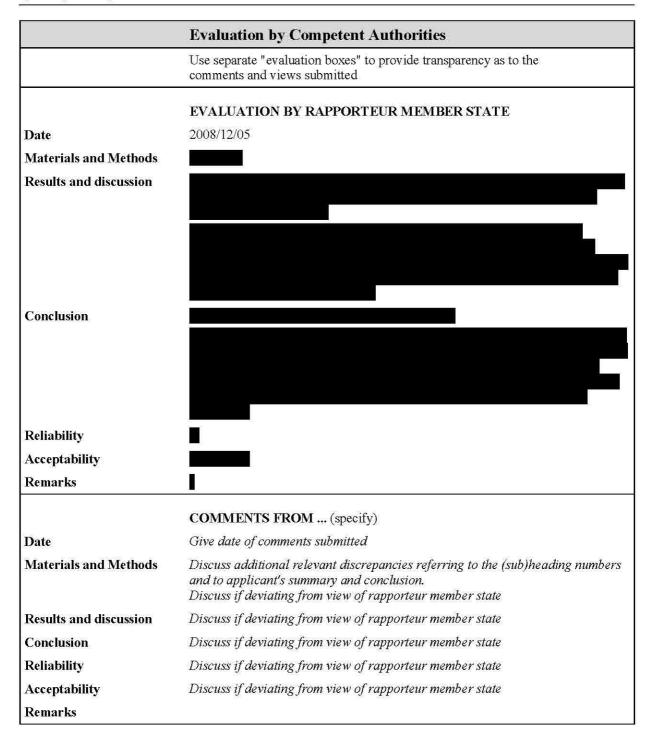
This document has been prepared by the competent authority and does not necessarily represent the participant's opinion.



