

ABSTRACT

THE STUDY ON PHYSICAL STABILITY AND IRRITABILITY OF CHITOSAN – *Piper betle* L. LEAF EXTRACT SPRAY GEL AS WOUND HEALING

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Chitosan is a polysaccharide consisting of glucosamine and N-acetylglucosamine. Chitosan has antibacterial activity and hemostatic properties which can be used as wound healing. *Piper betle* L. leaf extract has an antibacterial activity that can be used to improve the effectiveness of chitosan as wound healing agent. The spray gel was chosen since it can reduce the pain when administered to the wound and easily used. From the previous study, it was known that this combination had good wound healing activity on 2nd degree burn wound and indicated better histopathological wound healing parameter. This study was focused on the stability and irritability of chitosan – *Piper betle* L. leaf extract spray gel. The stability was evaluated using thermal cycling and centrifugation method. Irritability test was conducted using Draize Rabbit Test. The result of stability test using thermal cycling method showed that physical appearance turned into yellowish, viscosity and pH decreased. Centrifugation test also showed a decrease in viscosity. Otherwise, physical appearance and pH were stable during the centrifugation test. The result of irritability test showed that chitosan – *Piper betle* L. leaf extract spray gel was slightly irritating.

Keywords: chitosan, *Piper betle* L., spray gel, stability, irritability