I U C L I D

Data Set

Existing Chemical	:	ID: 7580-85-0
CAS No.	:	7580-85-0

Producer related part

Company	:	National Institute for Environment Studies
Creation date	:	01.06.2004

Substance related part

Company	:	National Institute for Environment Studies
Creation date	:	01.06.2004
Status	:	
Memo	:	
Printing date	:	12.07.2004
Revision date	:	
Date of last update	:	12.07.2004
Number of pages	:	15
Chapter (profile)	:	Chapter: 4
Reliability (profile)	:	Reliability: without reliability, 1, 2, 3, 4
Flags (profile)	:	Flags: without flag, confidential, non confidential, WGK (DE), TA-Luft (DE), Material Safety Dataset, Risk Assessment, Directive 67/548/EEC, SIDS

4.1 ACUTE/PROLONGED TOXICITY TO FISH

Type	:	semistatic
Species	:	Oryzias latipes (Fish, fresh water)
Exposure period	:	96 hour(s)
Unit	:	mg/l
LC50	:	> 100
Limit test	:	yes
Analytical monitoring	:	yes
Method	:	OECD Guide-line 203 "Fish, Acute Toxicity Test"
Year	:	2001
GLP	:	yes
Test substance	:	other TS:TOKYO KASEI KOGYO Co, Ltd., Lot. No.;FGD01, Purity=99.7%

Method :

-Test Organisms:
a) Supplier: Test organisms were obtained from private fish farm in Japan, before 1 month of a test.
b) Size (length and weight): 2.43cm (2.26 - 2.49 cm) in length; 0.233 g (0.179 - 0.300 g) in weight
c) Age: Not described
d) Any pretreatment: Test organisms were acclimated for 14 days before testing. During acclimination, test fishes were fed with TETRAMINE. The mortality of the test organisms for 7 days before testing was less than 5%. LC50(96 hr) for a reference substance (copper sulfate pentahydrate) was 1.4 mg/L.

-Test substance: 2-tert-butoxy-ethanol
a) Empirical Formula: C6H14O2
b) Molecular Weight: 118.17g/mol
c) Purity: = 99.7 %
d) Boiling Point: = 171.2C
e) Water Solubility: soluble

-Test Conditions:
a) Dilution Water Source: Dilution water was prepared from tap water (Yokohama in Japan). The tap water was dechlorinated and treated by activated carbon and aerated.
b) Dilution Water Chemistry:
pH: = 7.7
Total hardness (as CaCO3): = 67mg/L
c) Exposure Vessel Type: 5 L test solution in a 5 L glass beaker with teflon sheet cover on the water.
d) Nominal Concentrations: control, 100 mg/L (a limit test)
e) Vehicle/Solvent and Concentrations:Not used.
f) Stock Solutions Preparations and Stability: Not described on the stock solution and stability in the test condition. Test substance was stored in freezer during test period. The stability of the chemical was confirmed by IR spectrum. Under the stock condition the IR spectrum of the test substance at the end of the test was same at the start of test.
g) Number of Replicates: 1
h) Fish per Replicates: 10
i) Renewal Rate of Test Water: Every 24 hours
j) Water Temperature: 24+/-1C
k) Light Condition: 16:8 hours, light-darkness cycle
l) Feeding: None
m) Aeration : None

-Analytical Procedure: The tested concentrations were measured at the

start and at 24 hours using GC.

-Statistical Method:
a) Data Analysis:None
b) Method of Calculating Mean Measured Concentrations (i.e. arithmetic mean, geometric mean, etc.): Not described.

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Result : - Measured Concentrations: The test concentrations were measured at start of the test and at 24 h.

Nominal Conc.	Measured Conc., mg/L		Percent of Nominal	
mg/L	0 Hour	24 Hour	0 Hour	24Hour
Control	<0.05	<0.05	---	---
100	91.0	103	91	103

- Water chemistry (pH and DO) and temperature in test: Water chemistry and temperature were measured for old and renewal solution with control and each concentration at the start of test and every 24 hours.
pH: 6.9 - 7.4
DO: 5.3 - 8.5 mg/L
Water Temperature: 23.5 - 23.8C

-Effect Data(mortality):
LC50 (96hr) = >100 mg/L (nc)
LC100 (96hr) >100 mg/L (nc)
nc: based on nominal concentration
The LC50 value and its 95% confidence limits could not be determined because the test was conducted as a limit test.

