

**Uji Toksisitas Nanokitosan Selongsong Maggot (*Black Soldier Fly*) sebagai
Bahan Aktif Desinfektan Buah dan Sayur (*Toxicity Test of Maggot
Shell Nanochitosan (Black Soldier Fly) as an Active Ingredient
for Fruit and Vegetable Disinfectants*)**
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ABSTRACT

Maggot cartridge nanochitosan can be used as a natural disinfectant which can reduce the use of synthetic chemicals which have negative effects on health. Nanochitosan can be used as a natural antimicrobial as a substitute for chemical disinfectants which further reduces negative effects on the body because it has antimicrobial properties and is non-toxic. The aim of the research is to determine the characteristics of chitosan using FTIR testing, determine the morphology of nanochitosan using SEM, TEM, PSA and Zeta potential testing and to determine the LD50 value by conducting acute and subacute toxicity tests on Maggot cartridge nanochitosan. Test animals were divided into 4 groups at doses of 5 mg/kgBB, 50 mg/kgBB, 300mg/kgBB, and 2000 mg/kgBB. The test preparation was administered once at the start of the study and administered orally. Observations were made on emerging symptoms of toxicity, changes in body weight and death of test animals for 24 hours, 14 days and 28 days. Analysis of the data obtained was processed using SPSS 20 which includes the normality test, homogeneity test and Kruskal Wallis test showing that there were no real differences in the body weight of mice at each test dose and no mice showed signs of toxicity up to a dose of 2000 mg/kgBW. The results of histopathological examination showed that administration of Maggot shell nanochitosan did not cause damage to the histopathology of the liver and kidneys of mice. Based on research results, Maggot shell nanochitosan was non-toxic.

Keywords: *LD50, Nanochitosan, Toxicity Test*