ABSTRACK

NUURUR RIZQA ALIYA. *SYNTHESIZED ZEOLITE A FROM BANGKA KAOLIN AND ITS APPLICATION FOR ECOWASH LAUNDRYBALL*. Skripsi Jakarta: Chemistry Study Program, Faculty of Mathematics and Sciences, Universitas Negeri Jakarta 2022.

The trend in household cleaning products is growing not only to fulfill the economical advantages but also environtmental friendly and practical aspects. Due to those facts, detergent product that could fulfill all those adventageous is required. Ecowash laundryball made from Zeolite A is the answer of the requirement due to the eco-friendly aspect and abundanity of zeolite raw material in Indonesia.Zeolite A is widely known as posphate substitute in detergent due to its great cation exchange capacity, harmless to human body, and so for the environtment. In order to get the optimum crystallinity degree, zeolite A from Bangka Kaolin was synthesized under hydrotermal method at 3h, 5h, 7h, 9h, and 12h . The 'zeo-detergent' powder then compacted by combination of activated metakolin as inorganic binder and setaqua as organic binder in order to create ecowash laundryball with high mechanical strength. Samples then characterized by XRD, FT-IR, SEM-EDX, pressure test, and mass loss test. Zeolite with 5 hours hydrotermal time shows the most optimum crystallinity at 47%, while ecowash laundryball with 50:50 zeolite/binder ratio shows optimum pressure strength at 1,91Mpa and 3,6% of mass loss.

***Keyword** : Zeolite A, Bangka Kaolin, Activated Metakaolin, Ecowash Laundryball.*