

Suwat Chunharat 2006: Toxic Effects of Water Soluble Fractions of Diesel Oil, Fuel Oil and Lubricating Oil on some Physiological Responses of the Giant Tiger Prawn *Penaeus monodon* (Fabricius). Master of Science (Marine Science), Major Field: Marine Science, Department of Marine Science. Thesis Advisor: Associate Professor Saran Petpiroon, Ph.D. 182 pages.
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Studies on toxic effects of water soluble fractions (WSF) of diesel oil, fuel oil and lubricating oil on 10 day - post larvae (P10) and 30 day - post larvae (P30) of the giant tiger prawn *Penaeus monodon* were divided into 2 parts. Part 1: Acute toxicity testing was to determine LC_{50} to *P. monodon* in 24, 48, 72 and 96 hrs by using static bioassay. Results revealed that 96 hr - LC_{50} of WSF's of diesel oil, fuel oil and lubricating oil and Sodium Dodecyl Sulphate (SDS) for P10 were 148.967, 34.637, 7.560 and 5.982 ppm, respectively and for P30 were 206.724, 40.708, 14.142 and 11.448 ppm, respectively. The safety levels of WSF's of diesel oil, fuel oil and lubricating oil were calculated for P10 at 21.537, 7.479 and 1.508 ppm, respectively and for P30 at 27.360, 9.658 and 2.243 ppm, respectively. Part 2: Chronic toxicity testing of WSF's of diesel oil, fuel oil and lubricating oil on P10 and P30 of *P. monodon* by using lower oil concentrations at 1/4, 1/3 and 1/2 of the 96 hr - LC_{50} . It was found that the molting rate was longer than normal and P10 had a period of molting cycle shorter than P30. Feeding rate and absorption efficiency were decreased in proportion to oil concentrations. Respiration rate was not much different in every concentrations. Excretion rate of P10 and P30 of *P. monodon* was higher than normal but it was not related with oil concentrations. Scope for growth (SFG) of P10 and P30 of *P. monodon* were decreased in relevant to the concentrations of all three testing oils.

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Thesis Advisor's signature

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