

THE DEVELOPMENT OF CLOVE OIL AS ANTIBACTERIAL SOAP BASED ON LOCAL NATURAL RESOURCES

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ABSTRACT

Clove oil is a local natural resource from Samigaluh, Kulonprogo. The purpose of this research is to increase the potential of clove oil as a high-efficiency local product to be developed as an antibacterial soap in accordance with Indonesian National Standard (SNI).

Soap making begins with a saponification reaction of a mixture of coconut, palm, olive oil, with NaOH. After a perfect lathering reaction, add a combination of clove-castor oil (3:0; 3: 1; 3: 2; 3: 3). Furthermore, soap is allowed for 4 weeks for curing process. The soap quality test is done in accordance with SNI 2016 that is water content test, total fat, insoluble material in ethanol and free alkali (or free fat) and unsaponified fat. Activity test that conducted was antibacterial test using Kirby-Bauer (Diffusion methods) method to *Staphylococcus aureus* ATCC 25923 bacterium, *Staphylococcus epidermidis* FNCC 0048, and *Escherichia coli* ATCC 11229. The results showed that all test of soap sample quality was in accordance with SNI, except unsaponified fat. The addition of clove-cast oil combination did not significantly affect antibacterial activity because all samples of the soap were active as antibacterial agent

Kata Kunci: *antibacterial agent, clove oil, castor oil, bath soap*