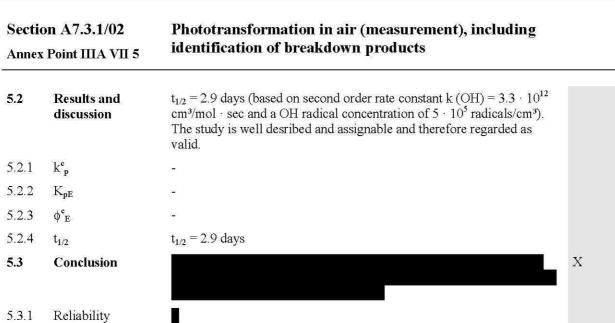
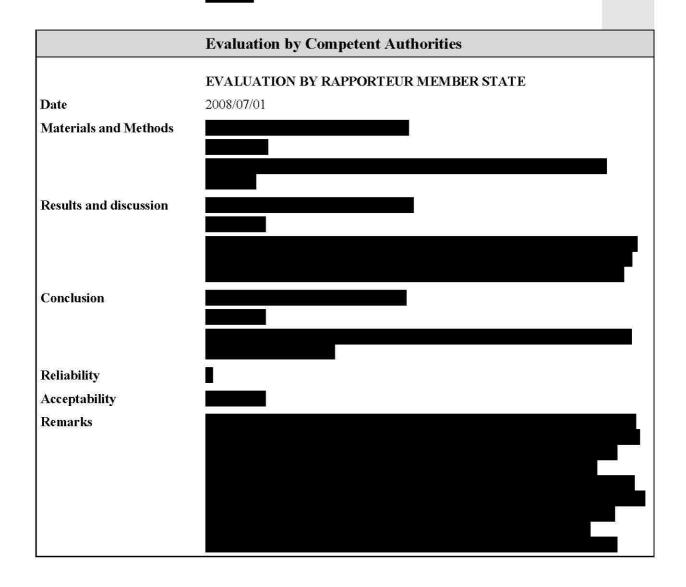
Section A7.3.1/02 Annex Point IIIA VII 5

Phototransformation in air (measurement), including identification of breakdown products

Annex	Point IIIA VII 5	Menanteness of breaktown products	
3.3.4	Temperature	Ca. 23 °C (296 K)	
3.3.5	Pressure	150 torr (200 hPa)	
3.3.6	TS concentrations	2 · 10.9 to 20 · 10.9 mol/cm³	Х
3.3.7	OH concentration	5 · 10 ⁻¹¹ to 10 · 10 ⁻¹¹ mol/cm ³	
3.3.8	Duration of the test	No data	
3.3.9	Number of replicates	No data	
3.3.10	Sampling		
3.3.11	Analytical methods	No data.	
3.4	Transformation products	No data.	
3.4.1	Method of analysis for transformation products	No data.	
		4 RESULTS	
4.1	Screening test	Not performed	
4.2	Controls	re re	
4.3	Photolysis data		
4.3.1	Concentration values	Propan-2-ol concentrations ranging from $2\cdot 10^9$ to $20\cdot 10^9$ mol/cm³ were tested.	
4.3.2	Mass balance	-	
4.3.3	k ^e _p	-	
4.3.4	Kinetic order	Pseudo first order/second order	
4.3.5	k_{p}^{c}/k_{p}^{a}		
4.3.6	Reaction quantum yield (ϕ^e_E)	2	
4.3.7	k_{pE}		
4.3.8	Half-life (t _{1/2E})	$t_{1/2}$ = 2.9 days (based on second order rate constant k (OH)=3.3 \cdot 10 ⁻¹² cm ³ /mol \cdot sec and a OH radical concentration of 5 \cdot 10 ⁵ radicals/cm ³).	X
4.4	Specification of the transformation products		
		5 APPLICANT'S SUMMARY AND CONCLUSION	
5.1	Materials and methods	The first and second order reaction rate constants of propan-2-ol at 296K in the gas phase were determined using flash-photolysis resonance-absorption technique. OH radicals were produced by two different methods (photolysis of water vapor or $\rm N_2O/H_2)$. The decay of OH concentration was monitored. At the time the study was conducted no guideline was available.	





5.3.2

Deficiencies

Task Force "2-Propanol" RMS: Germany	Propan-2-ol	July 2007	
Section A7.3.1/02	Phototransformation in air (measurement), including		
Annex Point IIIA VII 5	identification of breakdown products		

	COMMENTO FROM
	COMMENTS FROM
Date	Give date of comments submitted
Materials and Methods	Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state
Results and discussion	Discuss if deviating from view of rapporteur member state
Conclusion	Discuss if deviating from view of rapporteur member state
Reliability	Discuss if deviating from view of rapporteur member state
Acceptability	Discuss if deviating from view of rapporteur member state
Remarks	

Section A7.3.1/03 Annex Point IIIA VII 5

Phototransformation in air (measurement), including identification of breakdown products

Annex	Point IIIA VII 5	Tu Cilci.	products	
				Official
		1	REFERENCE	use only
1.1	Reference	reaction	Wallington TJ, Atkinson R, Winer AM, Pitts JN jr (1987) A study of the reaction $NO_3 + NO_2 + M \rightarrow N_2O_5 + M$ (M= N_2 , O_2). Int J Chem Kinet 19, 243-249 (published)	
1.2	Data protection	No		
1.2.1	Data owner	(=)		
1.2.2	Criteria for data protection	No data	protection claimed	
		2	GUIDELINES AND QUALITY ASSURANCE	
2.1	Guideline study	No. At t	he time the study was conducted no guidelines were available.	
2.2	GLP			
2.3	Deviations	(24)		
		3	MATERIALS AND METHODS	
3.1	Test material	Propan-		
3.1.1	Lot/Batch number	E		
3.1.2	Specification	Propan-	2-ol	
3.1.3	Purity	≥99%		
3.1.4	Radiolabelling	No		
3.1.5	UV/VIS absorption spectra and absorbance value	Not ava	Not available	
3.1.6	Further relevant properties	i —	_	
3.2	Reference substances	No		
3.3	Test		-phase reaction of NO ₃ radical with 2-propanol was carried out reaction rate constant determined.	
3.4	Testing procedure			
3.4.1	Test system	saturatir ol maint	cid and propan-2-ol were introduced into the reaction vessel by ing a known fraction of the total flow with the reactant propan-2-ained at 298K. The reaction of the generated NO ₃ radicals were at a total pressure of 100 Torr (=133.3 hPA) of nitrogen diluent.	
3.4.2	Properties of light source	The flas	h lamp was operated at energies of 100-500 J per flash.	
3.4.3	Determination of reaction rate constant	graphica radical o	of NO_3 was measured. Reaction rate constant was determined ally by plotting $(R-k_o)$ against NO_2 concentration $(R=NO_3)$ decay rates; $k_o = $ first order rate for NO_3 removal in the absence ant; $k = $ reaction rate constant of test substance).	
3.4.4	Temperature		perature was maintained at $298 \pm 2~\mathrm{K}$ by circulating distilled bound the reaction vessel.	

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RMS: Germany		

Section A7.3.1/03	Phototransformation in air (measurement), including
Annex Point IIIA VII 5	identification of breakdown products

Annex Point IIIA VII 5		identification of breakdown products		
3.4.5	pН	Not applicable (gas-phase reaction)		
3.4.6	Duration of the test	No data		
3.4.7	Number of replicates	No data		
3.4.8	Sampling	Continuous sampling: reactants were flowing through the reaction vessels (typical residence times: 5 - 15 sec). Pressures were monitored with MKS Baratron capacitance manometer. All flows were measured by calibrated flowmeters.		
3.4.9	Analytical methods	Pressures were monitored by manometer, and all flows were measured by calibrated flowmeter. NO ₃ was measured by long pathlength absorption at 662 nm.		
3.5	Transformation products	Not determined.		
3.5.1	Method of analysis for transformation products	₩		
		4 RESULTS		
4.1	Screening test	No data		
4.2	Actinometer data	-		
4.3	Controls			
4.4	Photolysis data			
4.4.1	Concentration values	Initial propan-2-ol concentration: 3.9 · 10 ¹⁵ molecules/cm ³		
4.4.2	Mass balance	-		
4.4.3	k(NO ₃)	≤2.3 · 10 ⁻¹⁵ cm³/(molecule · sec)		
4.4.4	Kinetic order	pseudo first order		
4.4.5	k_{p}^{e}/k_{p}^{a}	-		
4.4.6	Reaction quantum yield (ϕ^e_E)	•		
4.4.7	k_{pE}	-		
4.4.8	Half-life $(t_{1/2E})$	$t_{1/2}$ ca. 1.45-14.5 days based on NO ₃ radical concentrations of 10-100 ppt $(2.4\text{-}24 \cdot 10^8 \text{ radicals/cm}^3)$.		
4.5	Specification of the transformation products	-		
		5 APPLICANT'S SUMMARY AND CONCLUSION		
5.1	Materials and methods	At the time the investigation was conducted no guideline was available. The gas-phase reaction of NO ₃ with propan-2-ol at 298K and a total pressure of 100 Torr (=133.3 hPa) of nitrogen diluent was studied using Flash-Photolysis-Visible Absorption Technique. The upper limit of the reaction rate constant (pseudo first order kinetic) was determined.		
5.2	Results and	Half-lives t _{1/4} ranging from ca. 1.45 to ca.14.5 days based on NO ₃ radical		

Materials and Methods Discuss additional relevant discrepancies referring to the (sub)heading numbers

and to applicant's summary and conclusion.