# 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

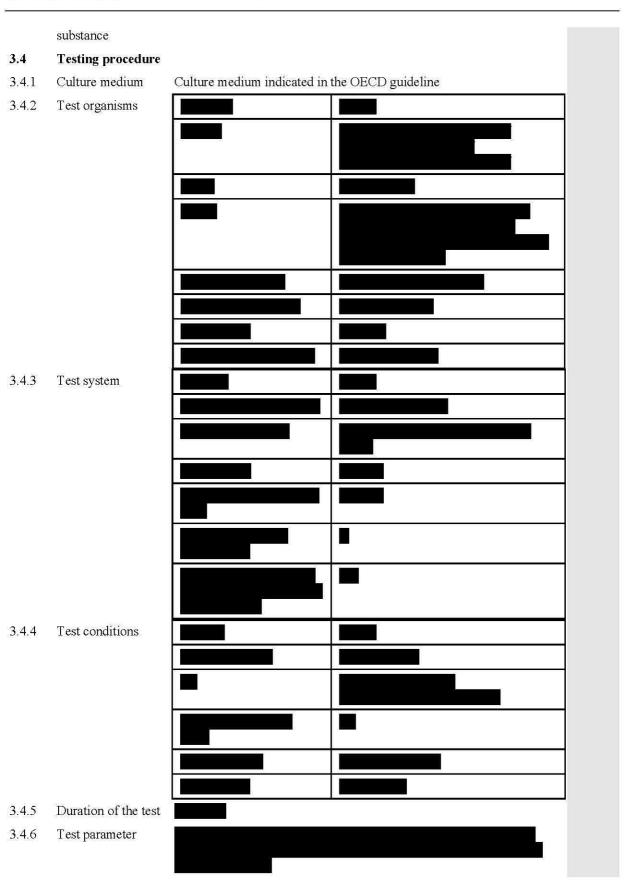
November 2013

Section A7.4.1.3/01

Growth inhibition test on algae

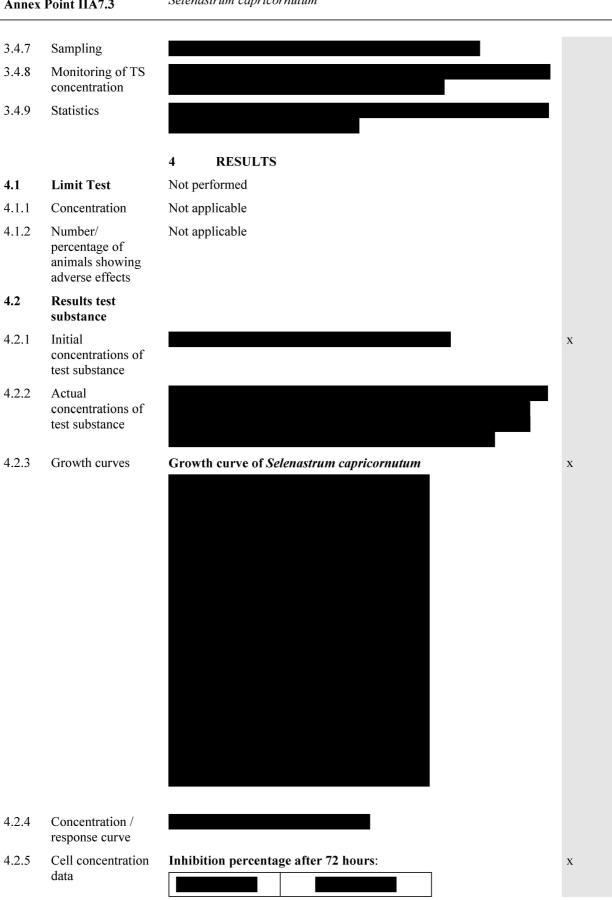
Annex Point IIA7.3

Selenastrum capricornutum



#### Section A7.4.1.3/01 Growth inhibition test on algae

Selenastrum capricornutum **Annex Point IIA7.3** 



Task Force "2-Propanol" RMS: Germany

Propan-2-ol

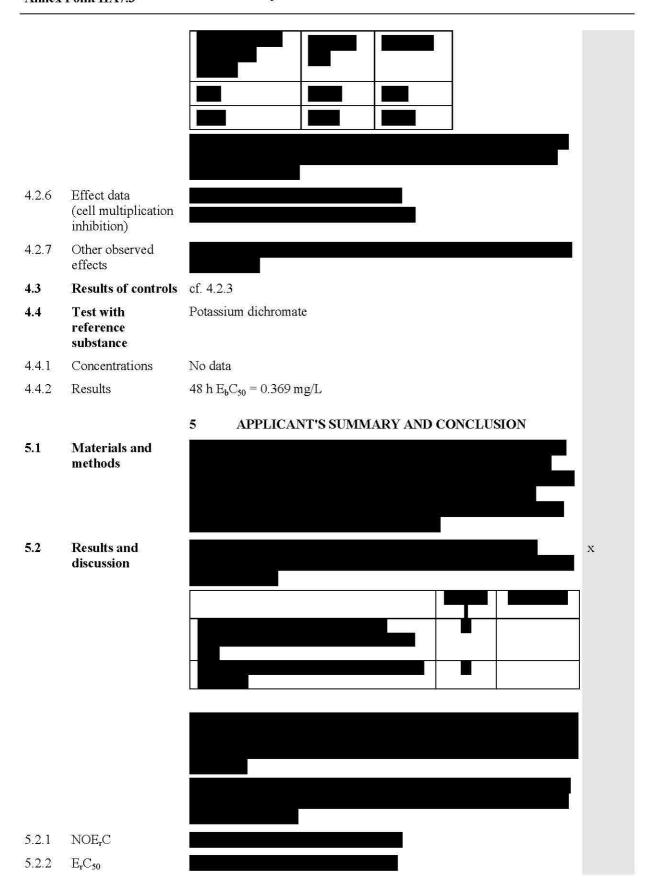
November 2013

## Section A7.4.1.3/01

## Growth inhibition test on algae

Annex Point IIA7.3

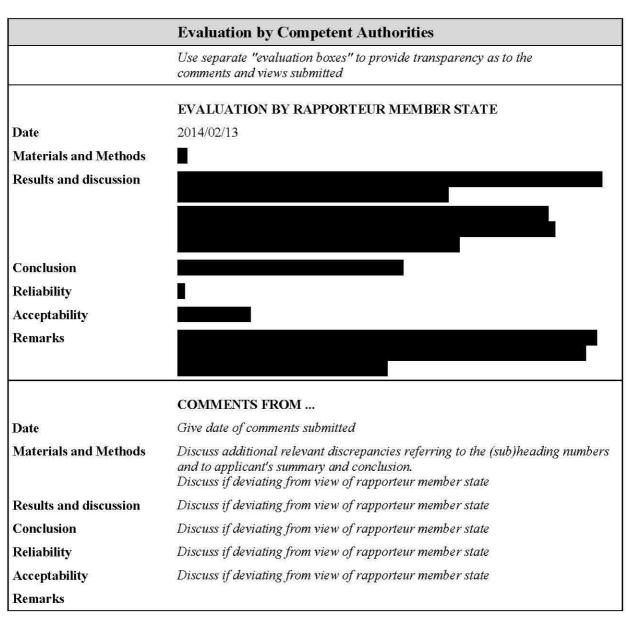
Selenastrum capricornutum



# Section A7.4.1.3/01 Growth inhibition test on algae

Annex Point IIA7.3 Selenastrum capricornutum





# Growth inhibition test on algae

			Of	
		1 REFERENCE	us	
1.1	Reference	Bringmann G, Kuehn R (1977) Grenzwerte der Schadwirkung wassergefährdender Stoffe gegen Bakterien ( <i>Pseudomonas putida</i> ) und Grünalgen ( <i>Scenedesmus quadricauda</i> ) im Zellvermehrungshemmtest. Z Wasser Abwasser-Forsch 10, 87-98 (published)		
		Bringmann G, Kuehn R (1978) Grenzwerte der Schadwirkung wassergefährdender Stoffe gegen Blaualgen ( <i>Microcystis aeruginosa</i> ) und Grünalgen ( <i>Scenedesmus quadricauda</i> ) im Zellvermehrungshemmtest. Vom Wasser 50, 45-60 (published)		
		Bringmann G, Kuehn R (1980) Comparison of the toxicity thresholds of water pollutants to bacteria, algae, and protozoa in the cell multiplication inhibition test. Water Res 14, 231-241 (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. Not available at the time the study was conducted. But the test procedure used in this study was comparable to a national standard method.		
2.2	GLP			
2.3	Deviations	=		
		3 MATERIALS AND METHODS		
3.1	Test material	Propan-2-ol		
3.1.1	Lot/Batch number			
3.1.2	Specification	Isopropanol and 2-propanol		
3.1.3	Purity	No data		
3.1.4	Composition of Product	Not applicable		
3.1.5	Further relevant properties	<b>X</b>		
3.1.6	Method of analysis	No analytical monitoring		
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). Therefore, the test was conducted in culture tubes stoppered with metal caps		
3.3	Reference substance	No information		
3.3.1	Method of analysis for reference substance	_		

# Section A7.4.1.3/02 Growth inhibition test on algae

## Annex Point IIA7.3

## 3.4 Testing procedure

## 3.4.1 Culture medium

sodium nitrate	496 mg
dipotassium hydrogen phosphate, anhydrous	39 mg
magnesium sulphate	75 mg
calcium chloride	36 mg
sodium metasilicate	40 mg
sodium carbonate, anhydrous	58 mg
citric acid	3 mg
iron citrate	3 mg
disodium salt of EDTA	10 mg

The aforementioned nutrients were dissolved in double-destilled water.  $10\,\text{mL}$  of trace elements solution was added. Double-distilled water was used to complete the solution to  $1\,\text{L}$ . The pH was adjusted to pH  $7.0\,$  using  $Na_2CO_3$  solution.

## 3.4.2 Test organisms

Criteria	Details	
Species	Algae	
Strain	Scenedesmus quadricauda	
Source	Own culture	
Laboratory culture	Yes	
Method of cultivation	Stock cultures stored in 20 mL nutrient solution in Erlenmeyer flasks stoppered with metal caps, on a white surface protected against daylight and exposed to constant lightning by luminescent warm white tubes at 60 cm distance from each other, at 27 °C and a relative humidity of 50%; fresh stock cultures were prepared continuously at 10 days' intervals; the algae were separated from the culture solution by membrane filtration	
Pretreatment	No information	
Initial cell concentration	No information on initial cell concentration, but the concentration was adjusted based on the extinction value (turbidity measurement)	
Criteria	Details	
Volume of culture flasks	10 mL	
Culturing apparatus	Kapsenberg tube	
Light quality	Constant lightning by two luminescent warm white tubes at 60 cm distance	

3.4.3 Test system

**July 2007** 

# Section A7.4.1.3/02 Growth inhibition test on algae

			Evano legge partegal	
		CTNS. 47 SMS9 MADE	from each other	
		Procedure for suspending algae	Shaking once a day	
		Number of vessels/ concentration	3 tubes	
		Test performed in closed vessels due to significant volatility of TS	Yes. The test was conducted in culture tubes stoppered with metal caps	
3.4.4	Test conditions	Criteria	Details	
		Test temperature	27 °C	
		pH	No information	
		Aeration of dilution water	No information	
		Light intensity	No information	
		Photoperiod	Continuous lightning	
3.4.5	Duration of the test	7or 8 days (according to the literature the EC <sub>3</sub> was determined after 7 or 8 days of exposure; the information is different in the above cited literatures)		
3.4.6	Test parameter	Cell multiplication inhibition	(biomass)	
3.4.7	Sampling	After termination of the test		
3.4.8	Monitoring of TS concentration	No analytical monitoring		
3.4.9	Statistics	$EC_3$ described as Toxicity Threshold (= TT) determined graphically based on experimental results.		
		4 RESULTS		
4.1	Limit Test	No information		
4.1.1	Concentration	冕		
4.1.2	Number/ percentage of animals showing adverse effects			
4.2	Results test substance			
4.2.1	Initial concentrations of test substance	No information		
4.2.2	Actual concentrations of test substance	No analytical monitoring		
4.2.3	Growth curves	No information		
4.2.4	Concentration / response curve	Not available		

## Growth inhibition test on algae

## Annex Point IIA7.3

4.2.5 Cell concentration Not reported in the publication. data

4.2.6 Effect data (cell multiplication  $7 \text{ d/8 d } E_b C_3 = 1800 \text{ mg/L (nominal)}$ 

inhibition) 4.2.7 Other observed

No information

effects

4.3 Results of controls No information

No information

4.4 Test with reference 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 Bringmann & Kuehn (1977, 1978, and 1980); the procedure is comparable to a national standard method. In the cell multiplication inhibition test the 7 d/8 d EC<sub>3</sub> described as Toxicity Threshold (=TT) was determined in Kapsenberg culture tubes via measurement of turbidity. No information is given whether the cultures were in the exponential growth phase during the test period. The test was conducted in Kapsenberg tubes stoppered with metal caps. Analytical monitoring was not performed.

#### 5.2 Results and discussion

	fulfilled	Not fulfilled
Cell concentration in control cultures increased at least by a factor of 16 within 3 days	No data	No data
Concentration of test substance ≥80% of initial concentration during test	No data	No data

In a cell multiplication inhibition test according to Bringmann & Kuehn a 7 d/8 d  $E_bC_3$  = 1800 mg/L (nominal) was determined. In general the study is very well documented. However, it is not stated whether the cultures were in the exponential growth phase during the test period.

2-Propanol shows a very low toxicity towards Scendesmus quadricauda in the cell multiplication inhibition test (7d/8d  $E_bC_3$ = 1800 mg/L).

No information on dose-response relationship is available.

The influence of the moderate volatility (cf. Doc IIIA3) of the substance is assumed to be negligible due to the fact that the test tubes were stoppered with metal caps.

5.2.1 NOE,C 7d/8d E<sub>b</sub>C<sub>3</sub>: 1800 mg/L (nominal)

5.2.2  $E_{r50}$ 

5.2.3  $E_bC_{50}$ 

5.3 Conclusion

5.3.1 Reliability

X

## Growth inhibition test on algae

## Annex Point IIA7.3

## 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 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

ConclusionDiscuss if deviating from view of rapporteur member stateReliabilityDiscuss if deviating from view of rapporteur member state

Acceptability Discuss if deviating from view of rapporteur member state

Task Force "2-Propanol" RMS: Germany	Propan-2-ol	July 2007
Section A7.4.1.3/02 Annex Point IIA7.3	Growth inhibition test on algae	
Remarks		

# Growth inhibition test on algae

-					_
		1	REFERENCE		1
1.1	Reference	gefähr Grüna	Bringmann G, Kuehn R (1978) Grenzwerte der Schadwirkung wassergefährdender Stoffe gegen Blaualgen ( <i>Microcystis aeruginosa</i> ) und Grünalgen ( <i>Scenedesmus quadricauda</i> ) im Zellvermehrungshemmtest. Vom Wasser 50, 45-60 (published)		
1.2	Data protection	No			
1.2.1	Data owner	101			
1.2.2	Criteria for data protection	No dat	ta protection claimed		
		2	GUIDELINES AND QUA	ALITY ASSURANCE	
2.1	Guideline study		lure used in this study was cor	dy was conducted. But the test apparable to a national standard	
2.2	GLP				
2.3	Deviations	æ			
		3	MATERIALS AND MET	HODS	
3.1	Test material	Propar	n-2-ol		
3.1.1	Lot/Batch number	245	-		
3.1.2	Specification	Isopro	Isopropanol and 2-propanol, respectively		
3.1.3	Purity	No dat	No data		
3.1.4	Composition of Product	Not ap	Not applicable		
3.1.5	Further relevant properties	氢			
3.1.6	Method of analysis	No and	alytical monitoring		
3.2	Preparation of TS solution for poorly soluble or volatile test substances	on the volatil	measured Henry's Law Const	Ooc IIIA3.2.1). Therefore, the test	
3.3	Reference substance	No inf	No information		
3.3.1	Method of analysis for reference substance	(#):	-		
3.4	Testing procedure				
3.4.1	Culture medium				
		sodiu	m nitrate	496 mg	
		dipota anhyo	assium hydrogen phosphate, drous	39 mg	
		magn	esium sulphate	75 mg	

# Section A7.4.1.3/03 Growth inhibition test on algae

## **Annex Point IIA7.3**

calcium chloride	36 mg
sodium metasilicate	40 mg
sodium carbonate, anhydrous	58 mg
citric acid	3 mg
iron citrate	3 mg
disodium salt of EDTA	10 mg

The aforementioned nutrients were dissolved in double-destilled water. 10~mL of trace elements solution was added. Double-distilled water was used to complete the solution to 1~L. The pH was adjusted to pH  $7.0~\text{using Na}_2\mathrm{CO}_3$  solution.

