

## **Toxicity Assessment of Fungicide Containing Captan 50% WP on Asian Common Toad (*Duttaphrynus melanostictus*) Tadpoles and Common Onion (*Allium cepa*)**

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Ecotoxicology is a specialized form found in toxicology that focuses more specifically on the toxic substances and its effect on ecosystems. Agrochemicals are used in fields to destroy pests and weeds, which can exert toxic effects to non-target organisms. This study was undertaken to determine the effect of the commonly used fungicide, Captan 50% WP on the Asian common toad (*Duttaphrynus melanostictus*) and Common onion (*Allium cepa*) under laboratory conditions. Acute toxicity of fungicide Captan 50% WP was evaluated. In this study *Duttaphrynus melanostictus* tadpoles were used because they are widely spread. *Allium cepa* was also tested since they have high absorbent level and high germination rate. After preliminary range finding tests (1 ppm – 500 ppm, 0.2 ppm – 1 ppm, 0.02 ppm – 0.1 ppm, and 0.001 ppm – 0.03 ppm) five days post-hatch *Duttaphrynus melanostictus* (Gosner stage 25-26; Gosner, 1960) were exposed to five increasing concentrations of Captan (0.010 ppm, 0.0125 ppm, 0.015 ppm, 0.0175 ppm, and 0.020 ppm) for 48 hours and de-chlorinated tap water was used as the control. After 48 hours of exposure, mortality of *Duttaphrynus melanostictus* increased along concentration gradient. Overall results indicate LC<sub>50</sub> value of 0.02187 ppm. Acute toxicity of *Allium cepa* was evaluated by 72 hours experiment of root growth with range of fungicide concentrations (0.2 ppm, 0.4 ppm, 0.6 ppm, 0.8 ppm, and 1.0 ppm) and using chlorinated tap water as the control. After 72 hours exposure to Captan 50% WP, root growth of *Allium cepa* was reduced along concentration gradient. Overall results indicate EC<sub>50</sub> value of 0.8511 ppm. According to the overall data, tested fungicide Captan 50% WP can be concluded as toxic, but further acute and chronic evaluation must be conducted to determine its exact lethality.

**Keywords:** Toxicity, Fungicide, Captan 50% WP, *Duttaphrynus melanostictus*, *Allium cepa*