Discuss if deviating from view of rapporteur member state

Results and discussion Discuss if deviating from view of rapporteur member state

Conclusion Discuss if deviating from view of rapporteur member state

Discuss if deviating from view of rapporteur member state Reliability

Discuss if deviating from view of rapporteur member state Acceptability

Remarks

Table A7_1_1_2-1: Description of the test

Criteria	Details
Preparation of NO ₃ radicals	Photolysis at ≥180 nm of mixtures of fluorine and HNO ₃
Initial NO ₃ concentration (molecule/cm³)	$1-4 \times 10^{12}$
Test concentrations (molecule/cm³)	3.9×10^{15}
Temperature (°C)	298K
Pressure of diluent N ₂ (torr)	100
Controls	-
Analytical methods	Pressures were monitored by manometer, and all flows were measured by calibrated flowmeter. NO ₃ was measured by long pathlength absorption at 662 nm.
Determination of reaction rate constant	NO_3 radical decay rates $(R=(t-t_0)^{-1} \times \ln([NO_3]_{t0}/[NO_3]_t)$ were determined. Based on pseudo-first order decay the rate constant can be determined graphically via $R=k_0+k$ [reactant]

Table A7_1_1_2-2: Description of test system

Criteria	Details
Laboratory equipment	No deatails on the type and geometry of the reaction vessels are given.
Test apparatus	Test vessels not further described. All experiments were performed with the reactants flowing through the reaction vessel, with typical residence times of 5-15 sec. The temperature was maintained at 298K
Properties of artificial light source:	
Nature of light source	Flash lamp
Emission wavelenght spectrum	-
Light intensity	100-500 Ј
Filters	=
Properties of natural sunlight:	-
Latitude	
Hours of daylight	
Time of year	
Light intensity	
Solar irradiance (L_{λ})	

Section A7.4.1.1/01 Acute toxicity to fish

Annex Point IIA7.1 Pimephales promelas

		8 1 ×	REFERENCE		
1.1	Reference	of organi	ic chemicals to fath	(1984) Acute toxicities	
		or organ	of organic chemicals to fathead minnows (Pimephales promelas),		
1.2	Data protection	No		<u>.</u>	
1.2.1	Data owner				
1.2.2	Criteria for data protection	No data 1	protection claimed		
		2	GUIDELINES A	ND QUALITY ASSURANCE	
2.1	Guideline study	No.			
2.2	GLP				
2.3	Deviations	Not appl	icable		
		3	MATERIALS AN	ND METHODS	
3.1	Test material	Propan-2	l-ol		
3.1.1	Lot/Batch number	=	-		
3.1.2	Specification	2-Propar	2-Propanol		
3.1.3	Purity	Reagent	Reagent grade (one test) and 99.8 % (two tests)		
3.1.4	Composition of Product	Not applicable			
3.1.5	Further relevant properties	The test was conducted under flow-through conditions.			
3.1.6	Method of analysis	GLC (Gas Liquid Chromatography)			
3.2	3.2 Preparation of TS solution for poorly soluble or volatile		easured Henry's L	miscible with water (cf. Doc IIIA3.5). Based aw Constant propan-2-ol is moderately ion (cf. Doc IIIA3.2.1).	
	test substances	Continuously the test compound was added undiluted to the exposure tanks. The test was conducted under flow-through conditions.			
3.3	Reference substance	No data.			
3.3.1	Method of analysis for reference substance	_			
3.4	Testing procedure				
3.4.1	Dilution water	Criteri	a	Details	
		Source		Lake Superior	
		Alkalin	ity	39.5 - 45.9 mg/L (CaCO ₃)	
		Hardne:	SS	44 - 52.5 mg/L (CaCO ₃)	

Section A7.4.1.1/01

Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

		pН	7.09 - 7.87
		Oxygen content	6.6 - 6.7 mg/L
		Conductance	No data
		Holding water different from dilution water	No data.
3.4.2	Test organisms	Criteria	Details
		Species/strain	Pimephales promelas (fathead minnow)
		Source	US EPA Environmental Research Laboratory-Duluth
		Wild caught	No
		Age/size	29 - 31 days/ mean length: 17.4 - 20.6 mm; mean weight: 0.08 - 0.11 g
		Kind of food	Before testing: Artemia sp.; during the test fish were not fed
		Amount of food	No data.
		Feeding frequency	No data.
		Pretreatment	Fish were held at 25 °C in flowing water with 16 h light/8 h dark (no further information).
		Feeding of animals during test	No.
3.4.3	Test system	Criteria	Details
		Test type	Flow-through
		Renewal of test solution	flow-rates: 23.6, 36.0, and 72.05 L/d
		Volume of test vessels	1, 5.5, and 6.3 L
		Volume/animal	0.252, 0.22, and 0.05 L/animal
		Number of animals/vessel	20 - 25
		Number of vessels/concentration	5 - 10 (some concentrations were tested in duplicate)
		Test performed in closed vessels due to significant volatility of TS	No
3.4.4	Test conditions	Criteria	Details
		Test temperature	24.4- 24.6 °C
		Dissolved oxygen	6.6 - 6.7 mg/L
		рН	7.09 - 7.87
		*	

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Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

Aeration of dilution water	No data
Intensity of irradiation	No data
Photoperiod	16 h light daily

3.4.5 Duration of the test

3.4.6 Test parameter Mortality and behavior

3.4.7 Sampling

Test exposure chambers were sampled at 0 and 96 h and one of the duplicate exposure chambers at 24, 48, and 72 h. All samples were analysed immediately or adequately preserved for later analysis (no further data given).

3.4.8 Monitoring of TS concentration

Yes. Test exposure chambers were sampled at 0 and 96 h and one of the duplicate exposure chambers at 24, 48, and 72 h. All samples were analysed immediately or adequately preserved for later analysis.

3.4.9 Statistics Estimation of LC₅₀ and EC₅₀ was made by using the "trimmed Spearman-Karber" method (Hamilton et al. (1977) Environ Sci Technol 11, 714-719 and Correction 12, 417 (1978).

RESULTS

4.1 Limit Test

No data

4.1.1 Concentration

4.1.2 Number/ percentage of animals showing

4.1.3 Nature of adverse

effects

adverse effects

4.2 Results test substance

4.2.1 Initial concentrations of test substance

Test 1: 3800, 6300, 10500, 17600, 29300 mg/L

Test 2: 2210, 3670, 6120, 10200, and 1700 mg/L Test 3: 3080, 3760, 5500, 8280, and 13000 mg/L

(all values cited here refer to nominal concentrations)

4.2.2 Actual concentrations of test substance

Actual concentration determined analytically (in mg/L)

Test 1

nominal	3800	6300	10500	17600	29300
effectiv	2620/	4790/	7570/	13400/	21700/
	2810	4790	7720	13700	22500/

Test 2

nominal	2210	3670	6120	10200	17000
effectiv	1260/	2500/	4320/	7720/	14200/
	1300	2590	4580	7760	14400

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Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

Test 3

nominal	3080	3760	5500	8280	13000
effectiv	3090	3760	5500	8280	1300

4.2.3 Effect data (Mortality)

Test 1

Test substance Concentration	Mortality								
(measured)	Number					Percentage			
[mg/L]	24 h	48 h	72 h	96 h	24 h	48 h	72 h	96 h	
<250 (control)	0	0	0	0	0	0	0	0	
2620-2810	0	0	0	0	0	0	0	0	
4790	0	0	0	0	0	0	0	0	
7570-7720	0	1	4	5	0	2	8	10	
13400-13700	50	50	50	50	100	100	100	100	
21700-22500	50	50	50	50	100	100	100	100	
Temp. [°C]				24.4					
pH				7.79					
Oxygen [mg/l]			i.	6.6	1				

Test 2

Test substance Concentration	Mortality							
(measured)	Number					Perc	entage	
[mg/L]	24 h	48 h	72 h	96 h	24 h	48 h	72 h	96 h
0 (control)	0	0	0	0	0	0	0	0
1260-1300	0	0	0	0	0	0	0	0
2500-2590	0	0.	0	0	0	0	0	0
4320-4580	0	0	0	0	0	0	0	0
7720-7760	0	1.	1	1	0	2	2	2
14200-14400	50	50	50	50	100	100	100	100
Temp. [°C]				24.6				
pH				7.09	1			
Oxygen [mg/l]	1			6.7	1			

Test 3

Test substance Concentration	Mortality								
(measured)	Number					Percentage			
[mg/L]	24 h	48 h	72 h	96 h	24 h	48 h	72 h	96 h	
<250 (control)	0	0	0	0	0	0	0	0	
3090	2	2	2	2	10	10	10	10	
3760	1	1	1	1	5	-5	5	5	
5500	5	5	5	5	25	25	25	25	
8280	16	16	16	16	80	80	80	80	
13000	20	20	20	20	100	100	100	100	
Temp. [°C]		144-101		24.6	20 30 763	2006	1,000-0.40	17/55-521	
pH			<u> </u>	7.87					
Oxygen [mg/l]				6.7					

 $96\ h\ L\mathrm{C}_{50}$ values obtained in the three tests

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Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

	48 h [mg/L] ¹	95 % c.l.	96 h [mg/L] ¹	95 % c.l.
LC_0	=	=		(2)
LC_{50}			6550 (m)	5770-7450
			9640 (m)	9230-10000
			10400 (m)	10200-10600
LC ₁₀₀	-	-		:=:

¹ measured (m) concentrations

4.2.4 Concentration / response curve

See effect data for information regarding concentration/ response relationship.

4.2.5 Other effects

In the test 96 h EC_{50} values were determined also (96 h EC_{50} = 6120 - 9540 mg/L). Affected fish lost equilibrium prior to death.

4.3 Results of controls

4.3.1 Number/
percentage of
animals showing
adverse effects

No mortalities occurred in the controls (test substance omitted) in test 1 and 2. In test 3 investigating the behavior one affected fish was observed (corresponding to 5% of control fish) 3 hours after initiating the test. No adverse effects or mortalities occurred in test 3 examinating lethality.

4.3.2 Nature of adverse effects

In test 3 one affected fish was observed in the controls (test substance omitted). The affected fish lost equilibrium prior to death. No other adverse effects were seen.

4.4 Test with reference substance

No data.

- 4.4.1 Concentrations
- 4.4.2 Results

5 APPLICANT'S SUMMARY AND CONCLUSION

5.1 Materials and methods

The test was conducted under flow-through conditions and was similar to OECD Guideline 203 'Fish, Acute toxicity test'.

At total 3 different tests were conducted and using 5 concentrations each and one control. 20 - 25 fish were used per concentration. Partly, the tests were performed in duplicate (before 1 December 1981). Lake Superior water was used as dilution water. The actual concentration of test substance was determined analytically.

5.2 Results and discussion

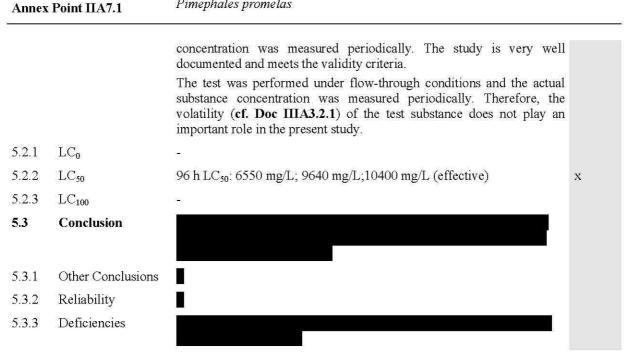
The substance shows a very low acute toxicity towards *Pimephales promelas* (96 h LC_{50} = 6550-10400 mg/L; 96 h EC_{50} = 6120-9540 mg/L).

