

Tutorial problems and questions

1. Consider the block of uniform composition of 50 wt % nickel kept at 200⁰. The low temperature section of the copper-nickel phase diagram is as shown in Fig. 22. Does the system undergo any phase transformation? If yes, show the driving force for the transformation.

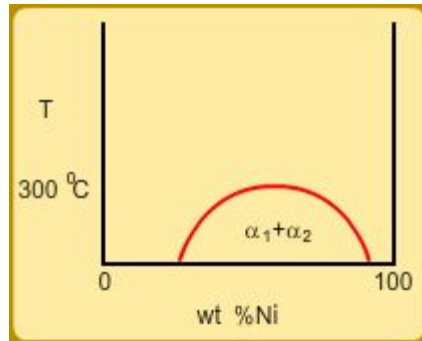


Figure 22: Schematic low temperature section of the copper-nickel phase diagram.

Answer

The system will undergo unmixing. The driving force for unmixing is as shown in Fig. 23.

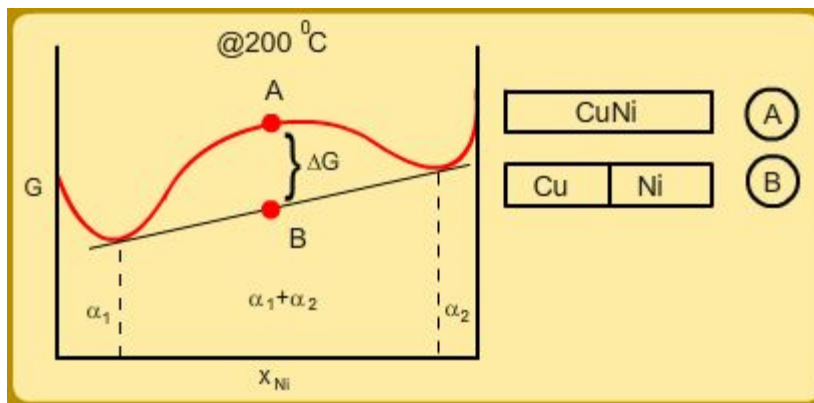


Figure 23: Driving force for unmixing in the copper-nickel system at low temperatures.