

ABSTRACT

PRODUCTION OF BROMINE FROM BITTERN (AIR TUA) USING ELECTROLYSIS METHOD

By

TUTIK

The study of method the role of three electrochemical variables, electrochemical potential, contact time, and the concentration of Br⁻ from bittern, was investigated. This study, using raw materials of bittern which is known to potentially contain bromide ions greater than sea water and well water, for bromine production utilizing with electrolysis method. Results of research performance electrolysis method using a solution of sodium bromide obtained optimum potential of 5 volts, the optimum contact time of 45 minutes, and the minimum concentration of 25 ppm bromide ion. These parameters less appropriate when applied to a bittern samples. Ion reduction results in a bittern by adding sodium hydroxide to produce magnesium hydroxide precipitate. The result of Ion Chromatography (IC) did not show positive value for bromine, as covered by a very high concentration of chlorine in the filtrate. The Result of UV-Vis spectrophotometer to test the feasibility of the method by standard addition method. Percent of recovery obtained at 100,00 %, it indicates that the electrolysis method is good.

Keywords: bromine, bittern (air tua), electrolysis, Ion Chromatography (IC), UV-Vis Spectrophotometer