

Experimental Study on Vaporization Heat of Ethyl Fluoride (HFC161)

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The disadvantages of the traditional refrigerants on environmental protection and the difficulties in exploring the pure refrigerants make alternative refrigerant researchers focus their studies on HFCs mixtures. Among possible constituents of HFCs mixtures, Ethyl fluoride (HFC161) exhibits excellent environmental performance and usability. But the thermophysical properties data of HFC161 are reported rather rarely. The vaporization heat of liquid, which is widely used in energy, chemical engineering and other fields, is one of the most important thermophysical properties. Vaporization heat is also the indispensable data for scientific research and engineering design. However, the vaporization heat data of a large number of fluids had been obtained by means of difference between the enthalpy of the saturated vapor and that of the saturated liquid indirectly. In the present work, the vaporization heat data of HFC161 has been measured using a adiabatic calorimetric apparatus over the temperature range from (249.62 to 364.50)K, together with the vaporization heat of HFC134a measured in the temperature range from (284.88 to 340.95)K for verifying the experimental apparatus.

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