



Ecotoxicological tests are experiments to verify whether a potentially toxic environmental sample causes a relevant biological response in the organisms used for the test.

We will describe experiment carried out with *Daphnia magna* (small crustacean belonging to the genus *Daphnia*). The climatic conditions to be managed are very demanding, and only proper growth chambers could make it reliable and easier to manage.

Toxicity Test with *Daphnia magna*.

The new regulatory system for the protection of water against pollution gives ecotoxicity tests for toxicity to aquatic biota a rather important role. Some major national bodies have adopted testing with *Daphnia magna* as the standard method for surface water control and discharge.

Daphnia Ecotoxicity Test

There are many official methods for toxicity assessment such as UNI EN ISO 6341:2013 or APAT CNR IRSA 8020. In the latter, for example, babies of *Daphnia Magna* born less than 24 hours ago are used immersed in the sample to be analyzed. Once a set time (24 hours) has elapsed, the percentage of survivors is observed. The test is generally performed in a thermostat chamber at 20°C in alternating light (16 hours) and dark (8 hours) conditions with fluorescent lighting with a color rendering greater than 90 with a dimmed illumination of 300

lux at the work surface. One of the important aspects concerning this test is certainly the breeding of *Daphnia magna*, fundamental to be able to dispose of newborn subjects if

necessary. The breeding involves the use of thermostatic chambers dedicated to this operation with an illumination of 1000 lux at the level of the tank for a period of 16 hours and subsequent 8 hours of darkness at a constant temperature of 20 ± 1 ° C and ensuring oxygenation greater than 6 mg / l of dissolved oxygen in the tanks.

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