{3}m$. In Table 2, the second entry in the fourth column and the first entry in the fifth column should be 50.0.

The Au-Ba System

Please add the following information to the evaluation in Vol. 7, No. 5, pages 336 and 337.

Bruzzone [70Bru] studied Au₂Ba by X-ray analysis. The compound was prepared from Au 99.99% and Ba 99.6% by fusion in an argon atmosphere at 1200 °C followed by slow cooling (6 days) to the temperature 600 °C. Au₂Ba has a hexagonal structure of the AlB₂ type with parameters $a = 0.4804$ and $c = 0.4119$ nm.

Cited Reference

70Bru: G. Bruzzone, "Some Intermetallic MX_2 Compounds Formed by Ca, Sr and Ba," *Atti. Acad. Naz. Lincei, Cl. Sci. Fis. Mat. Natur.*, 48 235-241 (1970) in Italian. (Crys Structure; Experimental)

The Au-Fe System

In Vol. 5, No. 6, page 592, Table 1, the approximate composition range for (α Fe) is 98.6 to 100 at.% Fe.

The Au-Sn System

In Vol. 5, No. 5, page 492, Table 1, the space group for (α Sn) should be $Fd\bar{3}m$. The following Table 3 replaces Table 3 on page 494.

The Cu-Pb System

In Vol. 5, No. 5, page 506, Table 2, the composition at the eutectic is given in at.% Cu.

The Mg-Sb System

In Vol. 5, No. 6, page 580, Table 1, the space group for β Mg₃Sb₂ should be $Ia\bar{3}$, and the space group for α Mg₃Sb₂ should be $P\bar{3}m1$.

The Mg-Si System

In Vol. 5, No. 6, page 589, Eq 7, for the free energy of fusion of Mg₂Si, the coefficient of the $T \ln T$ term should have been multiplied by 3 for conversion from J/g · atom to J/mol (where the mol was defined as the formula unit, Mg₂Si). The correct coefficient is 194.61.

Equation 7 was not used in subsequent calculations.

Table 3 Special Points of the Assessed Au-Sn System

Reaction	Compositions of the respective phases, at.% Sn			Temperature, °C	Reaction type
L \rightleftharpoons (Au)		0		1064.43(a)	Freezing point
L + (Au) \rightleftharpoons ζ	~23	6.8	?	483	Peritectic
(Au) + ζ \rightleftharpoons β	?	?	9.1	?	Peritectoid
β \rightleftharpoons (Au) + ζ	9.1	?	?	~250	Eutectoid
ζ \rightleftharpoons (Au) + ζ'	?	?	16.7	?	Eutectoid
L \rightleftharpoons ζ + δ	29.5	17.5	50	278	Eutectic
ζ \rightleftharpoons ζ'	16.7	16.7	...	195	Congruent
ζ \rightleftharpoons ζ' + δ	18.5	16.7	50	190	Eutectoid
L \rightleftharpoons δ	50	50	...	419.3	Congruent
L + δ \rightleftharpoons ϵ	72	50.5	66.7	309	Peritectic
L + ϵ \rightleftharpoons η	88.5	66.7	80	252	Peritectic
L \rightleftharpoons η + (β Sn)	93.7	80	99.8	217	Eutectic
η \rightleftharpoons ϵ + (β Sn)	80	66.7	~100	?	Eutectoid
ϵ , (β Sn), (α Sn)	66.7	~100	~100	~13.05	?
L \rightleftharpoons (β Sn)		100		231.9681(a)	Freezing point
(β Sn) \rightleftharpoons (α Sn)		100		13.05	Allotropic

(a) From [Melt].