

Selected morphological changes in nauplii of brine shrimp (*Artemia salina*) after tributyltin chloride (TBTCl) exposure

ABSTRACT

Early life stage of organisms is a critical period because it is very sensitive to changes that occur in the surrounding. The present study aimed to determine the lethal concentration 50 (LC) and identify 50 morphological changes of brine shrimp (*Artemia salina*) nauplii exposed to tributyltin chloride (TBTCl) after 24hr exposure. Results showed the LC of TBTCl for *A. salina* nauplii was 469.08 ng.L. Significant differences 50 1 were discovered in the morphology of nauplii in control and those exposed. The nauplii underwent prominent abnormal growth in total length, head width, abdominal width and tail width. Other abnormalities included improper development of mandibles, underdeveloped endopod and endite, as well as swimming site in the second pair of antenna. These results indicated that TBTCl is an environmentally toxic substance with negative effects on non-target organism. Therefore, further in-depth investigation should be conducted to establish *A. salina* as a bioindicator for TBTCl contamination.

Keyword: Antifouling Biocide; Tributyltin; *Artemia salina*; Early Life Stage; Abnormal; Morphology; Ecotoxicology