

Abstrakt (EN)

Charles University in Prague
Faculty of Pharmacy in Hradec Králové
Department of Pharmaceutical Botany and Ecology

Candidate: Petra Janečková
Consultant: Mgr. Jitka Vytlačilová
Title of thesis/dissertation:

Ecotoxicological screening of the medicaments – Paralen tbl. and Panadol tbl.

Paracetamol is an often-used medicinal substance from the group of analgetics-antipyretics. This thesis evaluates the influence of paracetamol contained in pharmaceuticals Paralen 500 tbl. and Panadol tbl., and of the paracetamol analytical standard on the environment. Three ecotoxicological tests and representatives of three trophic-level organisms were selected: a multi-generational test with the protozoan *Tetrahymena pyriformis* Ehr., a rapid screening test Rapidtoxkit™ with the crustacean *Thamnocephalus platyurus* Packard and an inhibition test of the germination of *Sinapis alba* L. seeds.

The highest tested concentration of paracetamol was 2341,67 mg/l.

The tests evaluated the inhibition of the protozoan's growth; the inhibition of the crustacean's food intake, and the inhibition of seed germination in higher plants. The most sensitive organism was the producer of *Sinapis alba* L., the least sensitive was the consumer *Thamnocephalus platyurus* Packard.

The values of IC₅₀ were calculated based on the results of the *Sinapis alba* L. test. Paracetamol, as well as the pharmaceuticals Paralen 500 tbl. and Panadol tbl. were classified as substances that do not show acute toxicity to the environment.

Key words: ecotoxicity, paracetamol, *Tetrahymena pyriformis*, *Thamnocephalus platyurus*, *Sinapis alba*.