

Critical Evaluation and Validation of Thermophysical Properties Data

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Thermophysical properties data for pure components and mixtures are basic resources for design, operation and maintenance of chemical plants. Many researches reports experimental data and correlation models but status of database and models are still far from needs of industry and academy. Furthermore, many experimental reports do not contain proper evaluation and uncertainties of their results. In this work, we proposed an appropriate method of reporting the uncertainties of measurements and performed critical evaluations of thermophysical properties using currently available data in the literature. Evaluation procedures were suggested for fixed properties, T-dependent properties and phase equilibrium data. NIST SOURCE database was used for verification of the procedures. Using the suggested procedures recommended values each property values are reported and they are available on the Internet (<http://www.kdbweb.korea.ac.kr>).