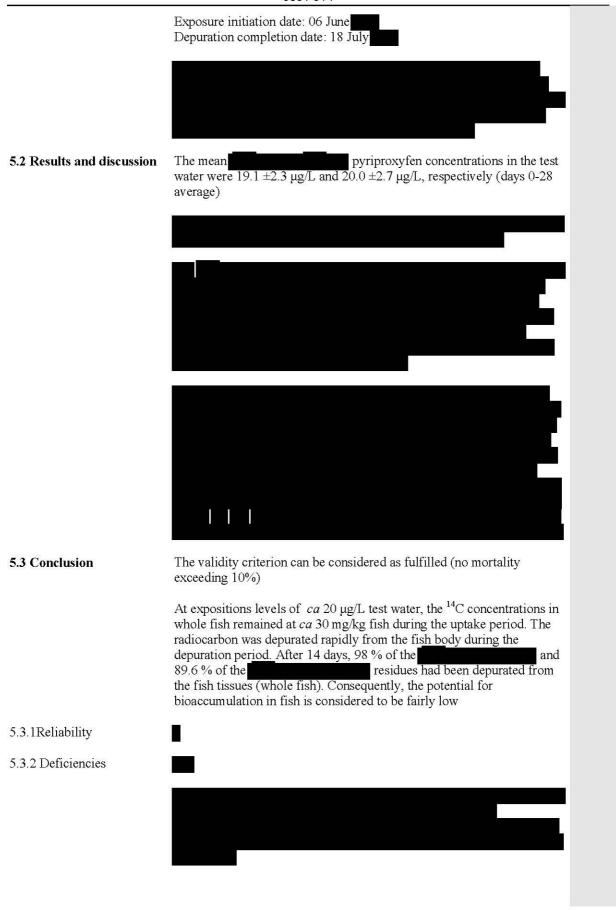


The whole-fish depuration half-lives were 0.9 and 1.6 days for the labels, respectively. The percentage of <sup>14</sup>C eliminated from test fish (whole body after 14 days was 98.1% and 89.6% for the labels, respectively

# 4.1.4 Bioconcentration factors (BCF)

BCF	Whole fish	Edible tissue	Non-edible tissue
	1379	465	2482
	1495	478	2390



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	Evaluation by Competent Authorities
	Use separate "evaluation boxes" to provide transparency as
	to the comments and views submitted
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Materials and Methods	
Reliability	
Findings	
Conclusion	
Remarks	

# 7.4.3 Effects on aquatic organisms, further studies

# 7.4.3.1 Prolonged toxicity to an appropriate species of fish

This test is not necessary as a fish reproduction study is submitted at Point 7.4.3.2.

	Evaluation by Competent Authorities
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	<b>Evaluation by Rapporteur Member State</b>
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Pyriproxyfen; CAS number: 95737-68-1

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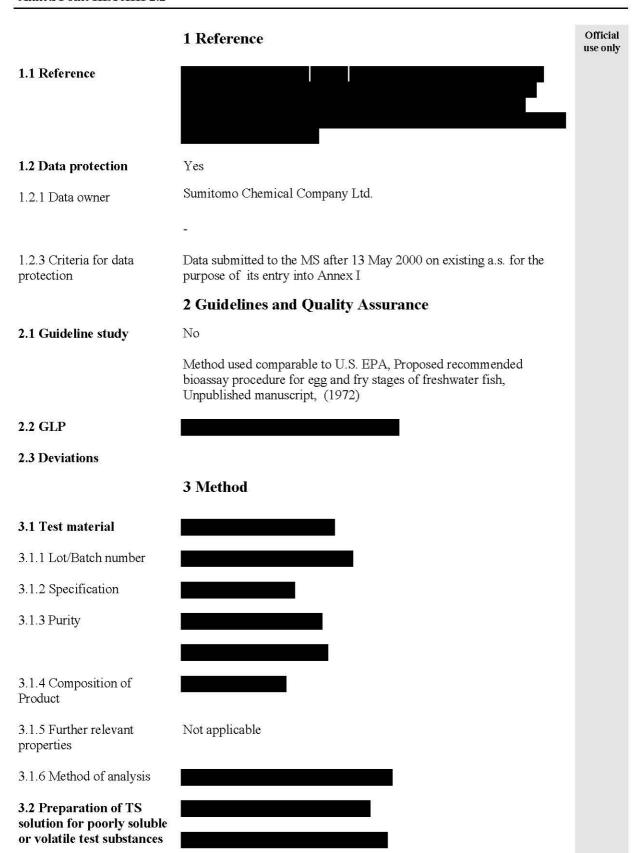
January 2012

