

## ***This Week's Citation Classic***

Rossini F D, Pitzer K S, Arnett R L, Braun R M & Pimentel G C. Selected values of physical and thermodynamic properties of hydrocarbons and related compounds. American Petroleum Institute Research Project 44, Pittsburgh, PA: Carnegie Press, 1953. 1050 p.

**This volume summarizes in tabular form the results of about 25 years of experimental and theoretical work, including the critical appraisal of the work of others, by the principal author and his associates on the physical and thermodynamic properties of hydrocarbons and related compounds. [The *SCP*<sup>®</sup> indicates that this paper has been cited over 170 times since 1961.]**

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"In 1928, I completed my doctoral thesis in thermochemistry and thermodynamics at the University of California, Berkeley. Dr. Edward W. Washburn, then chief chemist at the National Bureau of Standards, Washington, DC, recruited me to start work in a new thermochemical laboratory there. The then existing data on the thermochemical properties of most of the simple compounds, such as water, carbon dioxide, carbon monoxide, hydrogen chloride, sulfur dioxide, etc., had been obtained in the period 1875 to 1895. These

compounds were basic to the operations of the chemical and petroleum industries. Science and technology were in urgent need of more accurate and precise data for better control of the burgeoning industrial processes.

"I happened to be in the right place at the right time and began a systematic program on the thermochemical properties of the important chemical compounds. We completed measurements on the five compounds mentioned above, together with methyl and ethyl alcohols, and then began a systematic program on the different classes of the hydrocarbons important to the petroleum and chemical industries. In the course of time, a total of 207 different compounds were measured.

"In addition to being Director of the Thermochemical Laboratory, I became Director of the American Petroleum Institute Research Project 6 on 'Hydrocarbons in Petroleum' in 1934 and of the American Petroleum Institute Research Project 44 on 'Properties of Hydrocarbons and Related Compounds' in 1942. It was through coordination of the work of these three projects, with the dedicated help of nearly 100 associates whose names appear on the original papers, that we were able to produce a vast quantity of reliable data on the physical and thermodynamic properties of hydrocarbons and related compounds. These data, along with critically appraised and selected data from other investigators, were assembled and published in the 1953 volume of the American Petroleum Institute Research Project 44."