- Cumulative Mortality: None of test organisms were killed during exposure period at control. The lowest concentration from which the test organisms were killed was 100 mg/L at 96th hr.

Measured Conc.	Cumulative Number of Dead (Percent Mortality)			
mg/L	24hr	48hr	72hr	96hr
Control	0 (0)	0 (0)	0 (0)	0 (0)
100	0 (0)	0 (0)	0 (0)	3 (30)

This test was conducted as a limit test at the concentrations of 100mg/l of the test substance, but three of ten fish died in the treatment group. Therefore this test was regarded invalid as limit test. It may be true that the toxicity of 96 h LC50 > 100mg/L.

-Other Effect: Toxicological symptom was not observed at any concentration.

Nominal Conc.	Symptoms			
mg/L	24hr	48hr	72hr	96hr
Control	n	n	n	n

100		n	n	as-1	n

n: No toxicological symptom was observed.
as: Abnormal swimming - numbers of indivisuals.

- Calculation of toxicity values: The calculation of toxicity values was the nominal concentration.

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Reliability : (2) valid with restrictions
Flag : Critical study for SIDS endpoint
12.07.2004 (1)

Type : semistatic
Species : Oryzias latipes (Fish, fresh water)
Exposure period : 96 hour(s)
Unit : mg/l
LC0 : > 4000
LC50 : > 4000
LC100 : > 4000
Limit test :
Analytical monitoring : no
Method : other:JISK0102"Fish, Acute Toxicity Test"(1981)
Year : 1985
GLP : no
Test substance : other TS:Not described

Method : -Test Organisms:
a) Supplier: Test organisms were obtained from private fish farm in Japan,
b) Size (length and weight): 3.2cm (SD=0.12) in length; 0.28 g (SD=0.04) in weight
c) Age: Not described
d) Any pretreatment: Test organisms were acclimated for over than 14 days before testing. During acclimination the mortality of test fish was less than 5 %
-Test substance: 2-tert-butoxy-ethanol
a) Empirical Formula: C6H14O2
b) Molecular Weight: 118.17g/mol
c) Purity: Not described
d) Boiling Point: = 171.2C
e) Water Solubility: Very high

-Test Conditions:
a) Dilution Water Source: Not described
b) Dilution Water Chemistry: Not described
c) Exposure Vessel Type: 5 L test solution in a 5 L glass aquariums
d) Nominal Concentrations: control, 3000, 4000 mg/L (limited test)
e) Vehicle/Solvent and Concentrations:Not used.
f) Stock Solutions Preparations and Stability: Test substance was added to the test aquariums directly
g) Number of Replicates: 1
h) Fish per Replicates: 10
i) Renewal Rate of Test Water: Every 2 days
j) Water Temperature: 25+/1C
k) Light Condition: 14:10 hours, light-darkness cycle
l) Feeding: None
m) Aeration : Not apply during the exposure

-Analytical Procedure: Not described.

-Statistical Method:
a) Data Analysis: Not described
b) Method of Calculating Mean Measured Concentrations (i.e. arithmetic mean, geometric mean, etc.): Not described.

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Result : - Measured Concentrations: None

- Water chemistry (pH and DO) and temperature in test:
pH: 7..4 at the initial, 7.0-7.3 at the end
DO: 7.9 - 8.0 mg/L at the initial, 6.1-6.3 mg/L at the end mg/L
Water Temperature:

-Effect Data(mortality):
LC50 (96hr) > 4000 mg/L (nc)
LC0 (96hr) > 4000 mg/L (nc)
LC100 (96hr) > 4000 mg/L (nc)
nc: based on nominal concentration

- Cumulative Mortality: None of test organisms were killed during exposure period at the all concentrations of 0(control), 3000 and 4000 mg/L

-Other Effect: Toxicological symptom was not observed at any concentration.

Nominal Conc. mg/L	Symptoms 24hr	48hr	72hr	96hr
Control	n	n	n	n
3000	n	n	n	n
4000	n	AS.RA	AS.RA	AS.RA

n: No toxicological symptom was observed.
AS: At the surface(abnormal behavior)
RA: Reduced Activity

- Calculation of toxicity values: The calculation of toxicity values was the nominal concentration.

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Reliability : (4) not assignable
The details of the test method was not available, and the information on test substance was entirely lacking, threfore the exposure concentration and also the impurity could not be ensured because of no analytical monitoring.