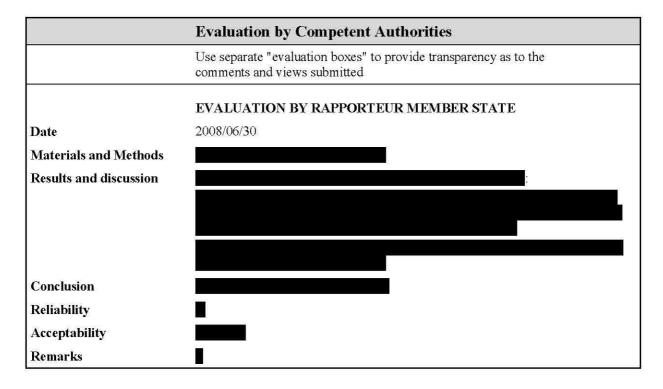
	fulfilled	Not fullfilled
Mortality of control animals <10%	yes	
Concentration of dissolved oxygen in all test vessels > 60% saturation	yes	
Concentration of test substance ≥80% of initial concentration during test	yes	

The acute toxicity towards *Pimephales promelas* was determined in a study conducted similar to OECD Guideline 203. The test was performed under flow-through conditions and the actual substance

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Section A7.4.1.1/01 Acute toxicity to fish Apprex Point II A7.1 Pimephales promelas





Task Force "2-Propanol"	Propan-2-ol	July 2007
RMS: Germany		

	COMMENTS FROM
Date	Give date of comments submitted
Materials and Methods	Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state
Results and discussion	Discuss if deviating from view of rapporteur member state
Conclusion	Discuss if deviating from view of rapporteur member state
Reliability	Discuss if deviating from view of rapporteur member state
Acceptability	Discuss if deviating from view of rapporteur member state
Remarks	

Section A7.4.1.1/02 Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

Official use only 1 REFERENCE 1.1 (1983) Estimating the acute toxicity of Reference narcotic industrial chemicals to fathead minnows. 1.2 Data protection No. 1.2.1 Data owner 1.2.2 Criteria for data No data protection claimed protection 2 **GUIDELINES AND QUALITY ASSURANCE** 2.1 Guideline study No. 2.2 **GLP** 2.3 **Deviations** No information 3 MATERIALS AND METHODS 3.1 Test material Propan-2-ol 3.1.1 Lot/Batch number 3.1.2 Specification 2-Propanol 3.1.3 Purity Purity not stated 3.1.4 Composition of Not applicable. Product 3.1.5 Further relevant properties 3.1.6 Method of analysis UV-spectroscopy or GC/FID 3.2 Preparation of TS Propan-2-ol is indefinitely miscible with water (cf. Doc III A3.5). Based on the measured Henry's Law Constant propan-2-ol is solution for poorly soluble or volatile moderately volatile from aqueous solution (cf. Doc III A3.2.1). test substances The test was conducted under flow-through conditions. 3.3 Reference No information substance 3.3.1 Method of analysis for reference substance 3.4 **Testing procedure** 3.4.1 Dilution water Criteria Details Lake Superior Source Alkalinity 42.2 mg/L as CaCO3 Hardness 56.3 mg/L as CaCO3

Section A7.4.1.1/02

Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

		pН	7.5
		Oxygen content	> 60% of saturation
		Conductance	No data
		Holding water different from dilution water	No
2	Test organisms	Criteria	Details
		Species/strain	Pimephales promelas
		Source	Environmental Research Laboratory- Duluth
		Wild caught	No
		Age/size	30 days old/weight 0.12 g
		Kind of food	No data
		Amount of food	No data
		Feeding frequency	No data
		Pretreatment	No data
		Feeding of animals during test	No
3	Test system	Criteria	Details
		Test type	Flow-through
		Renewal of test solution	No information
		Volume of test vessels	No information
		Volume/animal	No information
		Number of animals/vessel	25
		Number of vessels/concentration	2
		Test performed in closed vessels due to significant volatility of TS	No. However, the test was conducted under flow-through conditions.
1.4	Test conditions	Criteria	Details
		Test temperature	25 ± 1 °C
		Dissolved oxygen	> 60% of saturation
		рН	7.5 (pH of dilution water; pH during the test not stated)
		Adjustment of pH	No data
		Aeration of dilution water	No information
			i
		Intensity of irradiation	No information

Section A7.4.1.1/02 Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

3.4.5 Duration of the test 96 h

3.4.6 Test parameter Mortality

3.4.7 Sampling Dead fish were recorded after 1, 3, 6, 12, 24, 48, 72, and 96 h

3.4.8 Monitoring of TS

concentration

Yes. Concentrations were measured throughout the test.

3.4.9 Statistics The LC₅₀ was calculated using the trimmed Spearman-Karber method

RESULTS

4.1 Limit Test No information

4.1.1 Concentration

4.1.2 Number/ percentage of

animals showing adverse effects

4.1.3 Nature of adverse

effects

4.2 Results test substance

4.2.1 Initial concentrations of test substance

Five concentrations and one control were tested in duplicate (no further information). Test was performed twice.

4.2.2 Actual concentrations of test substance

Concentrations measured throughout the test (no further information provided).

Effect data 4.2.3 (Mortality)

96 h LC₅₀ values based on measured concentrations

	48 h [mg/L]	95 % c.l.	96 h [mg/L]	95 % c.l.
LC_0				
LC ₅₀			9640 and 10000 (measured)	
LC ₁₀₀				

4.2.4 Concentration / No information.

response curve

4.2.5 Other effects No information.

Results of controls No information. 4.3

4.3.1 Number/

percentage of animals showing adverse effects

4.3.2 Nature of adverse

effects

4.4 Test with reference No information

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Acute toxicity to fish

Annex Point IIA7.1

Pimephales promelas

substance

- 4.4.1 Concentrations
- 4.4.2 Results

5 APPLICANT'S SUMMARY AND CONCLUSION

5.1 Materials and methods

The study was conducted according to US EPA (1975) Toxicity tests with aquatic organisms. Twenty-five fish (*Pimephales promelas*) per concentration were exposed to 2-propanol. Six concentrations (incl. control) were tested under flow-through conditions; the tests were conducted in duplicate. Lake Superior water was used as dilution water in all tests. The concentration of the test substance was monitored continuously during the test.

5.2 Results and discussion

	fulfilled	Not fullfilled
Mortality of control animals <10%	No data	
Concentration of dissolved oxygen in all test vessels > 60% saturation	Yes	
Concentration of test substance ≥80% of initial concentration during test	_*	

^{*}concentration of test substance was monitored analytically throughout the test

The study was conducted according to national standard method under flow-through conditions. Some details (e.g. mortality of control animals, concentrations tested) are not reported. However, deviations from the standard procedure and/or special observations during the test are not reported. The concentration of the test substance was measured throughout the test and so the test results refer to effective concentrations. Based on the informations provided it can be assumed that all validity criteria were fulfilled.

X

X

Propan-2-ol showed a very low acute toxicity towards *Pimephales promelas* (96 h LC_{50} =9640 and 10000 mg/L effective).

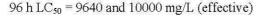
No information on dose-response relationship is available.

The test was performed under flow-through conditions and the actual substance concentration was measured periodically. Therefore the volatility (cf. Doc III A3.2.1) of the test substance does not play an important role in the present study.

- 5.2.1 LC_0
- 5.2.2 LC₅₀
- 5.2.3 LC₁₀₀

5.3 Conclusion

- 5.3.1 Other Conclusions
- 5.3.2 Reliability
- 5.3.3 Deficiencies







Section A7.4.1.1/02 Acute toxicity to fish
Annex Point IIA7.1 Pimephales promelas

	Evaluation by Competent Authorities
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	2008/06/30
Materials and Methods	
Results and discussion	
Conclusion	
Reliability	
Acceptability	
Remarks	
	COMMENTS FROM
Date	Give date of comments submitted
Materials and Methods	Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state
Results and discussion	Discuss if deviating from view of rapporteur member state
Conclusion	Discuss if deviating from view of rapporteur member state
Reliability	Discuss if deviating from view of rapporteur member state
Acceptability	Discuss if deviating from view of rapporteur member state
Remarks	

A7.4.1.1/03 Acute toxicity to fish
Oryzias latipes

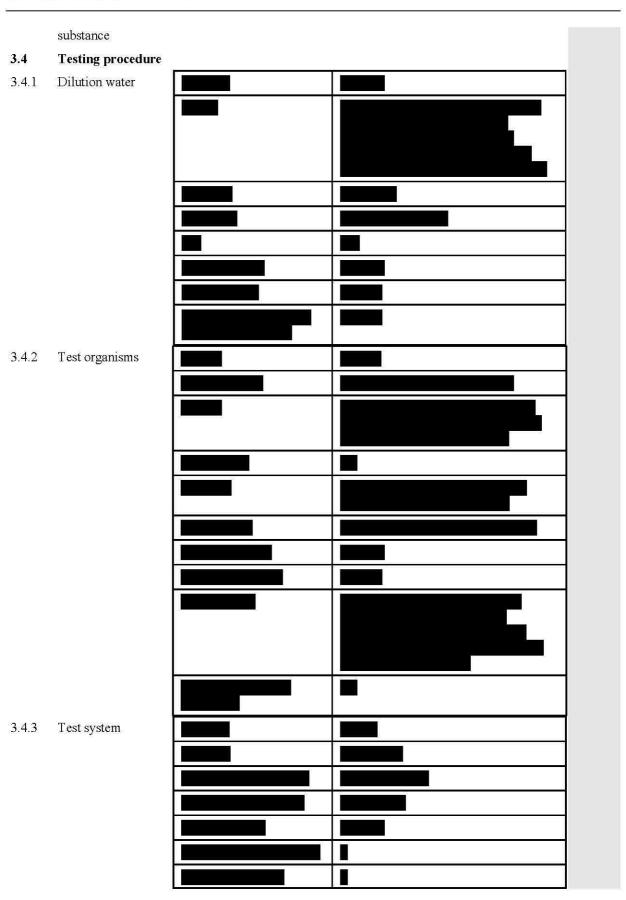
Official use only 1 REFERENCE 1.1 Reference (1998) Final Report, Acute Toxicity Test on Orzias latipes to 2-Propanol. 2007 Chemical Risk Information Platform (CHRIP) Total Search System for Chemical Substances: 2-Propanol; 1.2 Data protection No. 1.2.1 Data owner 1.2.2 Criteria for data No data protection claimed protection 2 **GUIDELINES AND QUALITY ASSURANCE** 2.1 Guideline study Yes. 2.2 GLP 2.3 **Deviations** None 3 MATERIALS AND METHODS 3.1 Test material Propan-2-ol 3.1.1 Lot/Batch number 3.1.2 Specification 2-Propanol 3.1.3 Purity 3.1.4 Composition of Product 3.1.5 Further relevant properties 3.1.6 Method of analysis 3.2 Preparation of TS solution for poorly soluble or volatile test substances 3.3 Yes: copper sulfate pentahydrate Reference substance Method of analysis No data 3.3.1 for reference

