

ECOTOX ASSAYS

Biobide is a biotechnology company offering toxicity and efficacy services to Pharma, Biotech, Chemical, Cosmetic and Nutraceutical companies. Our services are based on the zebrafish, daphnia and algae models and the capacity to offer highly efficient tailor made assays.

Ecotoxicity and Aquatic Toxicity: zebrafish, algae and daphnia studies

OECD 201. Algae Growth Inhibition Test

OECD 202. Daphnia magna Acute immobilization Test

OECD 203. Fish Acute Toxicity Test

OECD 210. Fish, Early-life Stage Toxicity Test

OECD 211. Daphnia magna reproduction Test

OECD 212. Fish, Short-term Toxicity Test on Embryo and Sac-fry Stages

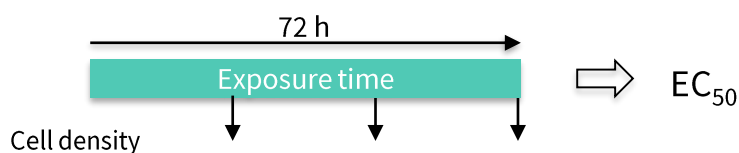
OECD 229. Fish Short Term Reproduction Assay

OECD 236. Fish Embryo Acute Toxicity (FET) Test



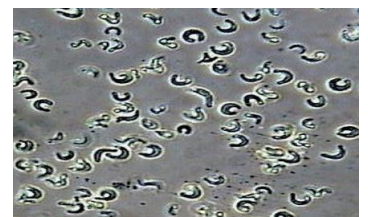
✓ OECD 201. Freshwater Alga and Cyanobacteria, Growth Inhibition Test

OECD 201 / EU L383A, Part C3 / US EPA OPPTS 850.4500



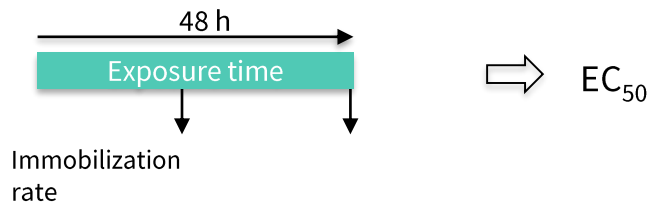
PRINCIPLE OF THE TEST

The purpose of this test is to determine the effects of a substance on the growth of freshwater microalgae and/or cyanobacteria. Exponentially growing test organisms are exposed to the test substance in batch cultures over a period of normally 72 hours. Growth and growth inhibition are quantified from measurements of the algal biomass as a function of time.



✓ OECD 202. *Daphnia magna* Acute immobilization Test

OECD 202/ EU L383A, Part C2 / USEPA FIFRA 72-2 / USEPA OPPTS 850.1075



PRINCIPLE OF THE TEST

Young daphnids, aged less than 24 hours at the start of the test, are exposed to the test substance at a range of concentrations for a period of 48 hours. Immobilization is recorded at 24 hours and 48 hours and compared with control values. The results are analyzed in order to calculate the EC50 at 48h.

✓ OECD 203. Fish Acute Toxicity Test

OECD 203 / EU L383A, Part C1 / USEPA FIFRA 72-1,3 / USEPA OPPTS 850.1075



PRINCIPLE OF THE TEST

Zebrafishes (>12 days) are exposed to the test chemical preferably for a period of 96 hours. Mortalities are recorded at 24, 48, 72 and 96 hours and the concentrations which kill 50% of the fish (LC50) are determined.

✓ OECD 236. Fish Embryo Acute Toxicity Test



PRINCIPLE OF THE TEST

The ZFET is based on the use of newly fertilised eggs from zebrafish (*Danio rerio*). It is a short-term exposure test (96 h) and determines the concentration that is lethal to 50% of the zebrafish embryos (LC50) as an indication of acute fish toxicity. Observation of one of the following apical endpoints indicates the death of the embryo: coagulation of the embryo, lack of somite formation, non-detachment of the tail and lack of heartbeat.



EURL ECVAM RECOMMENDATION: ZFET is transferable and reproducible within and between laboratories. The retrospective analysis demonstrated a strong correlation ($r = 0.9$) between fish acute toxicity data. Where appropriate, the ZFET (OECD TG236) should be used for generating information on acute fish toxicity.