

Standard Partial Molar Volumes of Oxygenated Aliphatic Compounds in Water in Extended Temperature and Pressure Ranges

L. Hnedkovsky, I. Cibulka,^{C,S} and T. Marek

*Department of Physical Chemistry, Institute of Chemical Technology, Technická, Prague, Czech Republic
ivan.cibulka@vscht.cz*

New data for partial molar volumes of several ethers and ketones of the aliphatic series at infinite dilution in water are presented. The data were obtained using a high-temperature high-pressure vibrating-tube densimeter, and are for the temperatures from 298 to 573 K and pressures up to 30 MPa. The results, along with data recently obtained for aliphatic alcohols, allowed for the extension of a group-contribution method for the estimation of standard partial molar volumes in wide ranges of temperature and pressure.