

## ABSTRACT

Activation of clinoptilolite zeolite using NaOH solution has been carried out. Activation is done to improve the ability of zeolite adsorption to dissolve salt ions in sea water. The seawater used has a salinity value of 33.3 ppt, 35.5 ppt, and 37.5 ppt. Zeolite used was powder size (0.125 mm). Zeolites used are washed first using distilled water. Zeolite was activated using 50 ml NaOH solution with immersion for 1 hour, then lifted and dried. Then heated using a furnace with a temperature variation of 500 °C and 600 °C. When testing, variations in zeolite mass were 3.5 grams, 7 grams, 10.5 grams, 14 grams and 17.5 grams and variations in the time of active zeolite immersion with sea water were carried out for 2 hours, 4 hours, 6 hours, 8 hours, and 10 hours. In this study the temperature of 600 °C was the best activation temperature. The best value of zeolite salinity reduction occurred at seawater salinity value of 37.5 ppt with a mass of 3.5 grams during the immersion time of 6 hours with a value of zeolite salinity decrease of 14.56%, and zeolite  $q_e$  specific adsorption capacity of 122, 29 mg / g.

Keywords: Zeolite, absorbent, sea water, salinity, efficiency.