A7.4.1.1/03

Acute toxicity to fish

Annex Point IIA7.1

Oryzias latipes

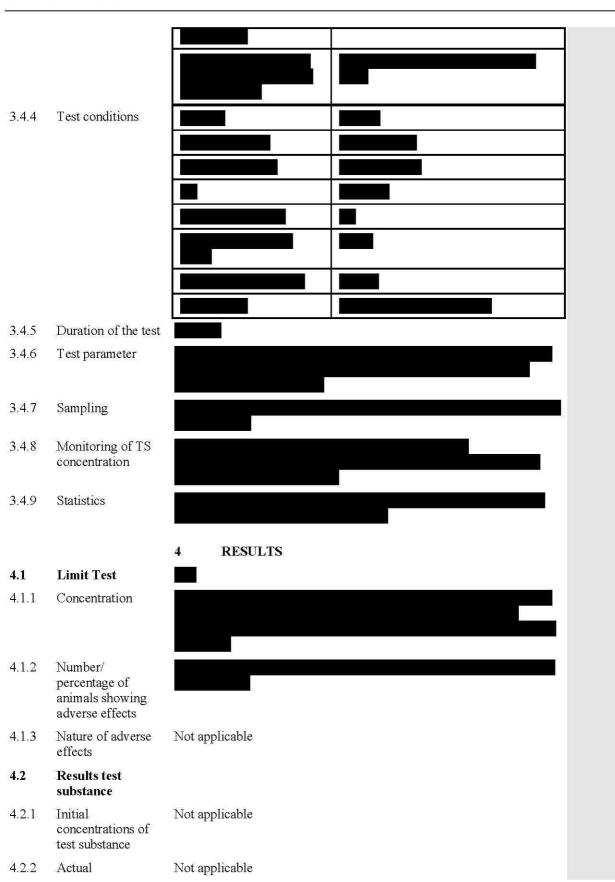


A7.4.1.1/03

Acute toxicity to fish

Annex Point IIA7.1

Oryzias latipes



A7.4.1.1/03 Acute toxicity to fish Oryzias latipes

Annex Point IIA7.1

concentrations of test substance 4.2.3 Effect data Not applicable (Mortality) 4.2.4 Concentration / Not applicable response curve 4.2.5 Other effects Not applicable 4.3 **Results of controls** 4.3.1 Not applicable Number/ percentage of animals showing adverse effects 4.3.2 Nature of adverse Not applicable effects 4.4 Test with Copper sulfate pentahydrate reference substance 4.4.1 Concentrations No data 4.4.2 Results $96 \text{ h LC}_{50} = 0.930 \text{ mg/L}$ 5 APPLICANT'S SUMMARY AND CONCLUSION 5.1 Materials and methods 5.2 Results and discussion 5.2.1 LC_0

5.2.2

5.2.3

5.3

 LC_{50}

 LC_{100}

Conclusion

November 2013

A7.4.1.1/03 Acute toxicity to fish Oryzias latipes Annex Point IIA7.1

Other Conclusions 5.3.1

5.3.2 Reliability 5.3.3 Deficiencies

	Evaluation by Competent Authorities
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	2014/02/12
Materials and Methods	
Results and discussion	
Conclusion	
Reliability	
Acceptability	
Remarks	
	COMMENTS FROM
Date	Give date of comments submitted
Materials and Methods	Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state
Results and discussion	Discuss if deviating from view of rapporteur member state
Conclusion	Discuss if deviating from view of rapporteur member state
Reliability	Discuss if deviating from view of rapporteur member state
Acceptability	Discuss if deviating from view of rapporteur member state
Remarks	

Task Force "2-Propanol" November 2013 Propan-2-ol RMS: Germany

Acute toxicity to invertebrates Section A7.4.1.2/01

Annex Point IIA7.2

Daphnia magna STRAUS

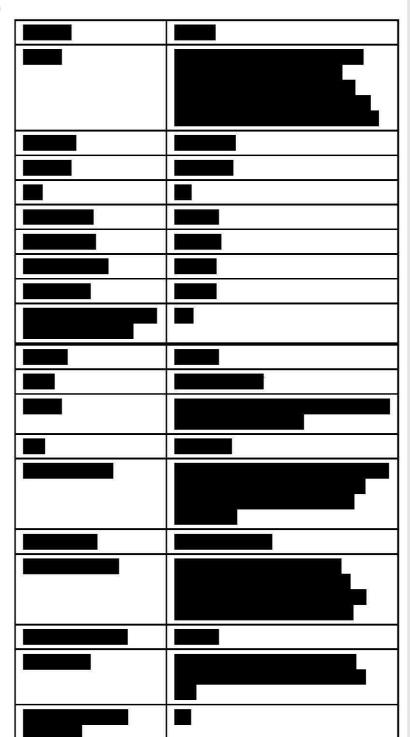
3.3.1 Method of analysis No data for reference substance

3.4 **Testing procedure**

3.4.1 Dilution water

3.4.2

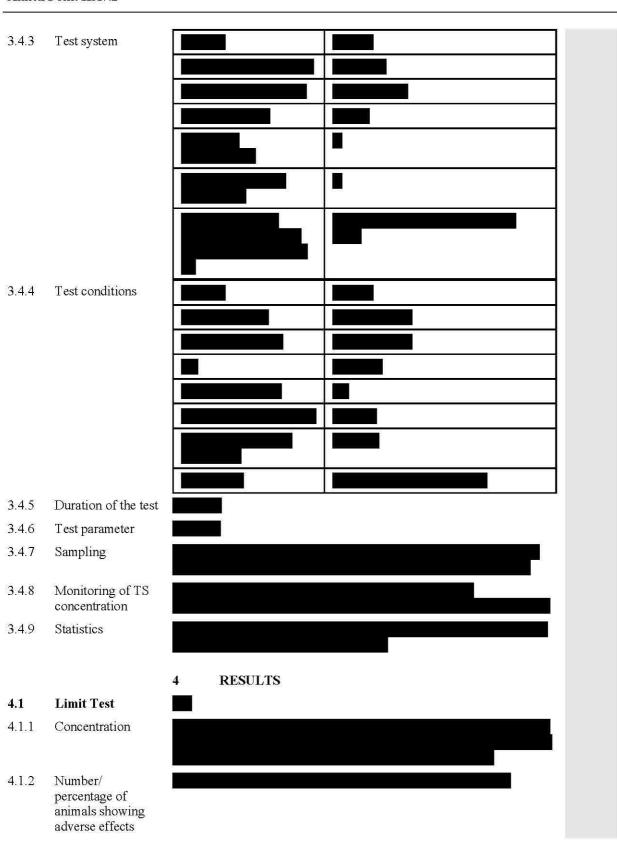
Test organisms



Section A7.4.1.2/01 Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna STRAUS



Section A7.4.1.2/01 Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna STRAUS

4.1.3	Nature of adverse	Not applicable
	effects	men.

4.2 Results test substance

Not applicable

4.2.1 Initial concentrations of test substance

Not applicable

(mg/L) 4.2.2 Actual

concentrations of

Not applicable

test substance 4.2.3

Effect data (Immobilisation) Not applicable

4.2.4 Concentration / response curve

Not applicable

4.2.5 Other effects

No data

4.3

Results of controls No immobilisation during the exposure period was observed.

4.4 Test with reference

Potassium dichromate

substance

Concentrations

No data

4.4.2 Results

4.4.1

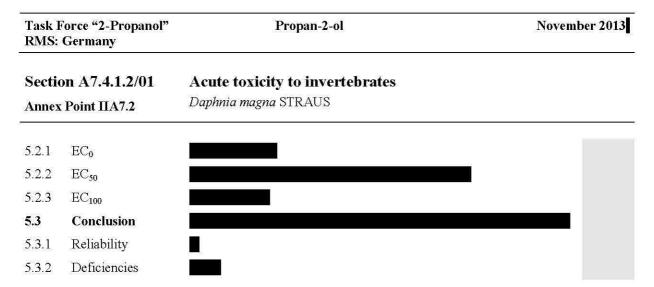
 $48 \text{ h EC}_{50} = 0.141 \text{ mg/L}$

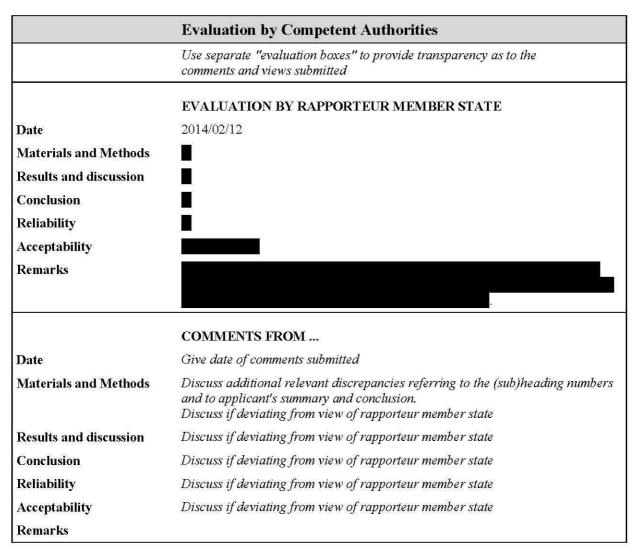
5 APPLICANT'S SUMMARY AND CONCLUSION

5.1 Materials and methods

5.2 Results and discussion







Section A7.4.1.2/02

Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna STRAUS

-				
		1 REFERENCE		
1.1	Reference	Bringmann G, Kuehn R (1977) Befunde der Schadwirkung wassergefährdender Stoffe gegen <i>Daphnia magna</i> . Z Wasser Abwasser-Forsch 10, 161-166 (published)		
		pollutants on Daphnia mag	Bringmann G, Kuehn R (1982) Results of toxic action of water pollutants on <i>Daphnia magna</i> Straus tested by improved standardized procedure. Z Wasser Abwasser-Forsch 15, 1-6 (published)	
1.2	Data protection	No		
1.2.1	Data owner	<u>.</u>		
1.2.2	Criteria for data protection	No data protection claimed		
		2 GUIDELINES AN	D QUALITY ASSURANCE	
2.1	Guideline study		ing to national standard method (German a short-term test, 1982, draft)	
2.2	GLP			
2.3	Deviations	No		
		3 MATERIALS AN	D METHODS	
3.1	Test material	Propan-2-ol		
3.1.1	Lot/Batch number	-		
3.1.2	Specification	Propanol-(2)		
3.1.3	Purity	No data	No data	
3.1.4	Composition of Product	Not applicable		
3.1.5	Further relevant properties	Although the test substance is moderately volatile the test vessels were only loosely covered with filter paper.		
3.1.6	Method of analysis	No analytical monitoring per	No analytical monitoring performed.	
3.2	Preparation of TS solution for poorly soluble or volatile test substances	Propan-2-ol is indefinitely miscible with water (cf. Doc III A3.5). Based on the measured Henry's Law Constant propan-2-ol is moderately volatile from aqueous solution (cf. Doc III A3.2.1). The test vessels were only loosely covered with filter paper. Based on the short exposure period no significant losses due to volatilisation are assumed.		
3.3	Reference substance	No data		
3.3.1	Method of analysis for reference substance	-		
3.4	Testing procedure			
3.4.1	Dilution water	Criteria	Details	
		Source	Artifical fresh water prepared according to DIN 38412 part 11	

