



Document Title

Additional summaries of studies originally submitted in baseline dossier of
the ecotoxicology

for
Flurtamone

Section 8: Ecotoxicology

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The RMS Czech Republic requested during the check of completeness of the flurtamone AIR dossier, to receive additional summaries for sections 7 and 8.

This document contains the requested Tier 2 summaries for studies from section 8.

Author(s)	Year	Title	Report No.
MCA Section 8 Ecotoxicological studies on the active substance			
██████ M.	1999	3-Trifluoromethyl benzoic acid (TFMBA) Acute toxicity (96 hours) to fish under static conditions	M-243659-01-1
██████ M.	1999	Acute toxicity (48 hours) to Daphnids (<i>Daphnia magna</i>) under static conditions. 3-trifluoromethyl benzoic acid (TFMBA)	M-243659-01-1
██████ A.	1999b	3-Trifluoromethyl benzoic acid (TFMBA) Freshwater algal growth inhibition study (96 hours) (<i>Selenastrum capricornutum</i>)	M-243659-01-1

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Report: KCA-8.2.1 /06; [REDACTED] M. 1999
Title: 3-Trifluoromethyl benzoic acid (TFMBA) Acute toxicity (96 hours) to fish under static conditions
Organisation: [REDACTED]
Report No.: [M-243657-01-1](#)
Publication: unpublished
Dates of experimental work: 1999-10-18 to 1999-10-22
Guidelines: OECD 203 (1992)
EU (=EEC) EEC dir. 92/69 - method C (1992)
Deviations: none
GLP/GEP Yes

Material and methods:

Test substance: 3-trifluoromethyl benzoic acid (hereafter referred as TFMBA), a metabolite of the herbicide flurtamone, analysed content 989.0 kg, synthesis batch No. JU01751PP.

Rainbow trout (*Oncorhynchus mykiss*) had a mean body length of 4.7 cm and a mean body wet weight of 0.77g. A total of 70 fish (1 replicate x 10 fish per concentration) were exposed to five concentrations of TFMBA, a solvent control (dimethylformamide, DMF) and a dilution water control for 96 h under static test conditions. The nominal concentrations were as follows: 6.7, 12.0, 21.6, 38.9 and 70 mg/L. The concentration of 70 mg/L was above the visual limit of aqueous solubility.

The test was performed in a temperature-controlled room. The photoperiod was 16 hours light and 8 hours dark. Fish were not fed during the exposure period. Dissolved oxygen (DO) concentration remained above or equal to 9.6 mg/L, the pH values ranged from 8.1 to 8.4 and the water temperature ranged from 13.9°C to 14.3°C in all aquaria over the whole period of testing.

Analytical verification of the test solution showed the measured concentrations of TFMBA were close to nominal values (104-112% recovery at test initiation and 94-97% recovery at test termination). Therefore the results of this test are reported in terms of the mean measured concentrations of the test substance: 6.9, 12.0, 23.2, 42.4 and 76.3 mg/L.

Findings:

No mortalities and no sublethal effects were observed in the control groups and at any of the test concentrations during the test period.

Conclusion:

The 96h-LC₅₀ of TFMBA to Rainbow trout (*Oncorhynchus mykiss*) under static test conditions is > 76.3 mg/L. There were no behavioural observations of fish caused by the test item over the whole exposure period. Therefore the no-observed-effect-concentration (NOEC) after 96 h is 76.3 mg/L.



Report: KCA-8.2.4.1 /05; [REDACTED] M. 1999
Title: Acute toxicity (48 hours) to Daphnids (*Daphnia magna*) under static conditions 3-trifluoromethyl benzoic acid (TFMBA)
Organisation: [REDACTED]
Report No.: [M-247910-01-1](#)
Publication: unpublished
Dates of experimental work: 1999-10-12 to 1999-10-14
Guidelines: OECD No. 202, 1984
 EEC Directive 92/69/EWG, para C.2, 1992
 EPA/FIFRA 72-2, 1985
Deviations: None
GLP/GEP Yes

Material and methods:

Test substance: 3-trifluoromethyl benzoic acid (TFMBA), lot no. JU0621PR, off-white powder, purity: 989 g/kg.
 Two replicates with 10 young *Daphnia magna* (<24 h old) per test concentration and the control were exposed in a static test system for 48 hours to nominal concentrations of 0 (dilution water-control), 6.3, 12.5, 25, 50 and 100 mg/L. Daphnids were observed for immobilisation and behavioural abnormalities at 24 and 48 hours after exposure. The test vessels were maintained at 20 +/- 2°C with a photoperiod of 16 hours light and 8 hours dark.
 The test solutions were sampled and analysed at the beginning and the end of the test.

