

## Biogasification of Soma Lignite (A Preliminary Study)

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In this project, the bacterial gasification on the coal samples which were evacuated from Soma basin in Turkey and gas adsorption mechanism of these samples were analyzed. It is known that coal can be solubilized chemically (alkaline solutions) and biologically by using wood-rotting fungi species. Chemical solubilization of coal samples was investigated. For this purpose, coal samples were solubilized in the different Lewis base solutions. For biogasification process, solubilization at moderate pH (9~ pH ~5) level is an important factor for the conserve bioactivity of the microorganisms. We found that carbonate and oxalate systems can be solubilized coal at moderate pH and also these Lewis bases was used in biogasification process to solubilized coal samples and increase gasification efficiency. To understand gas adsorption on the coal surface, high pressure gas adsorption experiments were conducted.

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