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Acute toxicity to invertebrates

Annex Point IIA7.2

3.4.2

Test organisms

Daphnia magna STRAUS

Alkalinity	-
Hardness	=
рН	8.0
Ca / Mg ratio	2.5 mmol/L
Na / K ratio	10:1
Oxygen content	maximum
Conductance	=
Holding water different from dilution water	Yes. Holding water: distilled water; Dilution water: prepared acc. to DIN 38412 part 11
Criteria	Details
Species	Daphnia magna
Strain	IRCHA
Source	Laboratory culture
Age	≤24 h
Breeding method	Continuous culture: daily females were transferred to freshly prepared culture glasses; young animals were separated by sieving (DIN filter: 0.315 mm); culture glasses were covered with watch glasses on white tables; cultures were feed daily with dry food (Mikrozell); of Monday and Friday the tape water of all cultures was renewed and also the culture vessels on Friday; for breeding tape water was used (hardness: 16° d.H pH 7.6 - 7.7); daphnids were cultured at 20 °C; light intensity: E = 2.5 W/m²; photoperiod: 9 h light and 15 h dark.
Kind of food	Dry food 'Mikrozell'
Amount of food	30 g/L tap water were suspended; 10 mL of the suspension were added to the culture glasses
Feeding frequency	Daily
Pretreatment	No
Feeding of animals during test	No
Criteria	Details
Renewal of test solution	No
Volume of test vessels	50 mL

2 mL/animal

3.4.3 Test system

Volume/animal

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RMS: Germany

Section A7.4.1.2/02 Acute toxicity to invertebrates

Daphnia magna STRAUS

Annex	Point IIA7.2	Daphnia magna STRAUS		
		Number of animals/vessel	10	
		Number of vessels/concentration	2	
		Test performed in closed vessels due to significant volatility of TS	No. The test vessels were only loosely covered with filter paper.	
3.4.4	Test conditions	Criteria	Details	
		Test temperature	20 °C	
		Dissolved oxygen	At the beginning: oxygen saturated dilution water; at the end: measurement of oxygen (DO ≥ 2 mg/L)	
		рН	At the beginning: pH 8 of dilution water; after addition of test substance pH not adjusted; at the end: checking whether pH fulfills validity criteria (8.0 ± 0.2)	
		Adjustment of pH	No.	
		Aeration of dilution water	Yes. Till saturation.	
		Quality/Intensity of irradiation	Light intensity: E = 2.5 W/m ²	
		Photoperiod	9 h light/15 h dark	
3.4.5	Duration of the test	24 h		x
3.4.6	Test parameter	Immobilisation		
3.4.7	Sampling	No information		
3.4.8	Monitoring of TS concentration	No		
3.4.9	Statistics	The EC_{50} values were determine results.	nined graphically based on the experimental	
		4 RESULTS		
4.1	Limit Test	No information		
4.1.1	Concentration	-		
4.1.2	Number/ percentage of animals showing adverse effects	-		
4.1.3	Nature of adverse effects	-		
4.2	Results test substance			
4.2.1	Initial concentrations of test substance	No data		

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Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna STRAUS

4.2.2 Actual

concentrations of

test substance

No analytical monitoring.

Effect data 4.2.3 (Immobilisation) EC₅₀, NOEC and EC₁₀₀ values after 24 h

	EC ₅₀	95 % c.l.	EC ₀	EC ₁₀₀
24 h [mg/L]	9714 (n)	35	5102 (n)	>10 000 (n)
48 h [mg/L]				

n-nominal concentrations

4.2.4 Concentration /

No data response curve

4.2.5 Other effects No data

4.3 Results of controls No information

4.4 Test with reference No information

substance

4.4.1 Concentrations

4.4.2 Results

5 APPLICANT'S SUMMARY AND CONCLUSION

5.1 Materials and methods

The study was conducted according to the draft of the German DIN 38412 part 11: Daphnia short-term test (1982). Twenty daphnids ≤ 24 h old were exposed to 2-propanol per concentration step. The test vessels were only loosely covered with filter paper. Based on the short exposure period no significant losses due to volatilisation are assumed. However, analytical monitoring was not performed.

5.2 Results and discussion

Validity criteria	fulfilled	Not fullfilled
Immobilisation of control animals <10%	No data	No data
Control animals not staying at the surface	No data	No data
Concentration of dissolved oxygen in all test vessels >3 mg/l	No data	No data
Concentration of test substance ≥80% of initial concentration during test	No data	No data

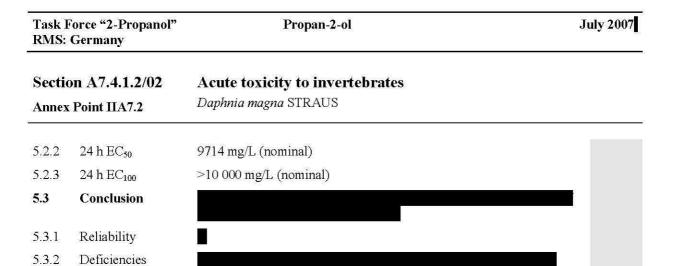
The study was conducted according to national standard method. Deviations from this procedure were not reported. Therefore the validity criteria can be considered as fulfilled.

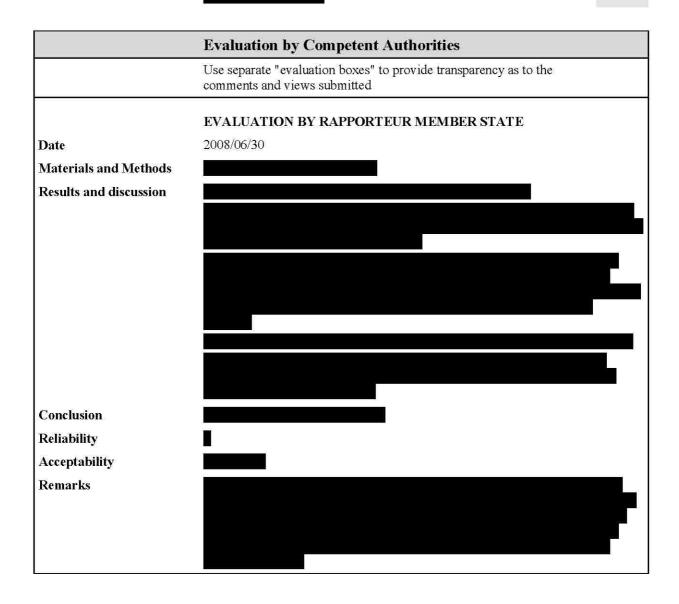
Propan-2-ol was found to be toxic towards Daphnia magna in the static test at a concentration of 9714 mg/L nominal (24 h EC₅₀).

No information on dose-response relationship is available.

Although propan-2-ol shows a moderate volatility from aqueous solution (cf. Doc III A3.2.1) the test vessels were only loosely covered with filter paper. But based on the short exposure period (24 h) no significant losses due to volatilisation are assumed. However, analytical monitoring of test substance concentration was not performed.

5.2.1 24 h EC₀ 5102 mg/L (nominal)





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	COMMENTS FROM
Date	Give date of comments submitted
Materials and Methods	Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state
Results and discussion	Discuss if deviating from view of rapporteur member state
Conclusion	Discuss if deviating from view of rapporteur member state
Reliability	Discuss if deviating from view of rapporteur member state
Acceptability	Discuss if deviating from view of rapporteur member state
Remarks	

Task Force "2-Propanol" Propan-2-ol July 2007
RMS: Germany

Acute toxicity to invertebrates

Section A7.4.1.2/03

Daphnia magna STRAUS

Annex Point IIA7.2

Official use only REFERENCE 1.1 Calleja MC, Personne G, Geladi P (1993) The predictive potential of a Reference battery of ecotoxicological tests for human acute toxicity, as evaluated with the first 50 MEIC chemicals. Altern Lab Anim 21, 330-349 (published) Calleja MC, Personne G, Geladi P (1994) Comparative toxicity of the first 50 multicentre evaluation of in vitro cytotoxicity chemicals to aquatic non-vertebrates. Arch Environ Contam Toxicol 26, 69-78 (published) 1.2 Data protection No 1.2.1 Data owner 1.2.2 Criteria for data No data protection claimed protection 2 GUIDELINES AND QUALITY ASSURANCE 2.1 Guideline study Yes. OECD guideline 202 'Daphnia magna, acute immobilization test and reproduction test' (1984) 2.2 GLP No. 2.3 **Deviations** MATERIALS AND METHODS Propan-2-ol 3.1 Test material 3.1.1 Lot/Batch number 3.1.2 Isopropyl alcohol and isopropanol, respectively Specification Min. 99.7 % 3.1.3 Purity 3.1.4 Composition of Not applicable Product 3.1.5 Further relevant Due to the volatility of the substance glass vials capped with polyethylene were used in the test. The vials were filled to the brim and properties covered tightly, thus avoiding any air-space. 3.1.6 Method of analysis No analytical monitoring. 3.2 Propan-2-ol is indefinitely miscible with water (cf. Doc III A3.5). Preparation of TS Based on the measured Henry's Law Constant propan-2-ol is solution for poorly soluble or volatile moderately volatile from aqueous solution (cf. Doc III A3.2.1). Therefore, glass vials capped with polyethylene were used in the test. test substances The vials were filled to the brim and covered tightly, thus avoiding any air-space. 3.3 Reference No substance 3.3.1 Method of analysis for reference substance

Acute toxicity to invertebrates

Section A7.4.1.2/03

Daphnia magna STRAUS

Annex Point IIA7.2

3.4 Testing procedure

Dilution water

Criteria	Details
Source	No information
Alkalinity	No information
Hardness	No information
pН	No information
Ca / Mg ratio	No information
Na / K ratio	No information
Oxygen content	No information
Conductance	No information
Holding water different from dilution water	No information
Criteria	Details
Species	Daphnia magna

3.4.2 Test organisms

from dilution water	No information
Criteria	Details
Species	Daphnia magna
Strain	No informmation
Source	No information
Age	No information
Breeding method	No information
Kind of food	No information
Amount of food	No information
Feeding frequency	No information
Pretreatment	No information
Feeding of animals during test	No information
Criteria	Details
Renewal of test solution	No
Volume of test vessels	No information
Volume/animal	No information
Number of animals/vessel	No information
Number of vessels/concentration	≥ 3
Test performed in closed vessels due to significant volatility of TS	Yes. Due to the volatility of the substance glass vials capped with polyethylene were used in the test. The vials were filled to the brim and covered tightly, thus avoiding any air-space.

