

ABSTRACT

RESIDUE GAS RECYCLE FROM PT. PERTAMINA PRODUCTION UNIT IN DUMAI ON PRECIPITATED CALCIUM CARBONATE (PCC) SYNTHESIS WITH STATIS SYSTEM

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Rising gas CO₂ gas content from fossil gas fuel combustion will raise green house effect that may cause global warming, and in the end will affect climate change and damaging ecosystem on earth. An effort to reduce air pollution is by recycle CO₂ gas residue from PT.Pertamina RU II oil exploration in Dumai. The CO₂ gas later will be used as precursors Of Precipitated Calcium Carbonate (PCC). In this research PCC synthesis has been done by carbonation method with static system. Gas flow rate into into absorbings solution are varied which are 0,6 L/min and 1,0 L/min that is flown for 30 minute in room temperature (25°C). The precipitated then dried in 110°C for 1 hour. The bigger gas flow rate that is given then the amount of product is smaller. The characterisation is done by using *X-Ray Diffractometer (XRD)* and *Scanning Electron Microscope (SEM)*. The result showed CO₂ residue gas can be formed into PCC. XRD data show PCC polymorph that is performed is calcite which is proven by specific 2θ peak in 29,38° as highest peak, and SEM results showed calcite crystal shape is rhombohedral (cubic).

Key word : CO₂, PCC, carbonation, statis