## 3.4.2 Test organisms

Criteria	Details	
Species	Microcystis aeruginosa = Blue-green algae (bacteria)	
Strain	No data	
Source	Own culture	
Laboratory culture	Yes	
Method of cultivation	Stock cultures stored in 20 mL nutrient solution in Erlenmeyer flasks stoppered with metal caps, on a white surface protected against daylight and exposed to constant lightning by luminescent warm white tubes at 60 cm distance from each other, at 27 °C and a relative humidity of 50%; fresh stock cultures were prepared continuously at 10 days' intervals; the algae were separated from the culture solution by membrane filtration	
Pretreatment	No information	
Initial cell concentration	No information on initial cell concentration, but the concentration was adjusted based on the extinction value (turbidity measurement)	
Criteria	Details	
Volume of culture flasks	10 mL	
Culturing apparatus	Kapsenberg tube	
Light quality	Constant lightning by two luminescent warm white tubes at 60 cm distance	

## 3.4.3 Test system

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

# Section A7.4.1.3/03 Growth inhibition test on algae

			_	
		Test performed in closed vessels due to significant volatility of TS	Yes. The test was conducted in culture tubes stoppered with metal caps	
3.4.4	Test conditions	Criteria Details		
		Test temperature	27 °C	
		pH	No information	
		Aeration of dilution water	No information	
		Light intensity	No information	1
		Photoperiod	Continuous lightning	
3.4.5	Duration of the test		ature the EC <sub>3</sub> described as Toxicity ined after 8 days of exposure)	X
3.4.6	Test parameter	Cell multiplication inhibition	(biomass)	
3.4.7	Sampling	After termination of the test		
3.4.8	Monitoring of TS concentration	No analytical monitoring		
3.4.9	Statistics	EC <sub>3</sub> determined graphically b	pased on experimental results.	
		4 RESULTS		
4.1	Limit Test	No information		
4.1.1	Concentration	=		
4.1.2	Number/ percentage of animals showing adverse effects	G .		
4.2	Results test substance			
4.2.1	Initial concentrations of test substance	No information		
4.2.2	Actual concentrations of test substance	No analytical monitoring		
4.2.3	Growth curves	No information		
4.2.4	Concentration / response curve	Not available		
4.2.5	Cell concentration data	Not reported in the publication	on.	
4.2.6	Effect data (cell multiplication inhibition)	$8 \text{ d E}_{b}C_{3} = 1000  mg/L (nomi$	nal)	
4.2.7	Other observed effects	No information		

#### Section A7.4.1.3/03 Growth inhibition test on algae

## Annex Point IIA7.3

4.3	Results of controls	No information
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#### 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 Bringmann & Kühn (1978). In the cell multiplication inhibition test the 8 d EC<sub>3</sub> desscribed as Toxicity Threshold (= TT) for Microcystis aeruginosa was determined in Kapsenberg culture tubes via measurement of turbidity. No information is given whether the cultures were in the exponential growth phase during the test period. The test was conducted in Kapsenberg tubes stoppered with metal caps. Analytical monitoring was not performed.

#### 5.2 Results and discussion

Propan-2-ol shows a very low toxicity towards Microcystis aeruginosa in the cell multiplication inhibition test (8d  $E_hC_3 = 1000 \text{ mg/L}$ ).

	fulfilled	Not fullfilled
Cell concentration in control cultures increased at least by a factor of 16 within 3 days	No data	No data
Concentration of test substance ≥80% of initial concentration during test	No data	No data

For *Microcystis aeruginosa* an 8 d  $E_hC_3 = 1000 \text{ mg/L}$  (nominal) was determined. In general the study is very well documented. However, it is not stated whether the cultures were in the exponential growth phase during the test period. Based on discussions of results obtained with this test-system within the OECD HPV Chemicals Programme, the results for Microcystis aeruginosa are accepeted as valid, because blue-green algae generally grow slower compared to green algae.

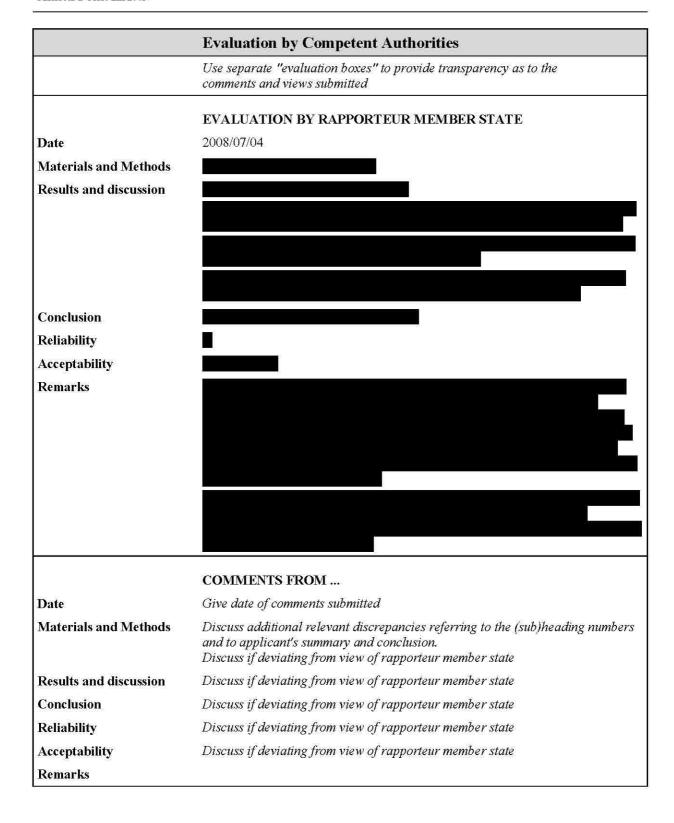
No information on dose-response relationship is available.

The influence of the moderate volatility (cf. Doc IIIA) of the substance is assumed to be negligible due to the fact that the test tubes were stoppered with metal caps.

- 5.2.1 NOE<sub>b</sub>C
- E<sub>b</sub>C<sub>3</sub>: 1000 mg/L (nominal)
- 5.2.2  $E_{r50}$
- 5.2.3  $\mathrm{E_{b}C_{50}}$
- 5.3 Conclusion
- 5.3.1 Reliability
- 5.3.2 Deficiencies



# Section A7.4.1.3/03 Growth inhibition test on algae



# Growth inhibition test on algae

-			$\overline{}$
		1 REFERENCE	Offic use o
			use
1.1	Reference	Hsieh SH, Tsai KP, Chen CY (2006) The combined toxic effects of nonpolar narcotic chemicals to <i>Pseudokirchneriella subcapitata</i> . Water Research 40, 1957-1964 (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	Yes, US EPA (1996) OPPTS 850.5400 Algal toxicity (For more detailed information on the test system it is referred to Lin et al. (2005) A novel algal toxicity testing technique for assessing the toxicity of both metallic and organic toxicants. Water research 39, 1869-1877)	
2.2	GLP		
2.3	Deviations	Yes, test was run for 48 h instead of 96 h.	
		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	99% (Reagen grade)	
3.1.4	Composition of Product	Not applicable	
3.1.5	Further relevant properties	÷	
3.1.6	Method of analysis	HPLC analysis of stock solution	
3.2	Preparation of TS solution for poorly soluble or volatile test substances	2-Propanol is indefinitely miscible with water (cf. Doc III A3.5). Based on the measured Henry's Law Constant 2-propanol is moderately volatile from aqueous solution (cf. Doc IIIA3.2.1). Test was performed in 300 mL BOD bottles, completely filled with no head space left.	
3.3	Reference substance	No information	
3.3.1	Method of analysis for reference substance	-	
3.4	Testing procedure		
3.4.1	Culture medium	Growth medium as decribed by US EPA 1996 NaNO3: 12.75 mg/L, K2HPO4: 0.52 mg/L, EDTA: 30 µg/L	
3.4.2	Test organisms	Criteria Details	
		Species Pseudokirchneriella subcapitata (former scientific name: Selenastrum	