12.07.2004 (2)

4.2 ACUTE TOXICITY TO AQUATIC INVERTEBRATES

Type : semistatic
Species : Daphnia magna (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/l
EC50 : > 891 measured/nominal

Limit Test	:	no
Analytical monitoring	:	yes
Method	:	OECD Guide-line 202
Year	:	2001
GLP	:	yes
Test substance	:	other TS:TOKYO KASEI KOGYO Co, Ltd., Lot. No.;FGD01, Purity=99.7%

Method :

-Test Organisms:
a) Age: < 24 hours old
b) Supplier/Source: Test organisms were obtained from the National Institute of Environmental Studies (Japan).
c) Any pretreatment: Parental daphnids were acclimated for 22 days on test condition before testing. During acclimatization, test daphnids were fed with Chlorella vulgaris, 0.2 mg carbon/day/individual. 24 hours before acute toxicity test, mortality of the test daphnia was low and any resting-egg and male daphnia was not observed. EC50 (48hr, immobility) for reference substance (potassium dichromate) was 0.68mg/L.

-Test substance: 2-tert-butoxy-ethanol
a) Empirical Formula: C6H14O2
b) Molecular Weight: 118.17g/mol
c) Purity: = 99.7 %
d) Boiling Point: = 171.2C
e) Water Solubility: soluble

-Test Conditions:
a) Dilution Water Source: Elendt M4 media (OECD Guide-line 211 "Daphnia magna reproduction test") was used as dilution water for the test.
b) Dilution Water Chemistry: Not described
c) Exposure Vessel Type: 100 mL test solution in a 100 mL glass beaker with teflon sheet cover on the water.
d) Nominal Concentrations: control, 100, 180, 320, 560 and 1000 mg/L
e) Vehicle/Solvent and Concentrations: Not used.
f) Stock Solutions Preparations and Stability:Not described on the stock solution and stability in the test condition. Test substance was stored in freezer during test period. The stability of the chemical was confirmed by IR spectrum. Under the stock condition the IR spectrum of the test substance at the end of the test was same at the start of test.
g) Number of Replicates: 4
h) Individuals per Replicates: 5 per beaker
i) Water Temperature: 20+/-1C
j) Light Condition: 16:8 hours, light-darkness cycle
k) Feeding: None
l) Aeration : Test solution was not aerated during the test period

- Analytical Procedure: Test concentrations were measured at the start and at 24 hour using GC.

- Statistical Method:
a) Data Analysis: EiC50 and 95% confidence intervals were calculated by proper one of three methods, binominal method, moving average method and probit method, when inhibition rate at treatment of highest concentration is more than 50%. If inhibition rate at the highest concentration is less than 50%, EiC50 were determined more than the

highest concentration.(>highest concentration)
b) Method of Calculating Mean Measured Concentrations: Geometric mean

-

Result : - Measured Concentrations: The test concentrations were measured at the start and at 24 hour of the test. For some of them, the deviations from the nominal were not less than +/-20%.

Nominal Conc. mg/L	Measured Conc., mg/L 0 Hour Fresh	24 Hour Old	Mean* mg/L	Percent of Nominal 0 Hour Fresh	24 Hour Old
Control	<0.09	<0.09	---	---	---
100	92.8	83.2	87.9	93	83
180	174	155	164	97	86
320	353	278	313	110	87
560	574	530	552	103	95
1000	934	850	891	93	85

Fresh: freshly prepared test solution.
Old: test solutions after 24 hours exposure
*: Mean measured concentration during 24 hours.(Geometric mean)

- Water chemistry (pH and DO) and temperature in test: Water chemistry and temperature were measured for control and each concentration at the start and before the water replacement.
pH: 8.0 - 8.2
DO: 8.5 - 8.8 mg/L
Water Temperature: 19.9 - 20.0C

-Effect Data:
NOECi (48hr) =>891 mg/L (mc)
EC50 (48hr) =>891 mg/L (mc)

mc: based on the geometric mean of the measured concentrations
95% C.I. canot calcurated.

-Mortality or Immobility: Most of the test organisms was not dead or immobilized in all treatments at the end of the test.

Nominal Conc. mg/L	Cumulative Numbers of Immobilized Daphnia (Percent Immobility) 24 Hour	48 Hour
Control	0 (0)	1 (5)
87.9	0 (0)	1 (5)
164	0 (0)	0 (0)
313	0 (0)	0 (0)
552	0 (0)	1 (5)
891	0 (0)	0 (0)

- Calculation of toxic values: Geometric mean of measured concentrations at the start and 24 hours.

