

THERMODYNAMIC CHARACTERISTICS
OF BINARY SYMMETRIC MIXTURE
IN THE VICINITY OF THE VAPOR–LIQUID
CRITICAL POINT

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S u m m a r y

Explicit expressions for the thermodynamic functions (grand thermodynamic potential, Helmholtz free energy, entropy, constant volume heat capacity, and isothermal compressibility) of a binary symmetric mixture (BSM) in the vicinity of the vapor–liquid (VL) critical point are derived. In the study, the method of collective variables (CV) with a reference system and step-by-step integration of the grand partition function were used. For the binary mixture of hard spheres interacting through a potential of the square-well, the dependences of thermodynamic characteristics on temperature and on macroscopic parameters of the system are calculated in the critical region.