

EXTRACTION OF SILICA FROM FLY ASH

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Most of the world's energy production is still achieved by the combustion of coal in power plants. Coal fly ash is a waste by-product which mainly contains 50% SiO₂ and 20% Al₂O₃. Tons of coal fly ash is simply dumped into the environment. Therefore, alternative methods should be investigated for the use of the coal fly ash in applications. This study focused on separating and extracting high purity Silica from coal fly ash which was obtained from the Norochcholai coal power plant. Silica was extracted from fly ash via inorganic alkali leaching method followed by inorganic acid precipitation process. Extracted silica was characterized by scanning electron microscopy (SEM) and X-ray fluorescence spectroscopy (XRF). According to the XRF results obtained, it shows presence of 100% silica. SEM images show the morphology and average size of 200 nm of silica particles. The calculated extraction percentage of silica was 11%.

Keywords: *Fly ash, Alkali leaching, Silica, Precipitation*