

Solubility Measurements and Correlation of Carbon Dioxide in Pentaerythritol Tetra-2-Methylhexanoate. Comparison with Other Polyol Ester Oils.

Sergio Bobbo^{C, S}, Laura Fedele, Francesco Pernechele and Mauro Scattolini
Istituto per le Tecnologie della Costruzione, Consiglio Nazionale delle Ricerche, Padova, Italy

Roman Stryjek
Polish Academy of Sciences - Institute of Physical Chemistry, Warsaw, Poland

Here, the solubility of carbon dioxide in pentaerythritol tetra-2-methylhexanoate between 243.15 K and 343.15 K is presented, together with a comparison with the already studied systems of carbon dioxide and pentaerythritol esters, i.e. pure precursors of commercial lubricants. The experimental data were regressed on the base of the Peng - Robinson equation of state with the Huron-Vidal mixing rules with the excess Gibbs energy at infinite pressures.