MicroBioTests

MicroBioTests Toxkits

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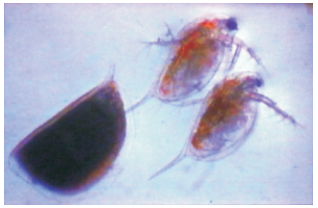
Practical and inexpensive alternative to lab culture tests for research and toxicity testing

Intra- and inter-laboratory sensitivity comparison studies Daphtoxkit F magna/conventional Daphnia magna test (1998-2007)

Pesticides (Poland)
Household products (Croatia)
Waste leachates (Austria)
Reference chemical and fly ash leachate (Slovak Republic)
Chemicals (Slovenia)
Industrial effluents (UK)
Industrial effluents (Flanders, Belgium)
Reference chemicals (Italy)
Waste ringtest (EU)



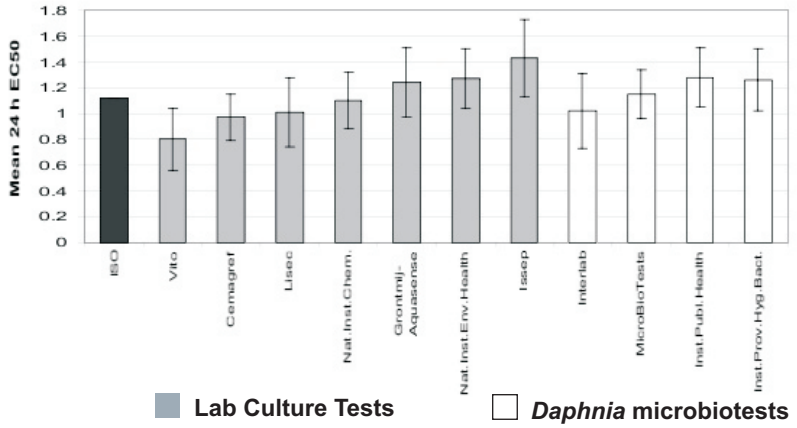
Dormant egg — Hatched Daphnia

The Table shown below are the published results of the acute D. magna ringtests performed in Italy in 2003 and 2005 with potassium dichromate (data from Baudo et al., 2006), and compared with ISO of 1994.

	Year	Number of Participants	Mean 24 h EC50 (mg-L^{-1})	Intra-laboratory CV (%)	Inter-Laboratory CV (%)
Lab Cultures	2003	16	1.08	16.2	27.4
	2005	33	1.02	8.5	34.2
***Daphnia* microbiotests**	2003	56	1.08	17.1	24.5
	2005	40	1.20	9.9	23.9
ISO 6341	1994	36	1.12	5.0	50

The degree of precision of the assays is expressed above as the coefficient of variation (CV).

Mean 24 h EC50s (in mg/L , with standard deviation) for quality control tests with potassium dichromate, with lab culture tests or Daphnia microbiotests

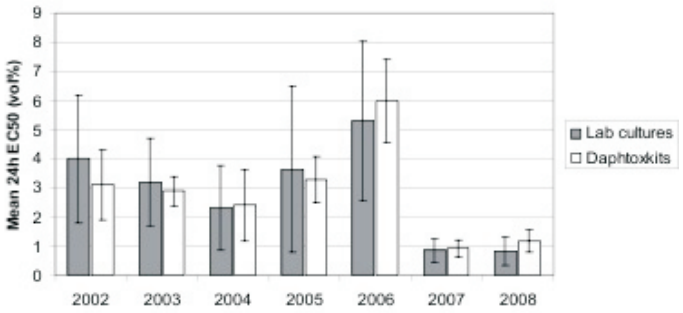


The sensitivity of the Daphnias hatched from dormant eggs is the same as that of Daphnias from laboratory cultures.

The precision of the Daphnia microbiotest is comparable or better than that of lab culture tests.

Culture free bioassays for screening of
Surface and groundwaters,
Effluents,
Sediments,
Contaminated soils,
Solid wastes,
Leachates,
Chemicals,
Paints and coatings,
Plant extracts and biotoxins

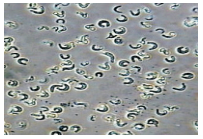
Mean 24 h waste water EC50s with standard deviation, for the lab culture tests and the Daphnia microbiotests, for proficiency ringtests in Slovenia.



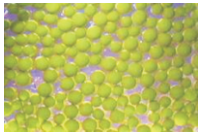
MicroBioTests

Intra- and inter-laboratory sensitivity comparison studies of the Algaltoxkit compared to Conventional algal assay(1998-2007).

Waste leachates (Austria)
Sediment pore waters (Flanders, Belgium)
Reference chemical (Wallonia, Belgium)
Reference chemical and fly ash leachate (Slovak Republic)
Waste water treatment plant effluents (Denmark)
Industrial effluents (UK)
Industrial effluents (Flanders, Belgium)
Waste ringtest (EU)



Microalgae: Pseudokirchneriella subcapitata



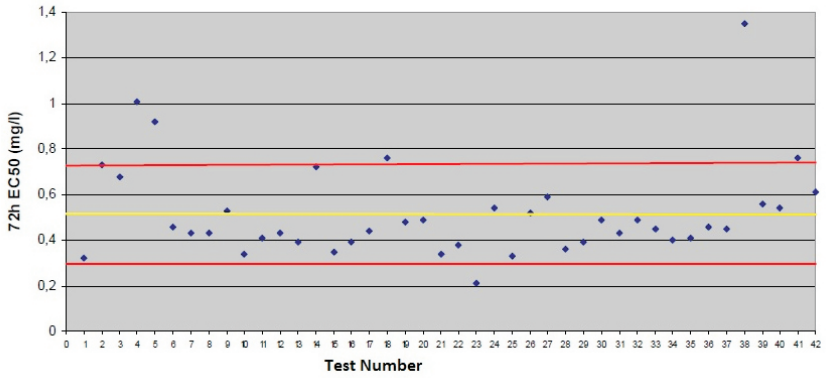
algal beads

The Table below gives the mean EbC50s (with standard deviation and variation coefficient) for 42 Algaltoxkit tests of a ringtest, and 76 quality control tests performed by MicroBioTests from 2002 to 2006.

	Number of tests	Mean EbC50 (mg/l)	Standard Deviation	Variation coefficient (%)
Algaltoxkit ringtest	42	0.52	0.21	40
MicroBioTests Inc.	76	0.46	0.10	22

The 4 year range of results including 16 different batches of algal beads allows for an interesting comparison of the inter-laboratory results versus the intra-laboratory results over this time period.

The EbC50s of 42 Algaltoxkit tests are represented graphically below. The mean value (0.52 mg/l) + one standard deviation (0.21 mg/l) are indicated by the lines. The variation coefficient calculated from these data is 40 %.



The sensitivity of micro-algae de-immobilized from algal beads is similar to that of micro-algae from laboratory cultures.

The precision of the Algaltoxkit microbiotest is as good as that of the conventional algal test.

The Algaltoxkit is a well validated low cost alternative to the conventional algal tests

MicroBioTests Toxkits

CULTURE/MAINTENANCE FREE

SIMPLE

RAPID

ROBUST

SENSITIVE

REPRODUCIBLE

LOW-COST

www.MicroBioTests.be

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