ABSTRACT

Natural zeolite is a mineral that usualy used as filter in puryfying water system. The using of natural zeolite as filter makes natural zeolit stocks in nature decreasing. In order to reduce the using of natural zeolite, zeolite synthethic is made. In this research zeolite synthethic is made from rice husk ash using microwave dielectric heating methode as the hydrothermal synthesis process. Synthesis is done by mixing NaOH, natrium aluminat, and aqua demineralized until it homogenized. Later rice husk ash was added into the mixture with SiO_2 *ratio* 0,083 *and* 0,05 mol*mol. The mixture then steered it at 80˚C for 30 minutes. Then the mixture was aged for 20 hours before it's moved into autoclave and heated in* microwave *for 1,5 minutes with 60% microwave power (pretreatment), and 5 minutes in with 40% microwave power for 5 minutes and 10 minutes. During the heating process in 40% power of microwave, autoclave was* unsealed *for 10 seconds every 30 seconds of the heating. The products of synthesis process with* SiO_2 0,083 *and* 0,05 *mol and heated for 6,5 minutes can reduce salinity up to 6 ppt by adding 0,5 gram of synthesis product. XRD result shows that the samples have peak at 22˚ which means the samples have high* SiO_2 *crystal, or Cristobalite. The FTIR result shows that the samples share same peaks with zeolite clipnotilolite at infrared spectrum near 400, 600, 1000, 1600 and 3400.*

Keywords: Rice husk ash, zeolite synthesis, hydrothermal, microwave.