Findings:

The test substance was soluble in the dilution water at all concentrations tested. Analytical verification showed measured concentrations close to the nominal values (90 - 97% recovery at test initiation and 94 - 109% at termination). The results of 10 test are reported on the basis of the following mean measured concentrations of TFMBA: 5.7, 11.8, 23, 46 and 95 mg/L.
 The pH values ranged from 6.45 to 7.79. The dissolved oxygen concentration remained above or equal to 7.7 mg/L.
 No immobilisation or sublethal toxicity was observed in the control group.

Mean measured concentration mg/L	Immobilisation (%)	
	24 h	48 h
Control	0	0
5.7	0	0
11.8	0	0
23	0	0
46	0	0
95	0	5



Conclusion:

In a static-acute toxicity test to determine the effects of TMFA to *Daphnia magna* (Waterflea) the concentration calculated to immobilise 50% of the test animals (EC_{50}) after 48 hours test duration was higher than the highest test concentration of 95 mg/L.

The concentration without any observed effects (NOEC) after 48 hours test duration was reported to be 95 mg/L.

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Report: KCA-8.2.6.1 /01; [REDACTED] A. 1999
Title: 3-Trifluoromethyl benzoic acid (TFMBA) Freshwater algal growth inhibition study (72 hours) (*Selenastrum capricornutum*)
Organisation: [REDACTED]
Report No.: [M-243659-01-1](#)
Publication: unpublished
Dates of experimental work: 1999-11-02 – 1999-11-05
Guidelines: OECD 201 (1984)
 EU (=EEC) E.E.C. dir. 92/69 method 3 (1999)
Deviations: pH variation was slightly greater
GLP/GEP Yes

Material and methods:

Test substance: 3-trifluoromethyl benzoic acid (hereafter referred to as TFMBA), a metabolite of the herbicide flurtamone, analysed content 989 g/kg, synthesis batch No. JU01621PF.
 Test organism: *Pseudokirchneriella subcapitata* (freshwater microalgae) formerly known as *Selenastrum capricornutum* was exposed on a chronic multigeneration test for 3 days under static exposure conditions to the nominal concentrations of 10.1, 18.0, 33.3, 59.3 and 104.8 mg TFMBA/L (three replicates of each concentration) in comparison to one dilution water control (6 replicates). The pH values ranged from 8.0 to 9.0 in the control. The culture room temperature was 23°C +/-2°C over the whole period of testing at a continuous illumination of 6000 to 10000 lux. Initial cell density was 2.0 x 10⁴ to 2.05 x 10⁴ cells/mL.
 Analytical verification of the test solution showed the measured concentrations of TFMBA were close to nominal values (95-99% recovery at test initiation and 91-100% recovery after 72 hours). Therefore the results of this test are based on the following mean measured concentrations of the test substance: 10.1, 18.0, 33.3, 59.3 and 104.8 mg/L.

Findings:

The algal density in the control after 72 hours of exposure was 77.5 times that of the starting concentration.
 The pH variation in the control group and in the test concentration groups was slightly greater than the recommended pH variation in the OECD guideline. In view of the very good algal growth in all test vessels during the test, these variations were not considered to have any affect on the results of the test.
 Following 72 hours exposure to the test substance, the cell culture densities observed were used to calculate the percentage inhibitions compared to the control group. No inhibition of algal growth or growth rate was observed at any of the test substance concentrations.

Conclusion

Based on mean measured test concentrations the toxicity of TFMDA to the freshwater alga *Pseudokirchneriella subcapitata* in a static test system is shown by the following results.

Exposure interval	0 – 24 hours	0 – 48 hours	0 – 72 hours
EbC ₅₀ (mg/L)	> 104.8	> 104.8	> 104.8
ErC ₅₀ (mg/L)	> 104.8	> 104.8	> 104.8

The NOEC is estimated to be 104.8 mg/L.

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