# Section A7.4.1.3/04 Gr

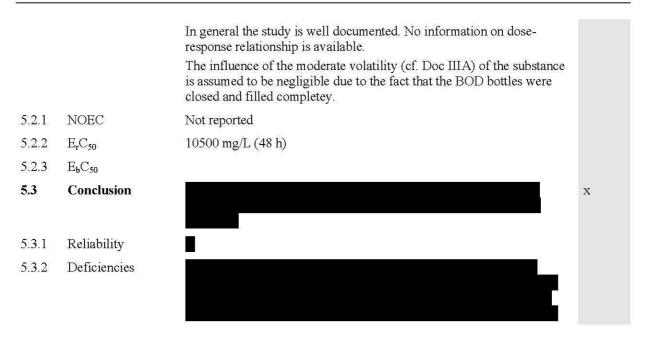
# Growth inhibition test on algae

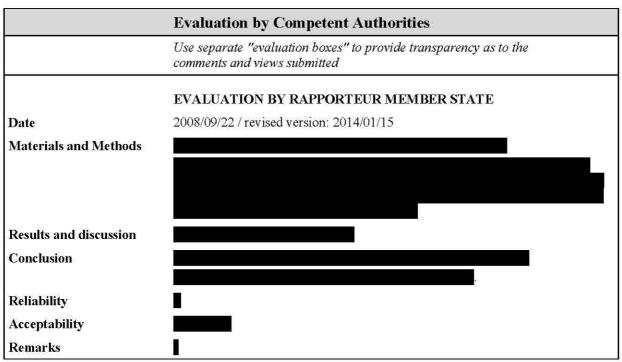
			capricornutum)
		Strain	Not specified
		Source	Not specified
		Laboratory culture	Yes
		Method of cultivation	Cultured in 4-L transparent chemostat incubator. Growth medium was supplied continuously. Temperature: 24+-1°C, light intensity: 65 µE m <sup>-2</sup> s <sup>-1</sup> (+-10%) Dilution rate 0.25/d
		Pretreatment	No information
		Initial cell concentration	15000 cells/mL
4.3	Test system	Criteria	Details
		Volume of culture flasks	300 mL
		Culturing apparatus	BOD bottles placed on orbital shaker at 100 rpm
		Light quality	Light intensity: 65 μE m <sup>-2</sup> s <sup>-1</sup> (+-10%)
		Procedure for suspending algae	orbital shaker at 100 rpm
		Number of vessels/ concentration	3 replicates
		Test performed in closed vessels due to significant volatility of TS	Yes. BOD bottels
4.4	Test conditions	Criteria	Details
		Test temperature	24 +- 1 °C
		рН	No information
		Aeration of dilution water	No, dilution water was stripped by nitrogen gas to reduce dissolved oxygen level.
		Light intensity	65 μE m <sup>-2</sup> s <sup>-1</sup> (+-10%)
		Photoperiod	No information (14 h light/10 h dark,
		Thotoperiod	according to guideline)
4.5	Duration of the test	48 h	
4.5 4.6	Duration of the test Test parameter	48 h	according to guideline) ell density measured by electronic particle
4.6		48 h Algal growth rate based on c	according to guideline) ell density measured by electronic particle
	Test parameter	48 h Algal growth rate based on c counter (growth rate), dissolved	according to guideline) ell density measured by electronic particle wed oxygen production

# Section A7.4.1.3/04 Growth inhibition test on algae

		4 RESULTS		
4.1	Limit Test	No information		
4.1.1	Concentration	-		
4.1.2	Number/ percentage of animals showing adverse effects	-		
4.2	Results test substance			
4.2.1	Initial concentrations of test substance	3500-14000 mg/L		
4.2.2	Actual concentrations of test substance	Stock solution was analysed by HPLC		
4.2.3	Growth curves	Not given in publication		
4.2.4	Concentration / response curve	Not given in publication		
4.2.5	Cell concentration data	Not given in publication		
4.2.6	Effect data (cell multiplication inhibition)	$48 \ h \ E_{\mu}C_{50} = 10500 \ (95\% \ CI: 9780\text{-}11300) \ mg/L \ (nominal)$ $48 \ h \ E_{DO}C_{50} = 8040 \ (95\% \ CI: 6530\text{-}10350) \ mg/L \ (nominal)$ DO: dissolved oxygen		
4.2.7	Other observed effects	No information		
4.3	Results of controls	No information		
4.4	Test with reference substance	No information		
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 OPPTS 850.5400 Guideline. The test was performed in 300 mL BOD Bottles Analytical monitoring was performed in stock solution. EC50 for both dissolved oxygen and growth rate was determined by probit analysis.		
5.2	Results and discussion	Propan-2-ol shows a very low toxicity toward <i>subcapitata</i> in the cell multiplication inhibition mg/L).	n test (48 h	$E_{\mu}C_{50} = 10500$
			fulfilled	Not fullfilled
		Cell concentration in control cultures increased at least by a factor of 16 within 3 days  Concentration of test substance ≥80% of initial concentration during test	No data No data	No data No data

# Section A7.4.1.3/04 Growth inhibition test on algae

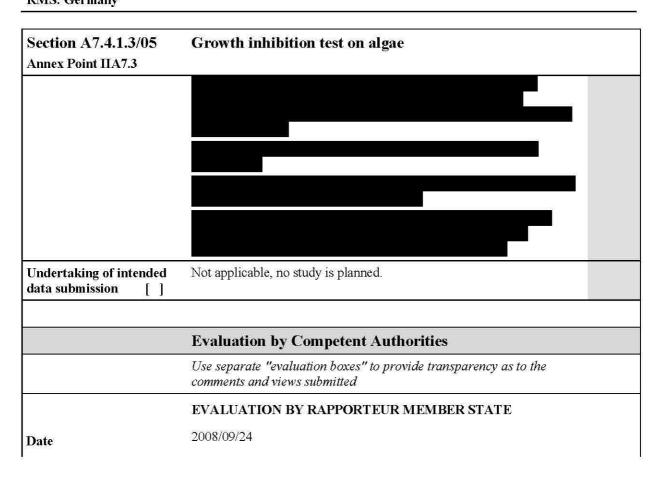


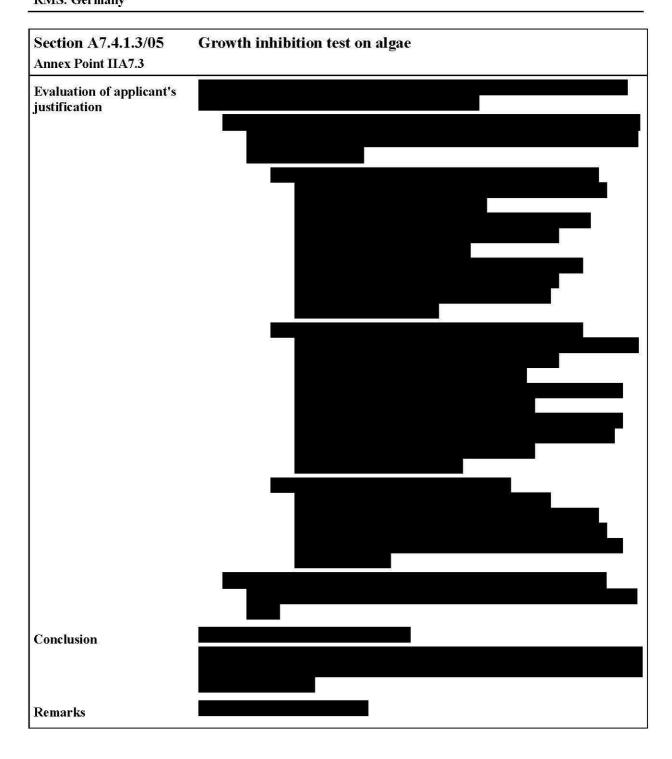


Task Force "2-Propanol"	Propan-2-ol	September 2008
RMS: Germany		-

	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 A7.4.1.3/05 Annex Point IIA7.3	Growth inhibition test on algae	
Limited exposure [ ] Other justification [ ]		JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Detailed justification:			
	Detailed justification:		
References:	References:		





Task Force "2-Propanol" RMS: Germany	Propan-2-ol	August 2008
	COMMENTS FROM OTHER MEMBER STATE (specify)	
Date	Give date of comments submitted	
Evaluation of applicant's justification	Discuss if deviating from view of rapporteur member state	
Conclusion	Discuss if deviating from view of rapporteur member state	
Remarks		

