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Liquid Smoke Toxicity Properties of Production of Raw Materials with Variation of Temperature and Concentration of Different

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Abstract: This study aims to determine the nature of the toxicity of liquid smoke derived from a combination treatment of the raw material with temperature levels and different concentrations of liquid smoke. This study was conducted experimentally using a completely randomized factorial design 3 x 4 x 6 with three replications thus obtained 72 experimental units. A factor is the type of raw material comprising coconut husk, coconut shell and cinnamon, factor B level pyrolysis temperature of 100±10°C; 200±10 °C; 300±10°C; and 400±10°C and factor C level liquid smoke concentration is 0 ppm, 12.5 ppm, 25 ppm, 50 ppm, 100 ppm to 500 ppm and 1000 ppm. The parameters were observed consisting of liquid smoke toxicity properties consisting of Artemiasalina leach mortality percentage in the form of probit. Results showed there was an interaction ($P < 0.05$) between use kinds of raw materials to the pyrolysis temperature level of the liquid smoke toxicity properties. Based on these results it can be concluded that a). The production quality of liquid smoke is the best there is on the treatment of raw materials cinnamon at the level of a temperature of 400±10°C which shows the mortality rate of the Artemiasalina amounted to 19.048% is the smallest compared to the raw material to another, b) liquid smoke results of the combined treatment differences in raw materials (fiber coconut, coconut shell and cinnamon) with different temperature pyrolysis each show toxic properties (LC_{50}<30 ppm) with LC_{50} values respectively 14.9 ppm, 20.9 ppm and 20.5 ppm. c)the results of the combined treatment of liquid smoke raw materials (coconut fiber, coconut shell and cinnamon) with different concentrations of liquid smoke each show toxic properties (LC_{50}<30 ppm) with each LC_{50} value of 22.1 ppm, 19 6 ppm and 27 ppm. c) the results of the combined treatment .asap liquid pyrolysis temperature (100±10°C, 200±10°C, 300±10°C and 400±10°C) at different concentrations of liquid smoke each show toxic properties (LC_{50}<30 ppm) with LC_{50} values of each 20.5 ppm, 22 ppm, 15.9 ppm and 17.9 ppm. d) the results of the combined treatment liquid .asap differences in raw materials with different pyrolysis temperature at a concentration of 0 ppm, 12.5 ppm, 100 ppm, 500 ppm respectively each show toxic properties (LC_{50}<30 ppm) with LC50 values each 10.5 ppm, 11.6 ppm, 39.8 ppm, 18.6 ppm, 11.6 ppm while the concentration of 50 ppm and 1000 ppm LC_{50} values each at 55 ppm and 48.4 ppm are not toxic (LC_{50}> 30 ppm), subsequent regression line treatment combined with differences in raw materials pyrolysis temperature of the liquid smoke concentration of 50 ppm, 500 ppm and 1000 ppm have a weak relationship to the value of probit with r^2 values each at 0.1049, 0 , 2141 and 0.2308. while the other concentration of 0 ppm, 12.5 ppm, 50 ppm and 100 ppm have a stronger relationship with the probit value indicated by r^2 value respectively 0.7159, 0.8495, 0.807 and 0.8181.
Key words : type of raw material, temperature, liquid smoke, concentration, toxicity.

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