

Investigation of Utilization Possibility of Fluid Gas Desulfurization Waste for Industrial Waste Water Treatment

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Abstract : Flue gas desulfurization gypsum (FGD) is a waste material arise from coal power plants. Hydroxyapatite (HAP) is a biomaterial with porous structure. In this study, FGD gypsum which retrieved from coal power plant in Turkey was characterized and HAP particles which can be used as an adsorbent in wastewater treatment application were synthesized from the FGD gypsum. The raw materials are characterized by using X Ray Diffraction (XRD) and Fourier transform infrared spectroscopy (FT-IR) techniques and produced HAP are characterized by using XRD. As a result, HAP particles were synthesized at the molar ratio of 5:10, 5:15, 5:20, 5:24, at room temperature, in alkaline medium (pH=11) and in 1 hour-reaction time. Among these conditions, 5:20 had the best result.

Keywords : FGD wastes, HAP, phosphogypsum, waste water

Conference Title : ICEBESE 2015 : International Conference on Environmental, Biological, Ecological Sciences and Engineering

Conference Location : Rome, Italy

Conference Dates : December 03-04, 2015