# The Solubility of Propane in *n*-Formyl Morpholine

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N-Formyl morpholine (NFM) is a physical solvent which has been proposed for the separation of the acid gases from gas streams. An advantage of NFM is the high solubility of acid gases compared with the low solubility of light hydrocarbons. The solubility of the light hydrocarbons in NFM is important, as the dissolved hydrocarbons constitute a loss to the process, and may result in hydrocarbon emissions to the atmosphere. Despite this importance, there are only a limited number of experimental data sets dealing with the solubility of hydrocarbons in NFM. To provide experimental data useful for the design of plants for the hydrocarbon-processing industry, the solubility of propane ($C_3H_8$) in NFM was measured at 298.15, 313.15 and 343.15 K at pressures up to 20.15 MPa. The data were correlated with the Peng-Robinson equation of state, and values of the binary interaction parameters were obtained from the experimental data. Using the expressions relating the binary interaction parameters with the parameters of the Krichevsky-Ilinskaya equation, Henry's constants for propane were obtained. The Henry's law constants for propane were compared with those previously reported in the literature and were compared with the Henry's law constants of hydrogen sulfide, carbon dioxide, methane and ethane in NFM.