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Reliability : (1) valid without restriction
Flag : Critical study for SIDS endpoint
12.07.2004 (1)

4.3 TOXICITY TO AQUATIC PLANTS E.G. ALGAE

Species : Selenastrum capricornutum (Algae)
Endpoint : growth rate
Exposure period : 72 hour(s)
Unit : mg/l
NOEC : = 291 measured/nominal
EC50 : > 866 measured/nominal
Limit test :
Analytical monitoring : yes
Method : OECD Guide-line 201 "Algae, Growth Inhibition Test"
Year : 2001
GLP : yes
Test substance : other TS:TOKYO KASEI KOGYO Co, Ltd., Lot. No.;FGD01, Purity=99.7%

Method : - Test Organisms:
a) Supplier/Source: Obtained from American Type Culture Collection
b) Method of Cultivation: Sterile
c) Stain Number: ATCC22662
d) Any pretreatment: Acclimated for 4 days before testing.

-Test substance: 2-tert-butoxy-ethanol
a) Empirical Formula: C6H14O2
b) Molecular Weight: 118.17g/mol
c) Purity: =99.7 %
d) Boiling Point: = 171.2C
e) Water Solubility: soluble

- Test Conditions:
a) Medium: OECD medium
b) Exposure Vessel Type: 100 mL Medium in a 500mL glass Erlenmeyer flask with stopper
c) Nominal Concentrations: control, 10.0,32.0,100,320 and 1000mg/L
d) Vehicle/Solvent and Concentrations: Not used.
e) Sock Solution: 2-tert-butoxy-ethanol was diluted with OECD medium.
f) Number of Replicates: 3
g) Initial Cell Number: 10,000 cells/mL
h) Water Temperature: 23+/-2C
i) Light Condition: 4,000 lux (fluctuation within +/-20%), continuously
j)Shaking: 100 rpm

- Analytical Procedure: Test concentrations were measured at the start and the 72nd hour.

- Statistical Method:
a) Data Analysis: Probit method for EC50. 1-way ANOVA (a=0.05) and Dunnett's method (a=0.05, both side) for NOEC, after Bartlett's homoscedastic test.

b) Method of Calculating Mean Measured Concentrations (i.e. arithmetic mean, geometric mean, etc.):geometric mean

-

Result : - Measured Concentrations : The tested concentrations were measured at the start and the 72nd hour.

Nominal Conc.	Measured Conc. (mg/L)		Percent of nominal (%)		Mean Conc. (mg/L)
mg/L	0 Hour Fresh	72 Hour Old	0 Hour Fresh	72 Hour Old	
Control	<0.05	<0.05	---	---	<0.05
10.0	11.1	10.2	111	102	10.6
32.0	25.0	21.9	78	68	23.4
100	87.5	74.4	88	74	80.7
320	306	276	96	86	291
1000	891	841	89	84	866

Fresh: freshly prepared test solution
Old: test solution after 72 hours exposure

- Water chemistry (pH) and temperature in test: pH was measured for control and each concentration at the start and the end of test. At the start and the end of test, the pH was 7.8 and 10.1 - 10.4, respectively. Temperature was measured for control and each concentration everyday, and maintained 23+/-2C during test period.
pH: 7.8 - 10.4
temperature: 23 +/- 2 C

Mean Concentration	pH	
mg/L	0 Hour	72 Hour
Control	7.8	10.4
10.6	7.8	10.4
23.4	7.8	10.4
80.7	7.8	10.4
291	7.8	10.4
866	7.8	10.1

At the end of test, pH increased more than 1 unit compared with the start. When carbon dioxide assimilation is active and growth rate is high, pH often increases more than 1 unit.

-Effect Data: Rate Method
EC50 (0-72hr) > 866 mg/L (mc)

NOEC (0-72hr) = 291 mg/L (mc)

mc: based on geometric mean of measured concentration at the start and the end.

- Growth Inhibition (%) of Slenastrum capricornutum

Measured Conc. mg/L	Growth rates and inhibition	
	Rate (Average)	Inhibition(%)

Control	164	----
10.6	159	2.74
23.4	161	1.65
80.7	156	4.59*
291	158	3.75
866	143	12.9**

- Growth Curves: Exponential growth phase kept for 48 hours.
Therefore the average growth rate was calculated based on the cell density at 0 and 48 hr after the start of the test.

