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Thermodynamic Functions of $Cu_{1-x}Zn_xFe_2O_4$ Ferrite Solid Solutions from 300 to 900 K

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Abstract

$Cu_{1-x}Zn_xFe_2O_4$ ferrite solid solutions were prepared by the ceramic route. As shown by chemical analysis, x-ray diffraction, and thermogravimetry, all of the synthesized materials were suitable for calorimetric studies. The heat capacity of the solid solutions was measured from 300 to 900 K using a DSC-111 differential scanning calorimeter. The results were used to determine the enthalpy, entropy, and Gibbs energy of the ferrites in the range 300–900 K.

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