

## P2. ECOTOXICITY TESTS APPLIED FOR BIOCIDAL PRODUCTS

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Ecotoxicity tests are biological experiments with various standardized target/non-target organisms investigating effects of xenobiotics/agents or environmental samples. They are required for risk assessment of new or existing chemicals and for monitoring environmental quality as well as in the context of national legislation and regulation of chemicals. The tests are applied using internationally accepted guidelines and standards. Among the OECD (Organisation for Economic Cooperation and Development) countries follow the current guidelines for the conduct of ecotoxicity tests.

Biocide is a product which has the intention of destroying, deterring, rendering harmless, preventing the action of, or otherwise exerting a controlling effect on, any harmful organism by chemical or biological means. Basically, the potential of a biocide as an environmental stressor is commonly assessed in single-species tests, i.e. selected species are exposed to the respective chemical in the laboratory. Such tests are useful in studying direct effects of chemicals, both alone and as mixture, on the studied organism, and are important for understanding processes determining direct effects. The effects of a biocidal active substance or product on non-target organisms are important criteria for evaluation during the regulatory process steps. The ecotoxicological relevance of a biocidal active substance is investigated through different ways: from acute aquatic toxicity at different trophic levels, and exposure-related tests with terrestrial organisms, through to chronic toxicity.

The present paper aims to review existing ecotoxicity tests applied for biocidal products on standardized aquatic (Short-term fish toxicity test, acute immobilisation test on *Daphnia magna*, *D. magna* growth and reproduction test, growth inhibition test on freshwater Algae and Cyanobacteria, *Lemna* sp. Growth inhibition test, embryotoxicity and spermiotoxicity tests on *Paracentrotus lividus*) and terrestrial animals (Nitrogen transformation and carbon transformation test on soil microorganisms, acute toxicity and reproduction test on earthworms, acute oral and contact toxicity tests on honeybees, FETAX assays on amphibians), applying procedures, hardness, validity and reliability of the tests with some key points.

**Key words:** Ecotoxicity tests, biocidal products