- Calculation of toxic value: Geometric mean of measured concentration at the start and the end was used.
* Indicates a significant difference (a=0.05) from the control.
** Indicates a significant difference (a=0.01) from the control.

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Reliability : (2) valid with restrictions
However some deviations from the test guidline this study seemed to be reliable. The exponential growth phase could not keep throughout the test period and the deviation of pH was greater than 1.5 unit at the end of the test.

12.07.2004 (1)

4.4 TOXICITY TO MICROORGANISMS E.G. BACTERIA

4.5.1 CHRONIC TOXICITY TO FISH

4.5.2 CHRONIC TOXICITY TO AQUATIC INVERTEBRATES

Species : Daphnia magna (Crustacea)
Endpoint : reproduction rate
Exposure period : 21 day(s)
Unit : mg/l
NOEC : >= 94.2 measured/nominal
LOEC : >= 94.2 measured/nominal
EC50 : >= 94.2 measured/nominal
Analytical monitoring : yes
Method : OECD Guide-line 211
Year : 2001
GLP : yes
Test substance : other TS:TOKYO KASEI KOGYO Co, Ltd., Lot. No.;FGD01, Purity=99.7%

Method : -Test Organisms:
a) Age: < 24 hours old
b) Supplier/Source: Test organisms were obtained from the National Institute of Environmental Studies (Japan).
c) Any pretreatment: Parental daphnids were acclimated for 29 days on test conditions before testing. Less than 24 hours old organisms were used for test. The mortality of their parent daphnids were 0.0% and any resting-egg production or male was not observed in their parent daphnids. EC50(48 hr, immobility) for a reference substance (potassium dichromate) was 0.63mg/L.

-Test substance: 2-tert-butoxy-ethanol

a) Empirical Formula: C6H14O2
b) Molecular Weight: 118.17g/mol
c) Purity: = 99.7 %
d) Boiling Point: = 171.2C
e) Water Solubility: soluble

- Test Conditions:
a) Dilution Water Source: Elendt M4 media (OECD Guide-line 211 "Daphnia magna reproduction test") was used as dilution water for the test.
b) Dilution Water Chemistry:Not described.
c) Exposure Vessel Type: 80 mL test solution in a 100mL glass beaker with teflon sheet cover on the water.
d) Nominal Concentrations: control, 100 mg/L (a limit test)
e) Vehicle/Solvent and Concentrations: Not used.
f) Stock Solutions Preparations and Stability: Not described on the stock solution and stability in the test condition. Test substance was stored in freezer during test period. The stability of the chemical was confirmed by IR spectrum. Under the stock condition the IR spectrum of the test substance at the end of the test was same at the start of test.
g) Number of Replicates: 10
h) Individuals per Replicates: 10
i) Renewal Rate of Test Water: everyday
j) Water Temperature: 20+/-1C
k) Light Condition: 16:8 hours, light-darkness
l) Feeding: 0.15 mg carbon/day/individual (Chlorella vulgaris: Green Algae)
m) Aeration: Not described

- Analytical Procedure: The test concentrations were measured three times during test period for both renewal and old test solution using GC.
- Statistical Method:
a) Data Analysis:
LC50: During test period the test organisms were not killed more than 50% in any concentration.
EC50: EC50 and its 95%c.l. were calculated by Logit method.
NOEC and LOEC: The cumulative number of juveniles produced per adult in control and test concentration after 21days was tested by F test and t-test of Student using statistical software Statlight (Yukms Corp., Tokyo).
b) Method of Calculating Mean Measured Concentrations (i.e. arithmetic mean, geometric mean, etc.): Time-weighted Mean

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Result **:** - Effect: reproduction- Measured Concentrations: The test concentrations were measured for both renewal and old test solution at the start of the test and 1st, 7th, 9th, 14th and 15th day. Some of them, the deviation from the nominal concentration were not less than +/-20%.

