

PENGARUH SUHU DAN WAKTU AKTIVASI TERHADAP KAPASITAS ADSORPSI KOKAS MINYAK BUMI

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ABSTRACT

The effect of activation temperature and duration on the activity of petroleum coke has been investigated. A mixture of green coke and KOH (1:1) was heated in an oven furnace at 450°C for 1 h, then continued to activation process at 450-900°C for 1-3 h. The product mixture was immersed in a solution of 10% H₂SO₄ before being washed with deionized water to neutral pH. After being dried, activated cokes were tested with a solution of phenol, 4-nitrophenol, 2,4-dinitrophenol or methylen blue. Experimental data showed that the activity of coke imcreased with temperature and time. The effective condition of the activation process is at temperatures higher than 750°C and activation time of longer than 1,5 h. Adsorptive behavior of phenolics dan metylene blue onto activated coke agreed with Langmuir rather than with Freundlich isotherm.

Keywords: *temperature effect, activation time, petroleum coke, adsorption capacity, phenolics, methylen blue.*

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