



Book review

Handbook of Organic Solvent Properties,

Ian M. Smallwood, co-published by Arnold (Great Britain) and Halsted Press (Americas) ISBN 0-340-64758-4 or 0-470-23608-6 (Americas only), 303 pages, \$145.00

This spiral-bound volume is primarily a data compilation, oriented toward helping the practicing scientist choose the optimal solvent for a process or production. The information in the book is a collection of the physical properties of the most commonly used solvents, along with information pertaining to their environmental concerns. Other important data is included as well, such as information on the health and fire concerns associated with the use of each solvent.

The described solvents are categorized into eight groups: hydrocarbons, alcohols, glycol ethers, chlorinated solvent, ketones, ethers, esters and miscellaneous solvents. Information typically supplied for each solvent consists of the name, hazardous coding, molecular weight, boiling point, freezing point, specific gravity, liquid expansion coefficient, flash point and explosive limits, autoignition temperature, electrical conductivity, exposure information, vapor density, photochemical ozone creation potential, mis-

cibility with water, partition coefficient with activated carbon, octanol-water partition coefficient, oxygen demand, solubility parameters, dipole moment, dielectric constant, polarity, evaporation time, heat of combustion, heat of fusion, summary of known azeotropes, activity coefficients, and Henry's law constants.

This volume therefore provides a complete thermodynamic description of all commonly encountered solvents. A significant amount of data coverage relates to the interactions between the listed solvent and other solvents, summarizing in one location what is known about azeotropes, activity coefficients, and partition coefficients. Other than spectroscopic properties, there appears to be no property of importance which has been omitted from this impressive coverage. This volume will be of high interest to chemical engineers needing to design solvent systems for a particular purpose, and of general interest to any scientist designing work for conduct in the liquid state.

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