# Growth inhibition test on algae

Annex Point IIA7.3

#### Official use only 1 REFERENCE 1.1 Cho C-W, Jeon Y-C, Pham TPT, Vijayaraghava K, Yun Y-S (2008) The Reference ecotoxicity of ionic liquids and traditional organic solvents on microalga Selenastrum capricornutum. Ecotoxicol. Environ. Safety 71, 166-171 (published) (2013) Estimation of the EC10 value from the algal test published by Cho et al. 2008 1.2 Data protection No 1.2.1 Data owner Data published 1.2.2 Criteria for data No data protection claimed protection 2 **GUIDELINES AND QUALITY ASSURANCE** 2.1 Guideline study Yes OECD guideline 201 ("freshwater alga and cyanobacteria, Growth Inhibition" (2002) OPPTS 850.5400 "Algal Toxicity, Tiers I and II" 2.2 GLP 2.3 Deviations No 3 MATERIALS AND METHODS 3.1 Propan-2-ol Test material 3.1.1 Lot/Batch number No data 3.1.2 Specification 2-Propanol, purchased from Sigma-Aldrich 3.1.3 > 99.5 % Purity 3.1.4 Composition of Not applicable Product 3.1.5 Further relevant No data properties 3.1.6 Method of analysis Not performed 3.2 Preparation of TS Not applicable solution for poorly soluble or volatile test substances 3.3 Reference No substance 3.3.1 Method of analysis Not applicable for reference substance 3.4 **Testing procedure** 3.4.1 Culture medium No data 3.4.2 Test organisms Criteria **Details**

## Growth inhibition test on algae

## Annex Point IIA7.3

Species	Selenastrum capricornutum
Strain	ATCC-22662
Source	National Institute Environmental Research, Korea
Laboratory culture	Yes
Method of cultivation	Cultivated in 250 ml Erlenmeyer flasks, containing 200 ml sterilized nitrate-enriched BBM medium prepared in triple distilled water, to avoid nitrogen limitation during the high-density culture. The culture flask was agitated on a shaker at 170 rpm, and bubbled with air (1 vvm), without sparger. Light was continuously supplied, with an average of $30 \pm 5~\mu E~m^{-2}~s^{-1}$ , using warm-white fluorescent located on top of the shaker. All the flasks were maintained in the shaker incubator at 25 $\pm$ 5 °C for 7 days.
Pretreatment	None
Initial cell concentration	No data
Criteria	Details
Volume of culture flasks	250 ml Erlenmeyer flasks, fill volume 60 mL
Culturing apparatus	Shaker incubator at 170 rpm
Light quality	Warm-white fluorescent tubes
Procedure for suspending algae	Shaking
Number of vessels/ concentration	2 (test substance) 3 (control)
Test performed in closed vessels due to significant volatility of TS	No data
Criteria	Details
Test temperature	25 °C
	NI
рН	No data
pH Aeration of dilution water	No data No
*	

3.4.3 Test system

3.4.4 Test conditions

Criteria	Details
Test temperature	25 °C
pH	No data
Aeration of dilution water	No
Light intensity	$30 \pm 5 \mu E m^{-2} s^{-1}$
Photoperiod	Continuous illumination

- Duration of the test 96 hours 3.4.5
- 3.4.6 Test parameter

Dry cell weight. Optical density of the algal biomass was estimated at 438 nm using a spectrophotometer. Dry cell weight (g/L) = 0.1329 x

# Section A7.4.1.3/06 Growth inhibition test on algae

## Annex Point IIA7.3

optical density 3.4.7 Sampling No data 3.4.8 Monitoring of TS No concentration 3.4.9 Average values from duplicate determinations Statistics RESULTS 4.1 Limit Test Not performed 4.1.1 Concentration Not applicable 4.1.2 Number/ Not applicable percentage of animals showing adverse effects 4.2 Results test substance 4.2.1 Initial Range 1.26 mM - 0.1 M concentrations of 75 - 6000 mg/L (calculated by the applicants) test substance 4.2.2 Actual Not applicable, as no analysis was performed concentrations of test substance 4.2.3 Growth curves Concentration / 4.2.4 response curve

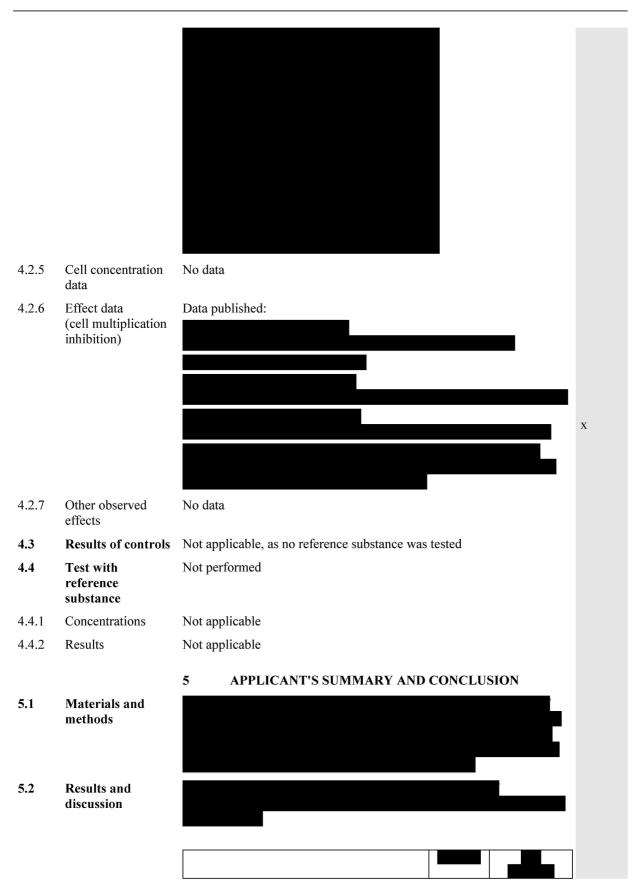
Task Force "2-Propanol" RMS: Germany

Propan-2-ol

August 2013

## Section A7.4.1.3/06

## Growth inhibition test on algae



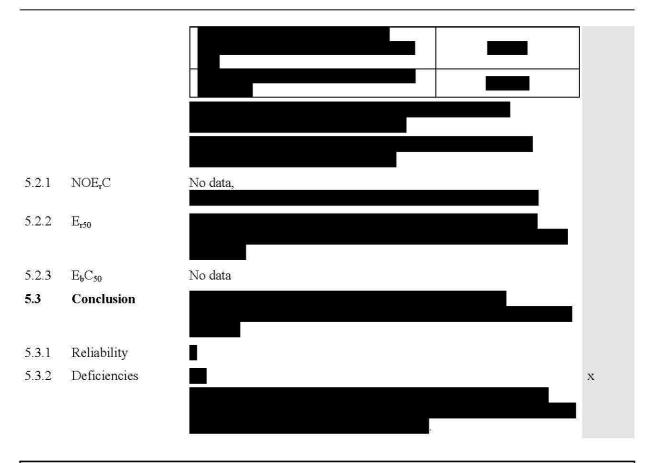
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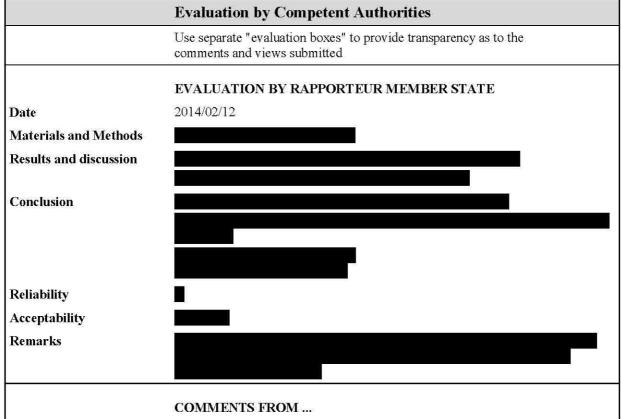
Propan-2-ol

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Section A7.4.1.3/06

Growth inhibition test on algae





Task Force "2-Propanol" RMS: Germany	Propan-2-ol August 2013
Section A7.4.1.3/06 Annex Point IIA7.3	Growth inhibition test on algae
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		

# Inhibition to microbial activity (aquatic)

			APPENDED IN IN
		1 REFERENCE	Official use only
1.1	Reference	Bringmann G, Kuehn R (1977) Grenzwerte der Schadwirkung wassergefährdender Bakterien ( <i>Pseudomonas putida</i> ) und Grünalgen ( <i>Scenedesmus quadricauda</i> ) im Zellvermehrungshemmtest. Z Wasser Abwasser-Forschung 10, 87-98 (published)	
		Bringmann G, Kuehn R (1980) Comparison of the toxicity thresholds of water pollutants to bacteria, algae, and protozoa in the cell multiplication inhibition test. Water Res 14, 231-241 (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. No guidelines available at the time the study was conducted.	
2.2	GLP		
2.3	Deviations	Not applicable.	
		3 MATERIALS AND METHODS	
3.1	Test material	Propan-2-ol	x
3.1.1	Lot/Batch number	=	
3.1.2	Specification	Isopropanol and 2-propanol, respectively	
3.1.3	Purity	Not stated	
3.1.4	Composition of Product	Not applicable	
3.1.5	Further relevant properties	The tests were conducted in Erlenmeyer flasks stoppered with cotton-lined plastic caps.	
3.1.6	Method of analysis	No analytical monitoring	
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). Aqueous solutions of known test substance concentrations were prepared in Erlenmeyer flasks. The flasks were stoppered with cotton-lined plastic caps.	
3.3	Reference substance	No data.	x
3.3.1	Method of analysis for reference substance		
3.4	Testing procedure		
3.4.1	Culture medium	Nutrient medium for stock and preliminary cultures (dissolved in 1 L double-distilled water)	

