ABSTRACT

Sodium bentonite made from natural bentonite of East Java (bentonite calcium), with ion exchanger method. The ion exchanger process is substitution calcium ion by sodium ion in bentonite.

This process have done with add 0.05 N; 0.1 N; 0.2 N; 0.4 N and 0.8 N sodium fluoride reagent, for 3 hours. In the next step, sodium bentonite separated from the dirt fraction by centrifugation at 3000 rpm. After that, sodium bentonite will be analysed composition of metal with AAS, the kind of mineral with x-ray diffraction and viscosity. For increasing the quality of sodium bentonite is done by adding carboxy methil cellulose (CMC) with 0.5 %; 1 %; 1.5 % and 2 %.

The result of this process, the bentonite from (Malang, Blitar and Pacitan) shows that by adding 0.4 N of NaF, increases sodium optimally 0.52 - 0.97 % to 4.99 - 7.59 %, but the bentonite from Ponorogo, sodium reach its maximum at 0.8 N. Viscosity of bentonite is vary linearly with sodium content. Bentonite from Malang increases from 4.1 Cp to 8.69 Cp, bentonite from Blitar from 5.13 Cp to 8.69 Cp, bentonite Ponorogo from 4.16 Cp to 7.41 Cp and bentonite from Pacitan 5.56 Cp to 9.4 Cp, furthermore then by adding CMC up to 2 % increases bentonite viscosity. Bentonite from Malang its viscosity becomes 15.82 Cp, from Blitar becomes 22.86 Cp, from Ponorogo becomes 22.52 Cp and from Pacitan becomes 27.79 Cp. Difraction's peak occurs 11 - 12° at 2θ.