

## Solubility of Methanethiol in Water

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Methanethiol, the first in the homologous series of mercaptans, occurs in many natural situations. It is present in small quantities in many natural gases and crude oils. The Kraft process for production of pulp and paper uses alkaline solutions for the digestion of wood and results in the production of mercaptans. These volatile compounds are known for causing objectionable air pollution. Most of the papers reporting solubility data for methanethiol and water concern experiments around atmospheric pressure. To fill the voids between the existing literature data sets and to extend the pressure range of the solubility data, new data were collected. Measurements were made at five temperatures (298.15, 313.15, 343.15, 373.15 and 413.15) K at pressures up to 1100 kPa. The new data and the data available in the open literature were correlated with the Peng-Robinson equation of state. The Henry's law constants calculated by the equation of state and the literature values were compared and correlated over a wide temperature range (273.15 K and 588.7 K).