

Ce-Ni (Cerium-Nickel)

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The Ce-Ni phase diagram in [Massalski2] was adopted from [1991Nas]. [2005Oka] updated this phase diagram according to the thermodynamic evaluation by [2004Du]. Six intermetallic phases existing in this system were treated as line compounds.

[2007Xio] noticed that the CeNi₅ phase has a measurable homogeneity range according to [1994Kim]. [2007Xio] confirmed this observation experimentally and calculated the Ce-Ni phase diagram, as shown in Fig. 1. (The range below 200 °C was added by this evaluator.)

Earlier, [2004Pal] also calculated the Ce-Ni phase diagram, but the CeNi₅ phase was treated as a line compound.

1994Kim: D.Y. Kim, M. Ohtsuka, and K. Itagaki, *Shigen-to-Sozai*, 1994, **110**, p 95-101, as quoted in [2007Xio]

2004Du: Z. Du, L. Yang, and G. Ling, Thermodynamic Assessment of the Ce-Ni System, *J. Alloys Compd.*, 2004, **375**, p 186-190

2004Pal: M. Palumbo, G. Borzone, S. Delsante, N. Parodi, G. Cacciamani, R. Ferro, L. Battezzati, and M. Baricco, Thermodynamic Analysis and Assessment of the Ce-Ni System, *Intermetallics*, 2004, **12**, p 1367-1372

2005Oka: H. Okamoto, Ce-Ni (Cerium-Nickel), *J. Phase Equilib. Diffus.*, 2005, **397**

2007Xio: W. Xiong, Y. Du, X. Lu, J.C. Schuster, and H. Chen, Reassessment of the Ce-Ni Binary System Supported by Key Experiments and Ab Initio Calculations, *Intermetallics*, 2007, **15**, p 1401-1408

References

1991Nas: P. Nash and C.H. Tung, Ce-Ni (Cerium-Nickel), *Phase Diagrams of Binary Nickel Alloys*, P. Nash, Ed., ASM International, 1991, p 62-67

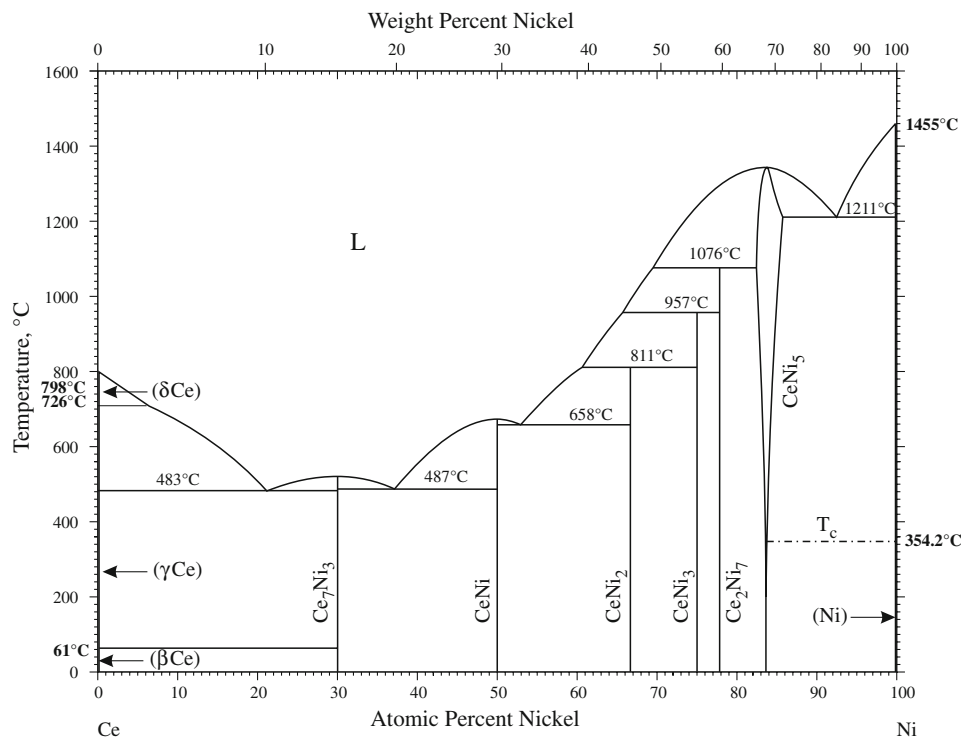


Fig. 1 Ce-Ni phase diagram