# Section A7.4.1.4/01 Inhibition to microbial activity (aquatic)

## **Annex Point IIA7.4**

NaNO <sub>3</sub>	1.06 g
K <sub>2</sub> HPO <sub>4</sub> , anhydrous	0.6 g
KH <sub>2</sub> PO <sub>4</sub>	0.3 g
MgSO <sub>4</sub> x 7 H <sub>2</sub> O	0.2 g
Glucose	10 g
Difco Bacto agar	18 g
FeSO <sub>4</sub> x 7 H <sub>2</sub> O	0.01 g
Trace elements solution	1.5 mL

## Trace elements (in g per liter)

Al <sub>2</sub> (SO <sub>4</sub> ) x 18 H <sub>2</sub> O	0.055
KJ	0.028
KBr	0.028
TiO <sub>2</sub>	0.055
SnCl <sub>2</sub> x 2 H <sub>2</sub> O	0.028
LiCl	0.028
MnCl <sub>2</sub> x 4 H <sub>2</sub> O	0.389
H <sub>3</sub> BO <sub>3</sub>	0.614
ZnSO <sub>4</sub> x 7 H <sub>2</sub> O	0.055
CuSO <sub>4</sub> x 5 H <sub>2</sub> O	0.055
NiSO <sub>4</sub> x 6 H <sub>2</sub> O	0.059
Co(NO3) <sub>2</sub> x 6 H <sub>2</sub> O	0.055

## Vitamine

D-Biotin	0.2 mg
Nicotinic acid	2 mg
Thiamine HCl	1 mg
p-aminobenzoic acid	1 mg
D-Panthotenic acid Na salt	0.5 mg
Pyridoxamine dihydrochloride	5 mg
Vitamin B <sub>12</sub>	2 mg
Double-distilled water	100 mL

## Stock solution I (dissolved in 11 double-distilled water)

Glucose	20 g
NaNO3	4.24 g

#### Inhibition to microbial activity (aquatic) Section A7.4.1.4/01

## **Annex Point IIA7.4**

K <sub>2</sub> HPO <sub>4</sub> , anhydrous	2.4 g
KH <sub>2</sub> PO <sub>4</sub>	1.2 g
Trace elements solution	30 mL

Stock solution II (dissolved in 1 L double-distilled water)

FeSO <sub>4</sub> x 7 H <sub>2</sub> O	0.2 g	
MgSO <sub>4</sub> x 7 H <sub>2</sub> O	4 g	

#### 3.4.2 Inoculum / test organism

The state of the s	
MgSO <sub>4</sub> x 7 H <sub>2</sub> O	4 g
Criteria	Details
Nature	Bacteria
Species	Pseudomonas putida
Strain	
Source	Own breeding
Sampling site	
Laboratory culture	Yes
Method of cultivation	Stock and preliminary cultures were kept on nutrient medium in agar slant tubes; stock cultures were incubated at 25 °C for 24 h and then washed with sterile saline
Preparation of inoculum for exposure	After incubation the cultures were washed and the extinction was adjusted to 10 corresponding to Formazin standard suspension.
Pretreatment	No adaptation
Initial cell concentration	No data
Criteria	Details
Culturing apparatus	Erlenmeyer flasks (volume: 300 mL)
Number of culture flasks/concentration	2
Aeration device	No data
Measuring equipment	Measurement of turbidity via UV/VIS measurement
Test performed in closed vessels due to significant volatility of TS	Yes. Test vessels stoppered with cotton-lined plastic caps.
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**Details** 

25 °C

No data

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3.4.3 Test system

3.4.4 Test conditions Criteria

рΗ

Test temperature

Aeration of dilution water

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# Inhibition to microbial activity (aquatic)

		Suspended solids - concentration
3.4.5	Duration of the test	16 h
3.4.6	Test parameter	Cell multiplication inhibition
3.4.7	Analytical parameter	Turbidity of bacterial suspension
3.4.8	Sampling	At the end of the test
3.4.9	Monitoring of TS concentration	No
3.4.10	Controls	No data
3.4.11	Statistics	Graphical analysis
		4 RESULTS
4.1	Preliminary test	No data
4.1.1	Concentration	
4.1.2	Effect data	-
4.2	Results test substance	
4.2.1	Initial concentrations of test substance	No data
4.2.2	Actual concentrations of test substance	No analytical monitoring
4.2.3	Growth curves	Not available
4.2.4	Cell concentration data	No data
4.2.5	Concentration/ response curve	Not available
4.2.6	Effect data	16 h EC <sub>3</sub> (Toxicity Threshold = TT) = 1050 mg/L (nominal)
4.2.7	Other observed effects	No data
4.3	Results of controls	No data
4.4	Test with reference substance	No
4.4.1	Concentrations	-
4.4.2	Results	ā.
		5 APPLICANT'S SUMMARY AND CONCLUSION
5.1	Materials and methods	The cell multiplication inhibition test according to Bringmann & Kühn is decribed using <i>Pseudomonas putida</i> . Four-parallel dilution series in Erlenmeyer flasks stoppered with cotton-lined plastic caps were

# Section A7.4.1.4/01 Inhibition to microbial activity (aquatic)

#### Annex Point IIA7.4

prepared and the toxicological effect of 2-propanol on cell multiplication investigated. After 16 h of incubation at 25°C the EC3 described as Toxicity Threshold (= TT) was determined graphically based on measurement of turbidity. Analytical monitoring of test substance concentration was not performed. In the test a  $16 \text{ h EC}_3$  (TT) = 1050 mg/L (nominal) was determined. The 5.2 Results and discussion test is well described and meets generally accepted scientific principles. No information on conentration-response relationship available. Propan-2-ol shows a moderate volatility from aqueous solution (cf. Doc III A3.2.1). The test vessels were stoppered with cotton-lined plastic caps. Therefore significant losses due to volatilisation are not to be expected. However, analytical monitoring of test substance concentration was not performed. 5.2.1  $EC_{20}$  $16 \text{ h EC}_3 = 1050 \text{ mg/L (nominal)}$ 5.2.2  $EC_{50}$ 5.2.3  $EC_{80}$ 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 2008/07/04 Date **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 Discuss if deviating from view of rapporteur member state Acceptability Remarks

#### Section A7.4.1.4/02

# Inhibition to microbial activity (aquatic)

		1 REFERENCE	Officuse of	
1.1	Reference	Gerike P, Gode P (1990) The biodegradability and inhibitory threshold concentration of some disinfectants. Chemosphere 21(6), 799-812 (published)		
1.2	Data protection	No		
1.2.1	Data owner	=		
1.2.2	Criteria for data protection			
		2 GUIDELINES AND QUALITY ASSURANCE		
2.1	Guideline study	Yes. The study was conducted according to Iso 8192 'Test for inhibition of oxygen consumption by activated sludge' which is comparable to OECD 209.	Le	
2.2	GLP			
2.3	Deviations	Yes. Pseudomonas putida were used instead of activated sludge.		
		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	No data		
3.1.4	Composition of Product	Not applicable		
3.1.5	Further relevant properties	¥		
3.1.6	Method of analysis	No data		
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 IIIA3).		
3.3	Reference substance	No data		
3.3.1	Method of analysis for reference substance	-		
3.4	<b>Testing procedure</b>			
3.4.1	Culture medium	No information provided.		
3.4.2	Inoculum /	Criteria Details		
	test organism	Nature Bacteria		
		Species Pseudomonas putida		
		Strain		

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# Section A7.4.1.4/02 Inhibition to microbial activity (aquatic)

		Source	No data
		Sampling site	No data
		Laboratory culture	No data
		Method of cultivation	No data
		Preparation of inoculum for exposure	No data
		Pretreatment	No data
		Initial cell concentration	No data
3.4.3	Test system	Criteria	Details
		Culturing apparatus	No data
		Number of culture flasks/concentration	No data
		Aeration device	No data
		Measuring equipment	No data
		Test performed in closed vessels due to significant volatility of TS	No data
3.4.4	Test conditions	Criteria	Details
		Test temperature	No data
		pН	No data
		Aeration of dilution water	No data
		Suspended solids concentration	No data
3.4.5	Duration of the test	No data. According to guideli recommended.	ne a contact time of 30 min or 3 hours are
3.4.6	Test parameter	Oxygen consumption	
3.4.7	Analytical parameter	Measurement of oxygen	
3.4.8	Sampling	No data	
3.4.9	Monitoring of TS concentration	No data	
3.4.10	Controls	No data	
3.4.11	Statistics	No data	
		4 RESULTS	
4.1	Preliminary test	No data	
4.1.1	Concentration	(약)	
4.1.2	Effect data	<u>~</u>	
4.2	Results test		

