



National University of Science and Technology

Think in Other Terms



FACULTY OF INDUSTRIAL TECHNOLOGY

CHEMICAL ENGINEERING DEPARTMENT



COAL DESULPHURISATION USING MICROWAVE ENERGY

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Submitted in partial fulfilment of the Bachelor of Chemical Engineering Honours Degree.

Abstract

Microwave desulphurisation of Hwange Colliery coal was carried out using different concentrations of sodium hydroxide (0.1g/ml, 0.5g/ml/ and 1.0g/ml). In this research, optimum desulphurisation conditions were determined for coal fines, washed peas and coal nuts by varying microwave residence times and caustic concentrations. Changes in the moisture content, volatile mater, ash content, fixed carbon and calorific value were investigated in relation to desulphurisation, after microwave treatment. Generally coal desulphurisation increased with increase in time, sodium hydroxide concentration and with a decrease in coal particle size.