

Measurement of Gas Phase PVT Properties for Binary Mixtures of Difluoroethane (HFC152a) and Pentafluoroethane (HFC125)

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Binary mixtures of 1,1-difluoroethane (HFC-152a) and pentafluoroethane (HFC-125a) are promising alternative refrigerants for CFC12. PVT_x properties of mixtures of HFC152a and HFC125 in the gas phase were measured along several isochores at temperature from 233 to 400 K. The mass fractions of HFC-125 are 10%, 15% and 20%, respectively. The experiment was done with a Burnett apparatus. The uncertainties were within ± 3 mK for temperature and ± 0.8 kPa for pressure, respectively. With these experimental data, a truncated virial type equation of state was developed with the mixing rule for the virial coefficient.