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

# Section A7.4.1.4/02 Inhibition to microbial activity (aquatic)

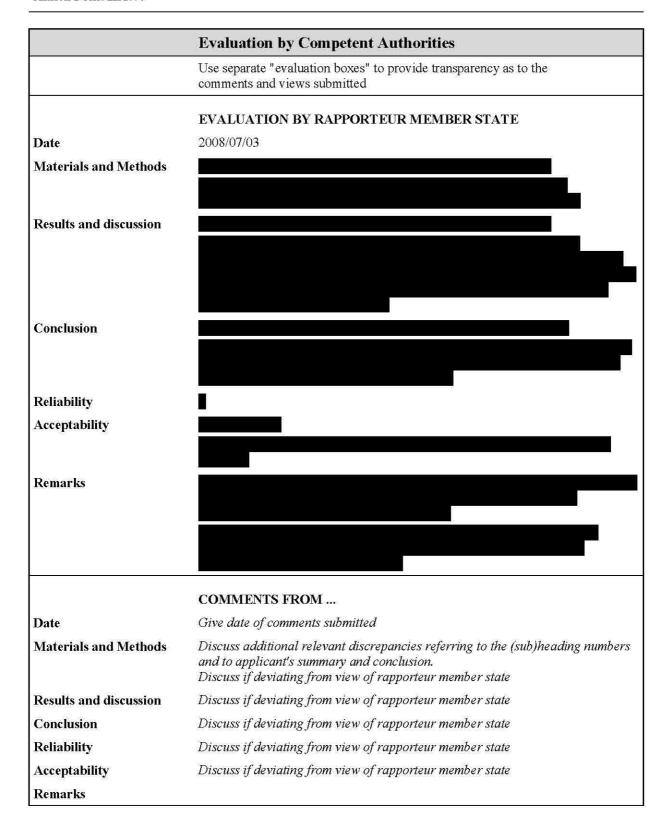
## Annex Point IIA7.4

	substance	
4.2.1	Initial concentrations of test substance	No data
4.2.2	Actual concentrations of test substance	No data
4.2.3	Growth curves	No data
4.2.4	Cell concentration data	No data
4.2.5	Concentration/ response curve	No data
4.2.6	Effect data	EC <sub>0</sub> >1000 mg/L (nominal)
4.2.7	Other observed 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 Iso 8192 'Test for inhibition of oxygen consumption by activated sludge' comparable to OECD 209. <i>Pseudomonas putida</i> were used instead of activated sludge. Further details were not reported in the publication.
5.2	Results and discussion	In the guideline test investigating the inhibition of oxygen consumption by $Pseudomonas\ putida$ an EC <sub>0</sub> >1000 mg/L (test duration not stated) was observed. Further details were not reported. As the test was conducted according to guideline the study is regarded as valid.
5.2.1	EC <sub>0</sub>	>1000 mg/L (nominal)
5.2.2	EC <sub>50</sub>	~
5.2.3	EC <sub>80</sub>	-
5.3	Conclusion	
5.3.1	Reliability	<del></del>
5.3.2	Deficiencies	

**July 2007** 

Task Force "2-Propanol"	Propan-2-ol	July 2007
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# Section A7.4.1.4/02 Inhibition to microbial activity (aquatic)



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

# Section A7.4.1.4/03

# Inhibition to microbial activity (aquatic)

76				
		1 REFERENCE		Official use only
1.1	Reference	Klecka GM, Landi LP, Rodner KM (1985) Evaluation of the OECD Activated Sludge, Respiration Inhibition Test. Chemosphere 14, 1239-1251 (published)		
1.2	Data protection	No		
1.2.1	Data owner	ш		
1.2.2	Criteria for data protection	No data protection claimed		
		2 GUIDELINES AND QUA	ALITY ASSURANCE	
2.1	Guideline study	Yes. OECD guideline 209 'Activate (1981)	d sludge, respiration inhibition test'	
2.2	GLP			
2.3	Deviations	Yes. The synthetic sewage stock sol level of K <sub>2</sub> HPO <sub>4</sub> (28 g instead of 2.8		
		3 MATERIALS AND MET	THODS	
3.1	Test material	Propan-2-ol		x
3.1.1	Lot/Batch number	<b>=</b>		
3.1.2	Specification	i-propanol		
3.1.3	Purity	Reagent grade		
3.1.4	Composition of Product	Not applicable		
3.1.5	Further relevant properties			
3.1.6	Method of analysis	Analytically monitoring of TS not 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 2-propanol is moderately volatile from aqueous solution (cf. Doc III A3.2.1). Stock solutions of the test chemical were prepared in deionised water. The stock solutions $(0.5 \text{ to } 5 \text{ g/L})$ were adjusted to pH $7.5 \pm 0.5$ .		
3.3	Reference substance	Yes. 3,5-Dichlorophenol as recommended in the guideline.		
3.3.1	Method of analysis for reference substance	No information		
3.4	Testing procedure			
3.4.1	Culture medium	Synthetic sewage feed (composition	per liter of activated sludge)	X
		Bacto-Peptone	16 g	
		Bacto-Beef extract	11 g	
		urea	3 g	
		K <sub>2</sub> HPO <sub>4</sub>	28 g	

#### Section A7.4.1.4/03 Inhibition to microbial activity (aquatic)

#### **Annex Point IIA7.4**

MgSO <sub>4</sub> x 7 H <sub>2</sub> O	0.2 g
CaCl <sub>2</sub> x 2H <sub>2</sub> O	0.4 g
NaCl	0.7 g

3.4.2 Inoculum / test organism

Criteria	Details
Nature	Activated sludge
Species	<u>-</u> n
Strain	©;;
Source	Activated sludge from a local municipal wastewater treatment plant
Sampling site	municipal wastewater treatment plant
Laboratory culture	No
Method of cultivation	<u>=</u> π
Preparation of inoculum for exposure	Stock solution adjusted to pH 7.5 ± 0.5; preparation of test reaction mixtures: addition of 16 mL of synthetic sewage stock solution and th desired amount of the test chemical to 500 mL graduated cylinder; dilution with deionised water to 300 mL; addition of activated sludge (200 mL; ca. 800 mg of suspended solids dw); contents (final volume of 500 mL) transferred to a 1 liter bottle; bottle aerated at a a rate of 0.5 and 1 L/min for 3 h at 21 °C
Pretreatment	No adaptation
Initial cell concentration	400 mg suspended solids/L
Criteria	Details
Culturing apparatus	1 L bottle
Number of culture flasks/concentration	No information
Aeration device	Pasteur pipette
Measuring equipment	Polarographic oxygen electrode and ar ionanalyzer
Test performed in closed vessels due to significant volatility of TS	No
Criteria	Details
Test temperature	21 °C

Initial:  $7.5 \pm 0.5$ 

3.4.3 Test system

3.4.4 Test conditions

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Propan-2-ol	<b>July 2007</b>
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Task Force "2-Propanol"

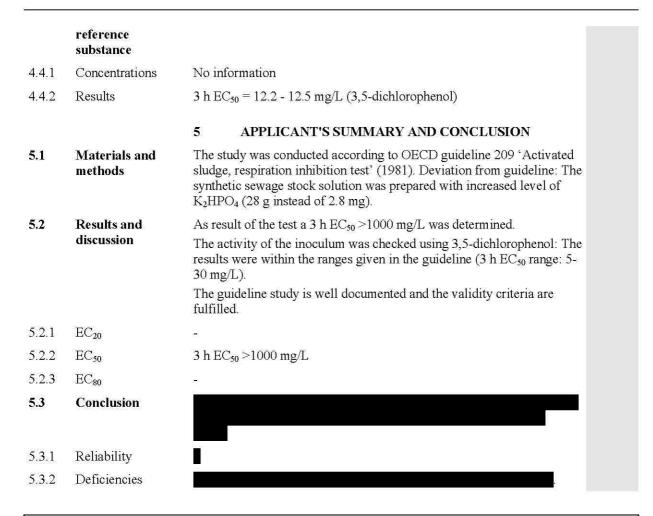
RMS: Germany

#### Section A7.4.1.4/03 Inhibition to microbial activity (aquatic)

		Aeration of dilution water	Yes. 0.5 and 1 L/min
		Suspended solids concentration	400 mg/L
3.4.5	Duration of the test	3 h	
3.4.6	Test parameter	respiration inhibition	
3.4.7	Analytical parameter	oxygen consumption	
3.4.8	Sampling	At the end of the test	
3.4.9	Monitoring of TS concentration	No analytical monitoring	
3.4.10	Controls	Controls (test substance omitt end of the study (no further in	ed) were prepared at the beginning and formation provided)
3.4.11	Statistics	In respect to propan-2-ol only	graphic data analysis was performed.
			ving averages (Thompson WR (1947) Use polation to estimate median-effective dose.
			el (Larson RJ, Schaeffer SL (1982) A rapid exicity of chemicals to activated sludge.
		were not used for data analysi	s
		4 RESULTS	
4.1	Preliminary test	No information	
4.1.1	Concentration	-	
4.1.2	Effect data	_	
4.2	Results test		
	substance		
4.2.1	Initial concentrations of test substance	No information	
4.2.2	Actual concentrations of test substance	No analytical monitoring of te	est substance concentration
4.2.3	Growth curves	No information	
4.2.4	Cell concentration data	$400~\mathrm{mg}$ suspended solids/L	
4.2.5	Concentration/ response curve	Not available	
4.2.6	Effect data	3 h-EC <sub>50</sub> >1000 mg/L	
4.2.7	Other observed effects	No	
4.3	Results of controls	No information in respect to c	controls (test substance omitted) reported.
4.4	Test with	Performed	

