

**PENGARUH SUHU PADA PEMBENTUKAN  
PRECIPITATED CALCIUM CARBONATE (PCC) MELALUI  
METODA KAUSTIK SODA DENGAN MENGGUNAKAN  
PELARUT ASAM KLORIDA**

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**ABSTRACT**

Precipitated Calcium Carbonate (PCC) is the limestone product resulting from certain process steps. By XRF measurement it has found that the content of CaO (oxide calcium) in limestone Bukit Tui Padang Panjang as follows 54.19%, SiO<sub>2</sub> 1.03%, Al<sub>2</sub>O<sub>3</sub> 0.39%, MgO 0.46% and Fe<sub>2</sub>O<sub>3</sub> 0.2%. Rendemen PCC at optimum concentration of 0.75 M HCl is 69.77%. The formation of PCC by using the highest PCC rendemen aquabides is 9.28% at optimum temperature of 50°C. With 0.75 M HCl, the highest rendemen is 79.32% at optimum temperature 70°C. The formation of crystals in the form vaterite, aragonite and calcite were evidenced by X-ray Diffraction (XRD). Treatment with 2.00 M HCl at 30°C showed the formation of vaterite (45.83%), aragonite (35.93%) and calcite (18.24%) with crystals size of 28.43 nm. In the other case, preparation with 0.75 M HCl at 30°C resulting the percentage of vaterite and aragonite which were 73.01% and 26.99% respectively fairished 28.06 nm. Then for the one which were treated with 0.75 M HCl at 70°C indicated the formation of vaterite (75.53%) fairished 33.68 nm and aragonite (24.47%). SEM (Scanning Electron Microscopy) towards the sample prepared from 0.75 M HCl at 30°C have clearly shown that the particle sphere fairished at 3.68 nm where the one treated with 0.75 M HCl at 70°C having particle sphere fairished at 3.3 µm showing needle like estimated of 3.8 µm.

**Keywords :** *Precipitated Calcium Carbonate (PCC), caustic soda method*

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