12. ACUTE TOXICITY TO AQUATIC INVERTEBRATES

i) 1984 Study

Test substance:	Thiodiethylene bis (3,5-di-tert-butyl-4-hydroxyhydro cinnamate) CAS No. 41484-35-9 Commercial grade (Assumed Purity >98%)
Method:	This study was conducted under OECD Guideline No. 202 (Paris 1981). Young daphnia (0-24h old) are used for the test. The study used 20 daphnia per concentration and control (4 replicates of 5 daphnia each). A stock solution was prepared using the solvents DMF and MARLOPON AT50. Test substance appeared homogeneously distributed at all test concentrations. Fluorescent lighting was for 16 hours daily and the temperature was maintained at 20 + or - 1 degrees. Oxygen, pH, temperature were measured at the beginning and at the end of the test. Samples were analysed at 0 and 24 hour exposure.[1]
Species:	*Daphnia magna Straus 1820*
Type of test:	Static
Test concentration:	0.32, 0.58, 1.00, 1.80, 3.20, 5.80, 10.00 mg/L (nominal) 0.00, 0.34, 0.52, 0.91, 1.80, 3.50, 5.87 mg/L (actual)
Controls:	Blank: Water Vehicle: 190 mg DMF and 0.4 mg MARLOPON AT50 per litre water (the concentration used for the highest test concentration).
Exposure period:	24 hours
Analytical monitoring:	Yes
GLP:	No
Year:	1984
Results:	EC_{50} (24 h): 4.7 mg/L (calculated) EC_{50} (24 h): 4.4 mg/L (graphically determined) EC_0 (24 h): < 0.34 mg/L Immobilization in blank and vehicle = 0% Immobilization data for the test substance is given in the table below.

Immobilization Data

Concentrations Actual (mg/L)	Immobilization after 24 hours Total	%
Blank	0	0
Vehicle	0	0
0.00 *	0	0
0.34	1	5
0.52	2	10
0.91	4	20
1.80	6	30
3.50	7	35
5.87	12	60

* Nominal concentration 0.32 mg/L not analyzed. Unknown actual concentration indicated as 0.00

Remarks: The exposure concentrations exceeded the water solubility of the test substance and were achieved by the use of solvents. These results represent a worst case exposure. This study was assigned a reliability code of 1b [2] (comparable to a guideline study).

Reference:

[1]Test for acute toxicity of TK 10049 to Daphnia magna, Project No.: 840639, Ciba-Geigy Ltd., Basle, Switzerland, July 07, 1984.

[2] Klimisch, H.J., Andreae, M and Tillman, U. A systemic approach for evaluating the quality of experimental toxicological and ecotoxicological data. *Regulatory Toxicology and Pharmacology*. 25:1-5, 1997.