

**TOXICITY OF WATER SOLUBLE FRACTION OF CRUDE OIL ON MORPHOLOGY
AND BEHAVIOR OF SOLDIER CRABS *Dotilla wichmanni* de Man, 1892**

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ABSTRACT: Static bioassay test was conducted to assess the effect of Water Soluble Fraction (WSF) of crude oil on soldier crabs and to determine the median lethal concentration (LC₅₀) of 20% WSF at $\alpha = 0.05$. The results showed that the mortality rate of soldier crab varies depending on the TPH concentration and exposure time. The first toxicity effect could be observed at a level of 5.96 $\mu\text{g/l}$ TPH in 48 hours, with a LC₅₀ of 20 WSF of crude oil at 10.04 $\mu\text{g/l}$ total petroleum hydrocarbons (TPH) after 96 hours. During exposure, morphological changes as the swelling of the walking legs, maxillipeds and gills could be observed. Behavioral records showed that the soldier crabs appeared to lose their balance and began to move rapidly in circles before finally dying.

Key words: Water Soluble Fraction of crude oil, morphology and behavior, Soldier crabs, median lethal concentration
