# Formulation of Gel Hand Sanitizer of Nagasari Leaf Extract (Mesua ferrea L.)

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| **Title** | Formulation of Gel Hand Sanitizer of Nagasari Leaf Extract (Mesua ferrea L.) |
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| **Abstract** | Nagasari (Mesua ferrea L.) is one of the biodiversity to be developed as an antiseptic preparation. These plants are known to contain flavonoid compounds, tannins, and terpenoids that act as antibacterial. Hand sanitizer gel preparations can increase the effectiveness of topically. The physical properties of a good gel depend on a gelling agent, one of which is HPMC. The purpose of this study was to determine the effect of variations in HPMC levels on physical properties and antibacterial activity. Gels were prepared with various HPMC levels of 1%, 2%, and 3%. The gel was tested for physical properties and stability. All formulas produced preparations that met the requirements for good physical properties and stability. Testing of antibacterial activity against Staphylococcus aureus showed that an increase in HPMC levels could decrease the ability to release the active substance of the preparation. The diameter of the inhibition zone obtained was 10.0 mm (HPMC 1%); 9.5 mm (2% HPMC) and 8.0 mm (3% HPMC). Increasing the concentration of HPMC will increase the viscosity and adhesion but decrease the spreadability. The three formulas had antibacterial activity against Staphylococcus aureus with moderate criteria.Keywords: Extract of nagasari leaf, Gel, HPMC, Staphylococcus aureus |
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