

Development of a Process to Manufacture High Quality Refined Salt from Crude Solar Salt

Authors : Rathnayaka D. D. T. , Vidanage P. W. , Wasalathilake K. C. , Wickramasingha H. W. , Wijayarathne U. P. L. , Perera S. A. S.

Abstract : This paper describes the research carried out to develop a process to increase the NaCl percentage of crude salt which is obtained from the conventional solar evaporation process. In this study refined salt was produced from crude solar salt by a chemico-physical method which consists of coagulation, precipitation and filtration. Initially crude salt crystals were crushed and dissolved in water. Optimum amounts of calcium hydroxide, sodium carbonate and Poly Aluminium Chloride (PAC) were added to the solution respectively. Refined NaCl solution was separated out by a filtration process. The solution was tested for Total Suspended Solids, SO₄²⁻, Mg²⁺, Ca²⁺. With optimum dosage of reagents, the results showed that a level of 99.60% NaCl could be achieved. Further this paper discusses the economic viability of the proposed process. A 83% profit margin can be achieved by this process and it is an increase of 112.3% compared to the traditional process.

Keywords : chemico-physical, economic, optimum, refined, solar salt

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