Ni-W (Nickel-Tungsten)

H. Okamoto

The Ni-W phase diagram assessed by [86Nag] included projected metastable (Ni) $\leftrightarrow$ Ni₄W transformation. This is unlikely [91Oka] unless an abrupt change of slope in the (Ni)/(Ni) + Ni₄W solvus is introduced, which is also unlikely. In Fig. 1, the phase diagram of [86Nag] was modified using the solvus boundaries of (Ni) and the peritectoidal formation temperatures of Ni₄W, NiW, and NiW₂ reported by [86Fer].

Cited References

- 86Nag:** S.V. Nagender Naidu, A.M. Sriramamurthy, and P. Rama Rao, *J. Alloy Phase Diagrams*, 2(1), 1-11 (1986).
86Fer: A. Fernandez Guillermet and L. Ostlund, *Metall. Trans. A*, 17(10), 1809-1823 (1986).
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Fig. 1 Ni-W phase diagram.

P-S (Phosphorus-Sulfur)

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Equilibrium transformations of both S and P are not well known. α S melts at 95.5 °C and β S melts at 115.22 °C. It is mistakenly believed that α S transforms to β S at 95.5 °C. White P exists in two modifications. White α P melts at 44.14 °C, and the boiling point of liquid white P is 277 °C. White β P is a low temperature allo-

trope of white P transforming to α P at 3.8 °C. The equilibrium α/β transformation temperature is unknown. There are several modifications of red P. The melting point of red P under pressure is about 590 °C, which is higher than the boiling point of liquid white P. Sublimation temperature of red P is 417 °C. Black P, ex-