

Cd-Te (Cadmium-Tellurium)

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[1989Sha] reviewed the Cd-Te system. The assessed phase diagram is shown with solid lines in Fig. 1. [1989Sha] noted that the assessment of this system had already been carried out in six reviews. Since then, [1995Yan], [2000Yam], and [2008Hal] also assessed this system by thermodynamic modeling. All the phase diagrams calculated by the assessments above were in good agreement with the experimental liquidus data.

More recently, [2010Bre1] found that the thermodynamic data for the liquid phase used in the modeling above were systematically deviated (about 10 kJ/mol for the enthalpy of formation of CdTe at the melting point). Therefore, [2010Bre2] recalculated the Cd-Te phase diagram by using the new data. The result is shown with dashed line in Fig. 1. The melting point used by [2010Bre2] was 1092 °C. The maximum difference in the liquidus temperature for the phase diagrams of [1989Sha] and [2010Bre2] is about 40 °C, which is within the scatter in the experimental liquidus data. For further refinement of the phase diagram, a critical experiment is needed at compositions where the disagreement between [1989Sha] and [2010Bre2] is large.

References

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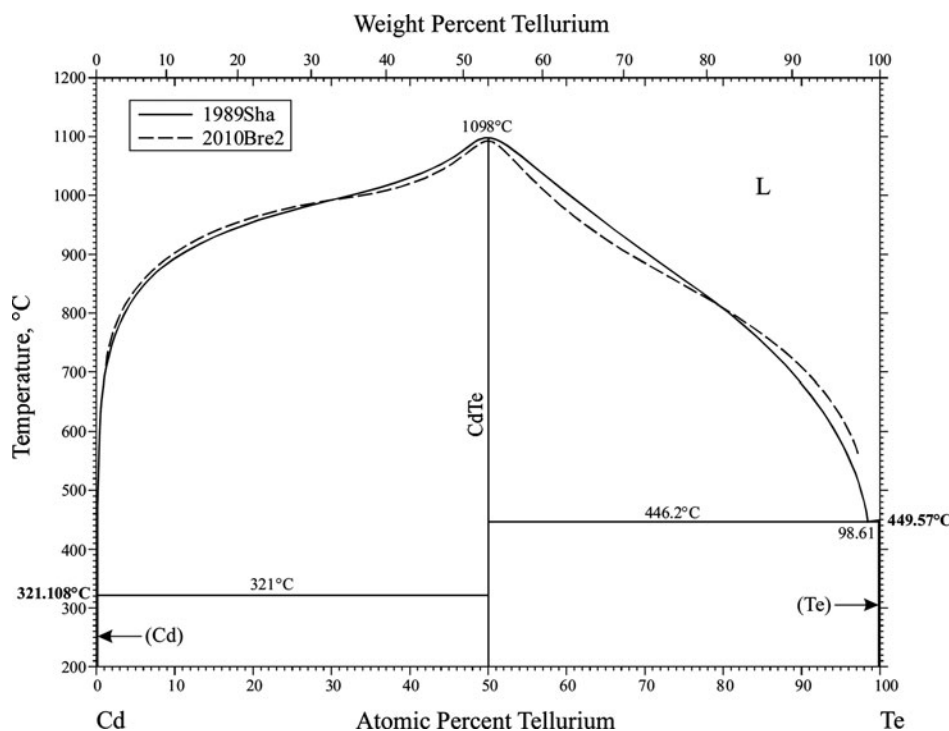


Fig. 1 Cd-Te phase diagram