3.4.3 Test system

X

Acute toxicity to invertebrates

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Daphnia magna STRAUS

Annex Point IIA7.2

3.4.4 Test conditions

Criteria	Details
Test temperature	No information
Dissolved oxygen	No information
рН	No information
Adjustment of pH	No information
Aeration of dilution water	No information
Quality/Intensity of irradiation	No information
Photoperiod	No information

3.4.5 Duration of the test 24 hours

3.4.6 Test parameter Immobilisation

3.4.7 Sampling No information

3.4.8 Monitoring of TS concentration

No.

3.4.9 Statistics

EC₅₀ values and the corresponding 95% confidence limits were calculated using the Trimmed Spearman-Karber method (Hamilton et al. 1977)

RESULTS

4.1 Limit Test

4.1.2

No information

4.1.1 Concentration

Number/

percentage of animals showing adverse effects

4.1.3 Nature of adverse

effects

4.2 Results test

4.2.1 Initial

4.2.2

No information

concentrations of

substance

test substance

Actual Not measured.

concentrations of

test substance

Effect data 4.2.3 (Immobilisation) EC₅₀ values of the two tests performed:

	EC ₅₀ [mg/L]	95 % c.l.	EC ₀	EC ₁₀₀
Test 1, 24 h	9307 (n)	I=	:=3	===
Test 2, 24 h	9554 (n)	π =	-	===

n: nominal

Acute toxicity to invertebrates

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Daphnia magna STRAUS

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Concentration / response curve	Not available
Other effects	No information
Results of controls	No information
Test with reference	No information
	response curve Other effects Results of controls Test with

4.4.1 Concentrations

4.4.2 Results

substance

5 APPLICANT'S SUMMARY AND CONCLUSION

5.1 Materials and methods

The study was conducted according to OECD guideline 202 'Daphnia magna, acute immobilization test and reproduction test' (1984). Due to the volatility of the substance glass vials capped with polyethylene were used in the test. The vials were filled to the brim and covered tightly, thus avoiding any air-space. At least three replicates were conducted. Further details are not reported in the publication.

5.2 Results and discussion

Validity criteria	fulfilled	Not fullfilled
Immobilisation of control animals <10%	No data	No data
Control animals not staying at the surface	No data	No data
Concentration of dissolved oxygen in all test vessels >3 mg/l	No data	No data
Concentration of test substance ≥80% of initial concentration during test	No data	No data

Details of the test performance are not reported. Deviations from guideline were not stated. Even though the information is very limited it can be assumed that the validity criteria were fulfilled.

Propan-2-ol was found to be toxic towards *Daphnia magna* in the static test in the range between 9300 to 9550 mg/L (24 h EC_{50}).

No data for the dose-response relationship are available.

Due to the moderate volatility (cf. Doc III A3.2.1) of the substance glass vials capped with polyethylene were used in the test. The vials were filled to the brim and covered tightly, thus avoiding any air-space. Due to this fact significant changes of test substance concentrations during the test duration (24 h) are not to be expected. Analytical monitoring of test substance concentration was not performed. Due to the test design and short exposure time analytical monitoring seems not necessary.

 $5.2.1 EC_0$ -

5.2.2 24 h EC₅₀ 9307 - 9554 mg/L (24 h immobilisation test)

5.2.3 EC₁₀₀

Doc. III-A – Study Summaries Active Substance

5.3 Conclusion

5.3.1 Reliability

5.3.2 Deficiencies

X

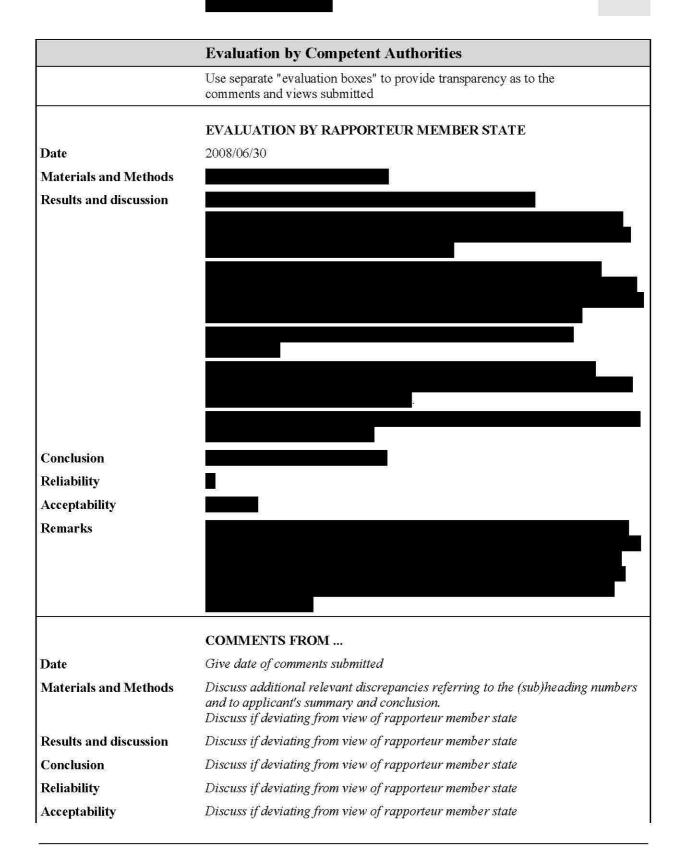
Task Force "2-Propanol"	Propan-2-ol	July 2007
RMS: Germany	SAMPLE AND STATE OF THE STATE O	

Acute toxicity to invertebrates

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Annex Point IIA7.2

Daphnia magna STRAUS



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Section A7.4.1.2/03	Acute toxicity to invertebrates Daphnia magna STRAUS	
Annex Point IIA7.2		

Remarks

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Section A7.4.1.2/04 Acute toxicity to invertebrates

Annex Point IIA7.2 Crangon crangon

Annex	Point IIA/.2				
		1 REFERENCE		Official use only	
1.1	Reference	Blackman RAA (1974) Toxi 5, 116-118 (published)	city of oil-sinking agents. Mar Pollut Bull		
1.2	Data protection	No	No		
1.2.1	Data owner	12			
1.2.2	Criteria for data protection	No data protection claimed			
		2 GUIDELINES AN	D QUALITY ASSURANCE		
2.1	Guideline study		I according to the method described by The toxicity of several oil-spill removers to llfish. Mar Biol 1, 322-329.		
2.2	GLP				
2.3	Deviations	Yes. In contrast to the toxicity test of Portmann & Connor the test solution was renewed every 6, 12, or 24 h depending on the volatility of the test substance.			
		3 MATERIALS ANI	O METHODS		
3.1	Test material	Propan-2-ol	Propan-2-ol		
3.1.1	Lot/Batch number	-			
3.1.2	Specification	Isopropyl alcohol			
3.1.3	Purity	Purity not stated			
3.1.4	Composition of Product	Not applicable			
3.1.5	Further relevant properties				
3.1.6	Method of analysis	No analytical monitoring			
3.2	Preparation of TS solution for poorly soluble or volatile	Based on the measured Henry	iscible with water (cf. Doc III A3.5). y's Law Constant propan-2-ol is leous solution (cf. Doc III A3.2.1).		
	test substances	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance.			
3.3	Reference substance	No information	No information		
3.3.1	Method of analysis for reference substance	-			
3.4	Testing procedure				
Dilutio	n water	Criteria	Details		
		Source	No information		
		Alkalinity	No information		
		Hardness	No information		

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Annex Point IIA7.2

Crangon crangon

		рН	No information
		Ca / Mg ratio	No information
		Na / K ratio	No information
		Oxygen content	No information
		Conductance	No information
		Holding water different from dilution water	No information
3.4.2	Test organisms	Criteria	Details
		Species	Crangon crangon
		Strain	No information
		Source	No information
		Age	No information
		Breeding method	No information
		Kind of food	No information
		Amount of food	No information
		Feeding frequency	No information
		Pretreatment	No information
		Feeding of animals during test	No information
3.4.3	Test system	Criteria	Details
3.4.3	Test system	Criteria Renewal of test solution	Details Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance
3.4.3	Test system		Test concentrations were renewed every 6, 12, or 24 h depending on the volat-
3,4.3	Test system	Renewal of test solution	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance
3.4.3	Test system	Renewal of test solution Volume of test vessels	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information
3.4.3	Test system	Renewal of test solution Volume of test vessels Volume/animal	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information
3.4.3	Test system	Renewal of test solution Volume of test vessels Volume/animal Number of animals/vessel Number of vessels/	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information 20
3.4.4	Test system Test conditions	Renewal of test solution Volume of test vessels Volume/animal Number of animals/vessel Number of vessels/ concentration Test performed in closed vessels due to significant	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information 20 No information No. However, test concentrations were renewed every 6, 12, or 24 h depending
		Renewal of test solution Volume of test vessels Volume/animal Number of animals/vessel Number of vessels/ concentration Test performed in closed vessels due to significant volatility of TS	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information 20 No information No. However, test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance.
		Renewal of test solution Volume of test vessels Volume/animal Number of animals/vessel Number of vessels/ concentration Test performed in closed vessels due to significant volatility of TS Criteria	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information 20 No information No. However, test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance. Details
		Renewal of test solution Volume of test vessels Volume/animal Number of animals/vessel Number of vessels/ concentration Test performed in closed vessels due to significant volatility of TS Criteria Test temperature	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information 20 No information No. However, test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance. Details No information
		Renewal of test solution Volume of test vessels Volume/animal Number of animals/vessel Number of vessels/ concentration Test performed in closed vessels due to significant volatility of TS Criteria Test temperature Dissolved oxygen	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information No. However, test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance. Details No information No information
		Renewal of test solution Volume of test vessels Volume/animal Number of animals/vessel Number of vessels/ concentration Test performed in closed vessels due to significant volatility of TS Criteria Test temperature Dissolved oxygen pH	Test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance No information No information No information No. However, test concentrations were renewed every 6, 12, or 24 h depending on the volatility of the test substance. Details No information No information No information No information

