ABSTRACT

The growth of microbes and bacteria in organic soap is easier than in inorganic soap. Testing the quality of soap, especially the Total Plate Count (TPC) and Mold and Yeast Count (MYC) in organic soap, needs to be carried out to ensure that soap products do not contain microbes and bacteria those are harmful to health beyond the standards set by SNI standard. The Purpose of this study is to determine the quality of pH, density, TPC and MYC of liquid organic soap with *aloe vera* as the basic ingredient. This study also aims to determine the effect of adding *Piper betle L* on TPC and MYC. The extraction method was the maceration method, and the soaps was made using the hot processing method. The tests include pH, density, TPC, and MYC. The pH test of all soaps met the SNI 4085:2017 standard. Density test of basic soap and variations of 1.5 mL *aloe vera extract* as well as soap with the addition of *Piper betle L* extract 0.1, 0.2, and 0.3 g met the standards. Meanwhile, variations of *aloe vera* extract of 3 and 4.5 mL did not meet the standards. Microbial contamination tests were carried out on basic soap, 1.5 mL *aloe vera* extract soap, and 1.5 mL aloe vera extract soap with the addition of 0.3 grams of *Piper betle L* extract. The TPC test results of all tested soaps did not meet the SNI 4085:2017 standard of 1×10^3 colonies/mL. The test results of MYC of the soap met the SNI 4085:2017 standard with a value of <10 colonies/mL. The added 1.5 mL aloe vera extract makes the soap less polluted. The addition of *Piper betle L* extract of as much as 0.3 grams made mold and yeast in the soap did not develop. Based on the result the test value of *Piper betle L* extract was the same as *aloe vera* extract soap.

Keywords: *Soap, Extract, Total Plate Count, Mold and Yeast Count*