

Thermodynamic Diagrams of He-3 from 0.2 to 300 K Based on Its Equation of State

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Based on the equation of state and a batch of phase equilibrium equations for helium-3, a computer program has been developed for calculating the thermodynamic properties of helium-3. After completing series of isoproperty calculations, the p - h and T - s diagrams of helium-3 are plotted in the range of temperature from 0.2 K to 300 K and pressure from 0.0001 MPa to 30 MPa. The overall uncertainties of these two graphs are estimated to be within 2 %. Comparison is presented between these p - h and T - s diagrams and early published associated diagrams in limited ranges.