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Task Force "2-Propanol" **RMS:** Germany

Propan-2-ol

July 2007

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Acute toxicity to invertebrates

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Crangon crangon

mortality

No

Quality/Intensity of irradiation	No information
Photoperiod	No information

3.4.5 Duration of the test 96 h

3.4.6 Test parameter

3.4.7 Sampling No information

3.4.8 Monitoring of TS

concentration

3.4.9 Statistics Results were plotted, and 48 h and 96 h values calculated using the method of Litchfield (1949). The ranges given are those from the extreme curves fitted to the upper and lower 95% confidence limits of the plotted values for the estimated time to reach 50% mortality. The curves were fitted by eye.

RESULTS

4.1 Limit Test

No information

4.1.1 Concentration

4.1.2 Number/

percentage of animals showing adverse effects

4.1.3 Nature of adverse effects

4.2 Results test substance

4.2.1 Initial

> concentrations of test substance

Not stated

4.2.2 Actual

> concentrations of test substance

No analytical monitoring performed

4.2.3 Effect data (Immobilisation) Data presented below were converted from those given as ppm (v/v) in the report.

48 and 96 h LC₅₀ (including 95 % c.l.)

	LC50	95 % c.l.	LC ₀	LC ₁₀₀
48 h [mg/L]	1100 (n)	700 - 1530	=	₩.
96 h [mg/L]	900 (n)	590 - 1300	=	==

n: nominal concentrations

4.2.4 Concentration / response curve

Not available

4.2.5 Other effects No information

4.3

Results of controls Results of the controls were taken into account. No further data provided.

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Acute toxicity to invertebrates

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Crangon crangon

4.4 Test with reference

4.4.2

No information

4.4.1 Concentrations Results

substance

APPLICANT'S SUMMARY AND CONCLUSION

5.1 Materials and methods

The study was conducted according to Portmann & Connor (1968) The toxicity of several oil-spill removers to some species of fish and shellfish. Mar Biol 1, 322-329. Solvents used in the toxicity test were renewed every 6, 12, or 24 h depending on the volatility of the test substance. 20 animals per exposure tank were used. No further information provided.

5.2 Results and discussion

Validity criteria	fulfilled	Not fullfilled
Immobilisation of control animals <10%	No data	No data
Control animals not staying at the surface	No data	No data
Concentration of dissolved oxygen in all test vessels >3 mg/l	No data	No data
Concentration of test substance ≥80% of initial concentration during test	No data	No data

The documentation is insufficient and therefore the study is regarded as

Propan-2-ol was found to be toxic towards Crangon crangon in the static test at propan-2-ol concentrations of 1100 (48 h LC₅₀) and 900 mg/L (96 h LC₅₀).

No data for the dose-response relationship are available.

The influence of the moderate volatility (cf. Doc IIIA3.2.1) of the substance is assumed to be negligible due to the semi-static test conditions.

- 5.2.1 LC_0
- 5.2.2 LC_{50} 48 h: 1100 mg/L nominal (reported in the report as 1400 ppm v/v)

96 h: 900 mg/L nominal (reported in the report as 1150 ppm v/v)

- 5.2.3 LC_{100}
- 5.3 Conclusion
- 5.3.1 Reliability
- 5.3.2 Deficiencies



Evaluation by Competent Authorities

Use separate "evaluation boxes" to provide transparency as to the comments and views submitted

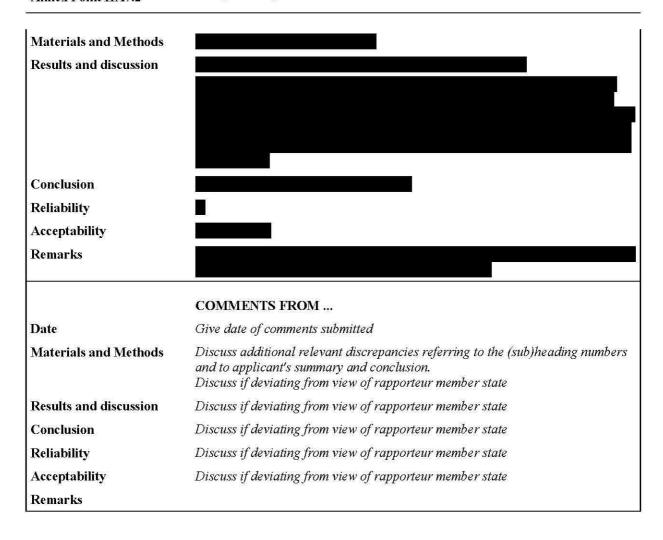
EVALUATION BY RAPPORTEUR MEMBER STATE

Date

X

Section A7.4.1.2/04 Acute toxicity to invertebrates

Annex Point IIA7.2 Crangon crangon



Section A7.4.1.2 Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna

Official use only 1 REFERENCE 1.1 Lilius H, Isomaa B, Holmstrom T (1994) A comparison of 50 reference Reference chemicals to freshly isolated rainbow trout hepatocytes and Daphnia magna. Aquat Toxicol 30, 47-60 (published) Lilius H, Hästabacka T, Isomaa B (1995) A comparison of the toxicity of 30 reference chemicals to Daphnia magna and Daphnia pulex. Environ Toxicol Chem 14, 2085-2088 (published) 1.2 Data protection No 1.2.1 Data owner 1.2.2 Criteria for data No data protection claimed protection 2 GUIDELINES AND QUALITY ASSURANCE 2.1 Guideline study Yes. OECD guideline 202 'Daphnia sp., acute immobilisation test and reproduction test' (1993) GLP 2.2 2.3 **Deviations** Yes. The toxicity tests were performed in 100-mL polpropylene vessels, with 50 mL liquid in each. Twenty neonates (<24 h) were introduced inti vessels containing different concentrations of the test chemical, and the vessels were closed with polyethylene caps. 3 MATERIALS AND METHODS 3.1 Test material Isopropyl alcohol 3.1.1 Lot/Batch number 3.1.2 Specification 3.1.3 Purity Reagent grade 3.1.4 Composition of Product 3.1.5 Further relevant The tests were conducted in test vessels filled to the half and capped with polyethylene to prevent volatilization properties 3.1.6 Method of analysis No analytical monitoring Propan-2-ol is indefinitely miscible with water (cf. Doc III A3.5). 3.2 Preparation of TS Based on the measured Henry's Law Constant propan-2-ol is solution for poorly moderately volatile from aqueous solution (cf. Doc III A3.2.1). soluble or volatile test substances Test performed in half filled vessels capped with polyethylene to prevent volatilisation. 3.3 Reference No information substance 3.3.1 Method of analysis No analytical monitoring for reference substance 3.4 **Testing procedure** 3.4.1 Dilution water Criteria **Details**

Section A7.4.1.2

Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna

		Source	SRW according to OECD 1980/1993
		Alkalinity	=
		Hardness	=
		рН	7.6
		Ca / Mg ratio	-
		Na / K ratio	G.
		Oxygen content	_
		Conductance	_
		Holding water different from dilution water	Yes. M4 media according to Elendt and Bias (1990)
3.4.2	Test organisms	Criteria	Details
		Species	Daphnia magna
		Strain	No information
		Source	Department of Biology, Uuniversity of Turku
		Age	<24 h
		Breeding method	Breedin in M4 media, 12:12 h light/dark cycle, breeding temperature 20 +/-2°C
		Kind of food	Scendesmus sp.
		Amount of food	-
		Feeding frequency	Every second or third day
		Pretreatment	No information
		Feeding of animals during test	No
.4.3	Test system	Criteria	Details
		Renewal of test solution	No
		Volume of test vessels	100 mL
		Volume/animal	2.5 mL/animal
		Number of animals/vessel	20
		Number of vessels/concentration	≥3
		Test performed in closed vessels due to significant volatility of TS	Yes. Test performed in half filled vessels capped with polyethylene to prevent/minimize volatilisation
.4.4	Test conditions	Criteria	Details
		Test temperature	21 ±1 °C
		Dissolved oxygen	No information

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Daphnia magna

рН	No information
Adjustment of pH	No information
Aeration of dilution water	No
Quality/Intensity of irradiation	No information
Photoperiod	Photoperiod: 12 h dark 12 h light

3.4.5 Duration of the test 24 h

3.4.6 Test parameter

Immobility

3.4.7 Sampling

3.4.8

Monitoring of TS concentration

No

3.4.9 Statistics EC₅₀ values were calculated using regression analysis after linearisation of dose/response curves by logarithmic transformation of the

concentration

RESULTS

4.1 No information **Limit Test**

4.1.1 Concentration

4.1.2 Number/ percentage of animals showing adverse effects

Nature of adverse 4.1.3 effects

4.2 Results test substance

4.2.1 Initial

No information

concentrations of

test substance

4.2.2 Actual concentrations of test substance

Concentrations refer to nominal concentration

4.2.3 Effect data (Immobilisation) 24 h EC₅₀

	EC ₅₀	95 % c.l.	EC ₀	EC ₁₀₀
24 h [mg/L]	6850 (n)	3	=	===
48 h [mg/L]	-	72	=	-

n: nominal

4.2.4 Concentration / response curve

No information

4.2.5 Other effects No information

4.3 Results of controls No information

Х

Section A7.4.1.2 Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna

4.4 Test with reference substance

4.4.2

No information

- 4.4.1 Concentrations
- Results

APPLICANT'S SUMMARY AND CONCLUSION

5.1 Materials and methods

Yes. OECD guideline 202 'Daphnia sp., acute immobilisation test and reproduction test' (1993).