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

# Section A7.4.1.4/03 Inhibition to microbial activity (aquatic)



	<b>Evaluation by Competent Authorities</b>
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	2008/07/03
Materials and Methods	5) 6)
Results and discussion	
Conclusion	
Reliability	1
Acceptability	
Remarks	

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

# Section A7.4.1.4/03 Inhibition to microbial activity (aquatic) Annex Point IIA7.4

	COMMENTS 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 A7.4.2 Annex Point IIA 7.5	Bioconcentration, aquatic		
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only	
Other existing data [ ] Limited exposure [ ]	Technically not feasible [ ] Scientifically unjustified [X]  Other justification [ ]		
Detailed justification:	Other justification [ ]		
Reference:			

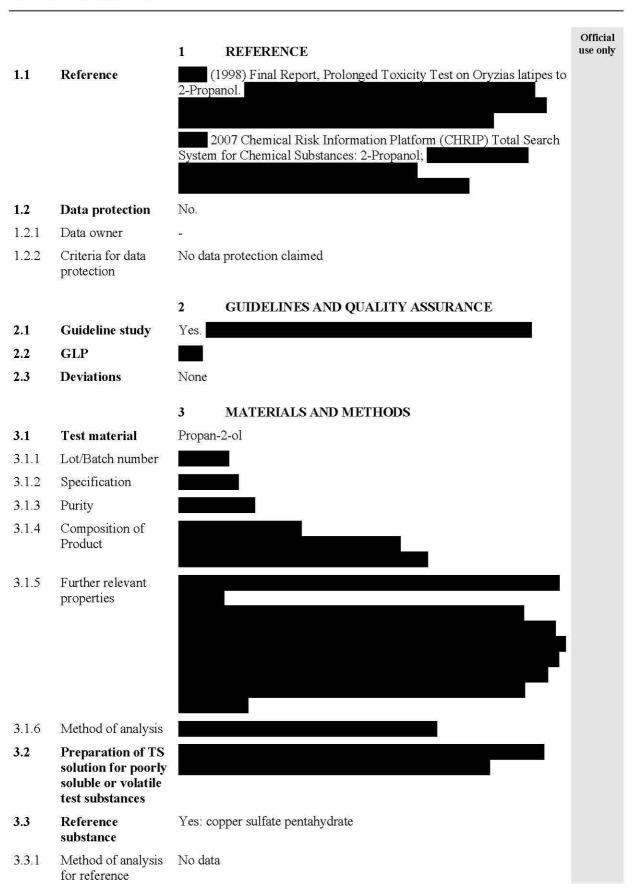
Discuss if deviating from view of rapporteur member state

Conclusion

Remarks

# Section A7.4.3.1 Prolonged toxicity to fish

Annex Point IIIA XIII.2.1



# Section A7.4.3.1 Prolonged toxicity to fish

Annex Point IIIA XIII.2.1



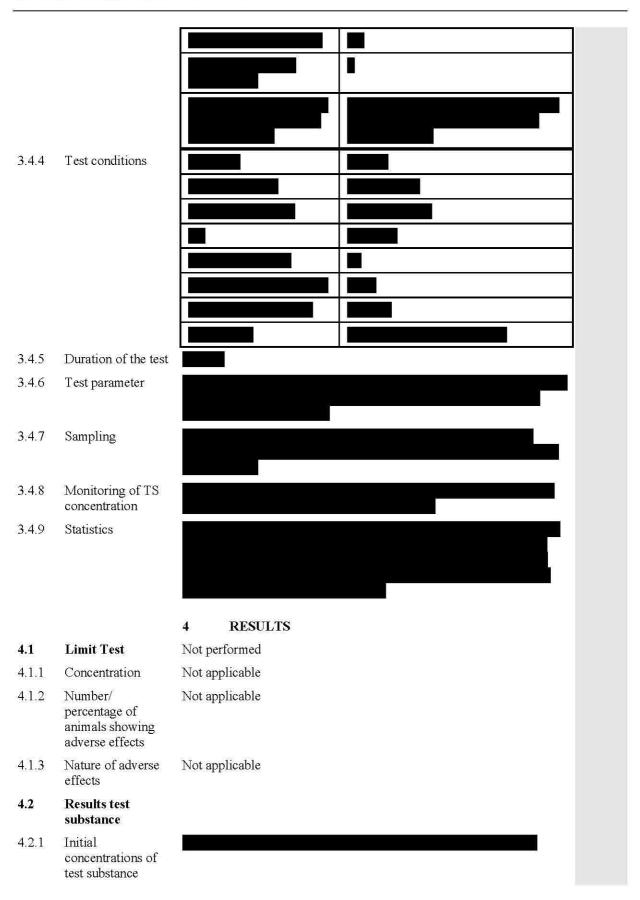
Task Force "2-Propanol" RMS: Germany

Propan-2-ol

November 2013

#### Section A7.4.3.1 Prolonged toxicity to fish

Annex Point IIIA XIII.2.1



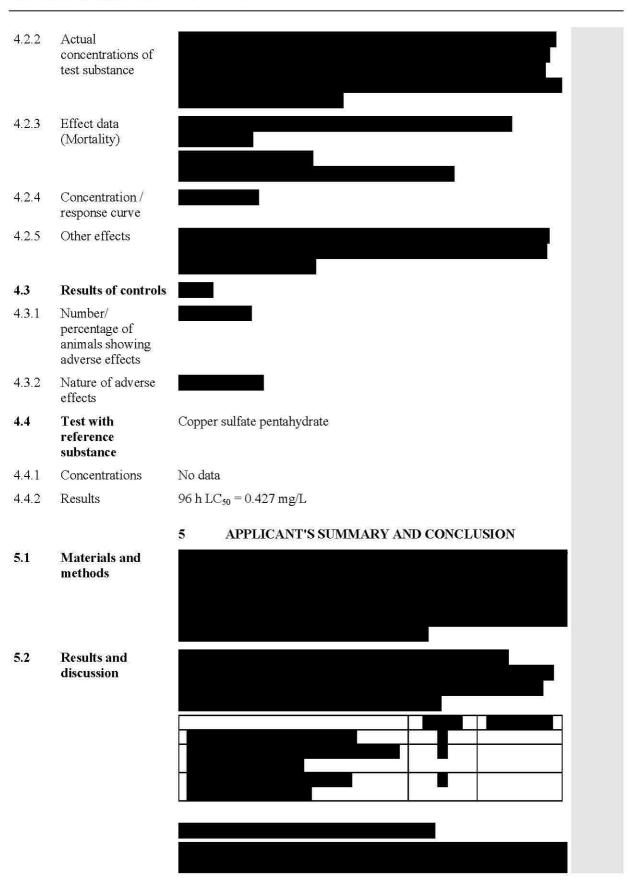
Task Force "2-Propanol" RMS: Germany

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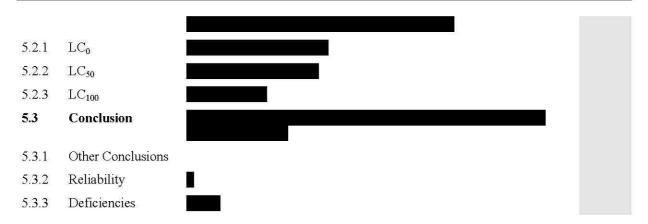
# Section A7.4.3.1 Prolonged toxicity to fish

Annex Point IIIA XIII.2.1



# Section A7.4.3.1 Prolonged toxicity to fish

Annex Point IIIA XIII.2.1 Oryzias latipes



	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	

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Section A7.4.3.2 Annex Point IIIA XIII 2.2	Effects on reproduction and growth rate of fish	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [X]	Technically not feasible [ ] Scientifically unjustified [X]	
Limited exposure [ ]	Other justification [ ]	
Detailed justification:		
		x
		x
		ą.
		-
		X
		-
References:	_	
Undertaking of intended		
data submission [ ]		
	<b>Evaluation by Competent Authorities</b>	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	2008/06/30	
Evaluation of applicant's justification		
Conclusion		

