

## Measurement of carbon dioxide solubility in aqueous solution of sodium hydroxide from 293 to 333 K up to 5 MPa

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Production of carbon dioxide from burning fossil fuel participates in the global warming. This issue generates a growing interest for CO<sub>2</sub> capture and storage from oxy fuel combustion. Before the sequestration step, the CO<sub>2</sub> has to be purified from impurities. Separation processes require a good knowledge of thermodynamics properties of phase equilibria. In this context a new experimental device was designed and set up in the LaTEP to allow the study of the solubility of gas mixture involved in CO<sub>2</sub> capture and storage processes (CO<sub>2</sub>, O<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>). The apparatus was, first, validated by studying the CO<sub>2</sub>-water system in the temperature range from 293.15 K to 393.15 K and at pressure up to 5 MPa. Then, the CO<sub>2</sub>-water-NaOH was studied because few data are available in the scientific literature. Experimental data obtained were compared with calculated data obtained from Pitzer, Edwards and NRTL electrolyte models.