Deviations from guideline: The toxicity tests were performed in 100-mL polpropylene vessels, with 50 mL liquid in each. Twenty neonates (<24 h) were introduced inti vessels containing different concentrations of the test chemical, and the vessels were closed with polyethylene cap.

5.2 Results and discussion

Validity criteria	fulfilled	Not fulfilled
Immobilisation of control animals <10%	No data	No data
Control animals not staying at the surface	No data	No data
Concentration of dissolved oxygen in all test vessels >3 mg/l	No data	No data
Concentration of test substance ≥80% of initial concentration during test	No data	No data

The study was conducted according to OECD guideline 202. Deviations from guideline test design were noted. Further deviations were not reported and therefore it can be assumed that the validity criteria were fulfilled.

Propan-2-ol was found to be toxic towards Daphnia magna in the static test at a concentration of 6850 mg/L nominal (24 h EC₅₀).

No information is available on the dose-response relationship.

The tests were conducted in test vessels filled to the half and capped with polyethylene to prevent/minimize volatilization.

- 5.2.1 EC_0
- 5.2.2 24h EC₅₀
- 5.2.3 EC_{100}

- 6850 mg/L (nominal)
- 5.3 Conclusion
- 5.3.1 Reliability
- Deficiencies 5.3.2



Evaluation by Competent Authorities Use separate "evaluation boxes" to provide transparency as to the comments and views submitted EVALUATION BY RAPPORTEUR MEMBER STATE Date 2008/06/30 **Materials and Methods** Results and discussion Conclusion Reliability Acceptability Remarks COMMENTS FROM ... Date Give date of comments submitted **Materials and Methods** Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state Results and discussion Discuss if deviating from view of rapporteur member state Conclusion Discuss if deviating from view of rapporteur member state Reliability Discuss if deviating from view of rapporteur member state Acceptability Discuss if deviating from view of rapporteur member state Remarks

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Section 7.4.1.2/06

Acute toxicity to invertebrates

Annex Point IIA7.2

Daphnia magna STRAUS

Official use only REFERENCE

1.1 Reference

1.2.1

Hermens J, Canton H, Janssen P, De Jong R (1984) Quantitative structure activity relationship and mixture toxicity studies of chemicals with anaesthetic potency: acute lethal and sublethal toxicity to Daphnia magna. Aquat Toxicol 5, 143-154 (published)

- 1.2 Data protection Data owner
- No

1

- 1.2.2 Criteria for data protection
- No data protection claimed

2 GUIDELINES AND QUALITY ASSURANCE

2.1 **Guideline study**

No. But the study was conducted according to the Dutch standard method NEN 6501 'Determination of the acute toxicity with Daphnia magna' Dutch Standard Organization, Delft (1980).

- 2.2 GLP
- 2.3 Deviations

The test duration was 48 h.

METHOD

- 3.1 Test material
- 3.1.1 Lot/Batch number
- 3.1.2 Specification Propanol-2
- 3.1.3 Purity 3.1.4 Composition of

Product

Purity not stated Not applicable

Propan-2-ol

3.1.5 Further relevant

properties

3.1.6 Method of analysis

GC/FID (column: 10% Carbowax 20 M)

3.2 Preparation of TS solution for poorly soluble or volatile test substances

Propan-2-ol is indefinitely miscible with water (cf. Doc III A3.5). Based on the measured Henry's Law Constant propan-2-ol is moderately volatile from aqueous solution (cf. Doc III A3.2.1).

3.3 Reference substance

No data

3.3.1 Method of analysis

for reference substance

3.4 **Testing procedure**

3.4.1 Dilution water

Criteria	Details
Source	Dutch Standard Water according to Canton and Sloof (1982) Toxicity and

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Section 7.4.1.2/06 Annex Point IIA7.2

Acute toxicity to invertebrates

Daphnia magna STRAUS

	accumulation studies of Cd (Cd ²⁺) with freshwater organisms of different trophic levels. Ecotoxicol Environ Safe 6, 113-128
Salinity	No data
Hardness	ca. 1 mmol/L
pН	No data
Ca / Mg ratio	No data
Na / K ratio	No data
Oxygen content	No data
Conductance	No data
TOC	No data
Holding water different from dilution water	No data
Criteria	Details
Species	Daphnia magna
Strain / Clone	Not stated
Source	No data
Age	<2 d
Breeding method	No data
Kind of food	none
Amount of food	No data
Feeding frequency	No data
hader trail of trail	XT 1-1-1
Pretreatment	No data

3.4.3 Handling of

3.4.2

Test organisms

offspring
3.4.4 Test system

Not reported

test

Feeding of animals during

Criteria	Details
Test type	Static
Renewal of test solution	no
Volume of test vessels	1L
Volume/animal	40 mL/animal
Number of animals/vessel	25
Number of vessels/concentration	2

No data

Dezember 2008

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Acute toxicity to invertebrates

Daphnia magna STRAUS

3.4.5 Test conditions

Test performed in closed vessels due to significant volatility of TS	No data
Criteria	Details
Test temperature	22 ± 1 °C
Dissolved oxygen	No data
pН	No data
Adjustment of pH	No data
Aeration of dilution water	No data
Quality/Intensity of irradiation	No data
Photoperiod	No data

- Duration of the test 3.4.6
 - 48 h
- 3.4.7 Test parameter
- Immobility
- 3.4.8 Examination / Sampling

Not explicitely mentioned. Test procedure is described in the NEN report 6501.

- 3.4.9 Monitoring of TS concentration
- Yes. Effect values are based on nominal quantities.
- 3.4.10 Statistics

Estimation of IC50 values by logit transformation according to Brown (1978)

RESULTS

4.1 Range finding test No data

- 4.1.1
 - Concentrations
- 4.1.2 Number/

percentage of animals showing adverse effects

4.1.3 Nature of adverse

effects

4.2 Results test

substance

No data

4.2.1 Initial concentrations of

test substance

4.2.2 Actual

> concentrations of test substance

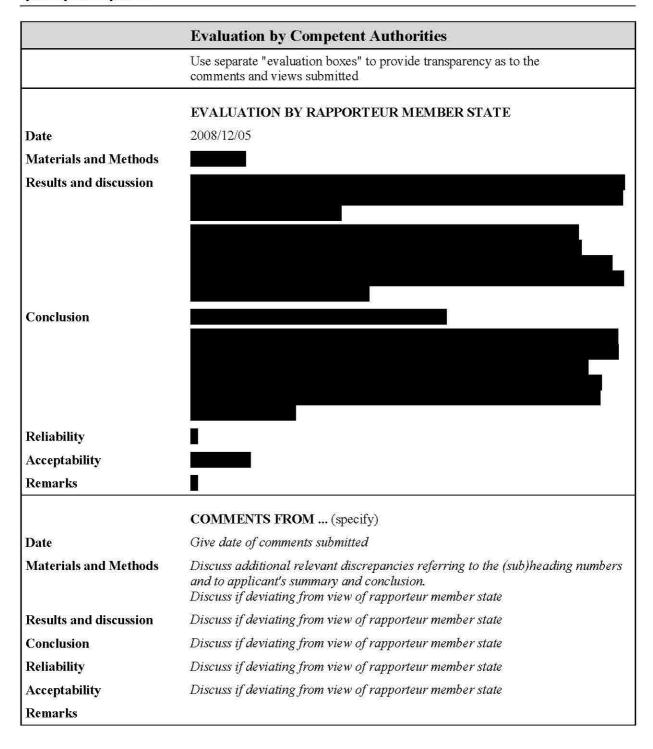
Actual concentrations were determined during the test by gaschromatographic analysis (no further information)

4.2.3 Effect data

 $48 \text{ d IC}_{50} = 2285 \text{ mg/L}$ No further information This document has been prepared by the competent authority and does not necessarily represent the participant's opinion.

Section 7.4.1.2/06 Annex Point IIA7.2		Acute toxicity to invertebrates Daphnia magna STRAUS
4.2.4	Concentration / response curve	Not available
4.2.5	Other effects	No data
4.3	Results of controls	No data
4.4	Test with reference substance	No data
4.4.1	Concentrations	-
4.4.2	Results	-
		5 APPLICANT'S SUMMARY AND CONCLUSION
5.1	Materials and methods	The study was conducted according to the Dutch standard method NEN 6501 (1980).
		The test was performed in 1 L flasks and 25 daphnids (tests conducted in duplicate: 50 daphnids per concentration). Actual concentration of the test substance was measured analytically. No further information is given.
5.2	Results and discussion	In the acute study with $Daphnia\ magna\ a\ 48\ h\ IC_{50}=2285\ mg/L\ (4.58\ \mu mol/L)$ was determined in respect to immobilisation. No information is provided about the mortality of parent animals at test termination.
		The study was conducted according to a national standard method.
		No information on dose-response relationship is given.
		Based on the experimentally determined Henry's Law constant (cf. Doc III A3.2.1) a moderate volatilisation from aqueous solution is to be expected.
5.2.1	NOEC	
5.2.2	LOEC	
5.2.3	$\mathrm{EC}_{50}\left(\mathrm{EC}_{x}\right)$	$48 \text{ h IC}_{50} = 2285 \text{ mg/L}$
5.3	Conclusion	
£ 0.1	Daliah ili	
5.3.1	Reliability	
5.3.2	Deficiencies	

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Section A7.4.1.3/01 Growth inhibition test on algae

Annex Point IIA7.3 Selenastrum capricornutum

Official use only 1 REFERENCE 1.1 Reference (1998) Final Report, Growth Inhibition Test Using Selenastrum capricornutum to 2-Propanol. 2007 Chemical Risk Information Platform (CHRIP) Total Search System for Chemical Substances: 2-Propanol; 1.2 Data protection No 1.2.1 Data owner 1.2.2 Criteria for data No data protection claimed protection 2 GUIDELINES AND QUALITY ASSURANCE 2.1 Guideline study Yes. 2.2 GLP 2.3 **Deviations** None MATERIALS AND METHODS Propan-2-ol 3.1 Test material 3.1.1 Lot/Batch number 3.1.2 Specification 3.1.3 Purity 3.1.4 Composition of Product 3.1.5 Further relevant properties 3.1.6 Method of analysis 3.2 Preparation of TS solution for poorly soluble or volatile test substances 3.3 Potassium dichromate Reference substance Method of analysis No data 3.3.1 for reference

Task Force "2-Propanol" RMS: Germany

Propan-2-ol

November 2013

Section A7.4.1.3/01

Growth inhibition test on algae

Annex Point IIA7.3

Selenastrum capricornutum