Nominal Conc.	Measured Conc., mg/L							
mg/L Date	0 Fresh	1 Old	7 Fresh	8 Old	14 Fresh	15 Old	TWM* mg/L	% of Nominal
Control	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	---	---
100	91.5	83.4	113	96.1	92.3	89.6	94.2	94

Fresh: Freshly prepared test solution.
Old: Old test solution before renewal.
*: Time-weighted mean of measured concentration during 21 days

- Range of Measured Concentration and Percentage of Nominal Concentration

	Measured Concentration (mg/L)			Percentage of Nominal		
	Min.		Max	Min.		Max
New	91.5	-	113	92	-	113
Old	83.4	-	96.1	83	-	96

Fresh: Freshly prepared test solution.
Old: Old test solution before renewal.

- Water chemistry (pH, DO and) and temperature in test: Water chemistry and temperature were measured for control and each concentration at the start of test and before and after renewal 4 times during exposure.

pH: 7.2 - 8.5
DO: 7.7 - 8.8 mg/L
Water Temperature: 19.7 - 20.1C

- Total hardness(as CaCO3): 235 - 255 mg/L

-Effect Data:

LC50 (21day) > 94.2 mg/L (mc)
EC50 (21day) = > 94.2 mg/L (mc)
NOEC (21day) = > 94.2 mg/L (mc)
LOEC (21day) = > 94.2 mg/L (mc)
mc: based on the time weighted mean of measured concentrations

The LC50 and EC50 values and their associated 95% confidence limits could not be determined by statistical methods because the mortality of parental Daphnia and the reproduction inhibition rate at the maximum concentration level were less than 50%.

- Cumulative Number of Died Parental Daphnia: No test organism was killed at 100 mg/L. At the control, test organisms were dead after 5days. Mortality rate of parental Daphnia at the control was less than 20%.

Nominal Conc. (mg/L)	Cumulative Number of Dead Parental Daphnia (days)									
	1	2	3	4	5	6	7	8	9	10
Control	0	0	0	0	1	1	1	2	2	2
100	0	0	0	0	0	0	0	0	0	0

Measured Conc. (mg/L)	Cumulative Number of Dead Parental Daphnids (days)										
	11	12	13	14	15	16	17	18	19	20	21
Control	2	2	2	2	2	2	2	2	2	2	2
100	0	0	0	0	0	0	0	0	0	0	0

-
-Effect Data(reproduction):Juveniles were first produced on the 8th and 9th day at both treatment.
-Cumulative numbers of juveniles produced per adult alive for 21days

Nominal Conc. mg/L	Mean Cumulative Numbers of Juveniles Produced per Adult Alive for 21 days (Days) 0 --- 7	8	9	10	11	12	13	14
Control	0 --- 0	6.5	9.6	9.6	21.0	33.8	33.8	33.8
100	0 --- 0	6.6	10.1	10.1	22.6	32.3	32.3	32.3

Measured Conc. mg/L	Mean Cumulative Numbers of Juveniles Produced per Adult Alive for 21 days (Days) 15	16	17	18	19	20	21
Control	61.1	61.1	61.1	82.9	85.6	85.6	97.1
100	60.5	60.6	60.6	78.7	85.6	85.6	99.5

-Cumulative numbers of juveniles produced per adult alive for 21days in each test vessels and results of statistical comparison of the mean values (by Student's t paired comparison test)

Vessel No.	Nominal Conc., mg/L Control	100
1	88	85
2	D	105
3	109	118
4	104	75
5	104	88
6	110	108
7	D	121
8	93	82
9	73	116
10	96	97
Mean	97.1	99.5
S. D.	12.4	16.4
Inhibition rate(%)		-2.4
Significantdifference		-

D: Were not included for calculation because the parental Daphnia was dead during a 21-days testing period.
- : Indicates no significant difference.

- Calculation of toxicity values: The calculation of toxicity values was the Time weighted mean of measured concentrations.

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Reliability : (1) valid without restriction
Flag : Critical study for SIDS endpoint
12.07.2004 (1)

4.6.1 TOXICITY TO SEDIMENT DWELLING ORGANISMS

4.6.2 TOXICITY TO TERRESTRIAL PLANTS

4.6.3 TOXICITY TO SOIL DWELLING ORGANISMS

4.6.4 TOX. TO OTHER NON MAMM. TERR. SPECIES

4.7 BIOLOGICAL EFFECTS MONITORING

4.8 BIOTRANSFORMATION AND KINETICS

4.9 ADDITIONAL REMARKS

(1) MOE, Japan(2001): Unpablished Data

(2) Maruzen Petrochemical Co. Ltd(1985):Test report on the 96h acute fish toxicity of ETB to Medaka(Oryzias latipes)