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#### 7.4.3.2 Effects on reproduction and growth rate of fish

Section A7.4.3.2 Annex Point IIIA XIII 2.2 Effects on reproduction and growth rate of fish



Pyriproxyfen; CAS number: 95737-68-1 January 2012 RMS: NL Doc IIIA 307 / 514 3.3 Reference substance No 3.3.1 Method of analysis for Not applicable reference substance 3.4 Testing procedure 3.4.1 Dilution water 3.4.2 Test organisms 3.4.3 Handling of embryos and larvae (OECD 210/212) 3.4.4 Test system 3.4.5 Test conditions 3.4.6 Duration of the test 95 Days 3.4.7 Test parameter(s) Egg Hatchability, Fry Survival, Fry Growth 3.4.8 Examination / Day 0, 1, 7 and then weekly thereafter Sampling 3.4.9 Monitoring of TS concentration 3.4.10 Statistics 4 Results 4.1 Range finding test Not performed 4.1.1 Concentrations Not applicable

Pyriproxyfen; CAS number: 95737-68-1 January 2012
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4.1.2 Number/ percentage of Not applicable

animals showing adverse effects

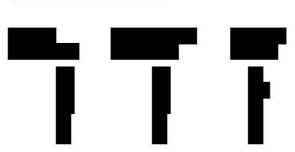
4.1.3 Nature of adverse effects

Not applicable

#### 4.2 Results test substance

4.2.1 Initial concentrations of test substance

4.2.2 Actual concentrations of test substance

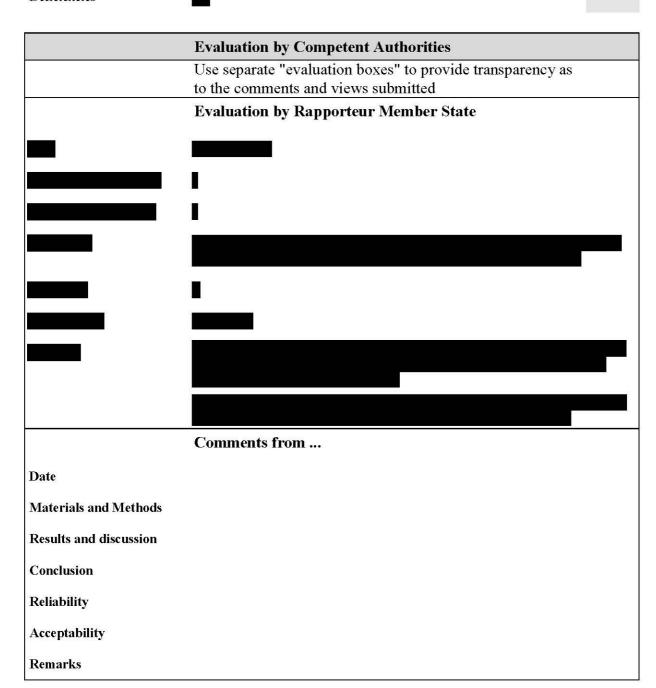


4.2.3 Effect data



Pyriproxyfen; CAS number: 95737-68-1 January 2012 RMS: NL Doc IIIA 309 / 514 4.2.4 Concentration / response curve 4.2.5 Other effects 4.3 Results of controls 4.3.1 Number/ percentage of animals showing adverse effects 4.3.2 Nature of adverse Not applicable effects 4.4 Test with reference substance 4.4.1 Concentrations 4.4.2 Results 5 Applicant's Summary and conclusion The study was conducted following a method comparable to U.S. EPA, 5.1 Materials and methods Proposed recommended bioassay procedure for egg and fry stages of freshwater fish, Unpublished manuscript, (1972). The test system was flow through and rainbow trout was the test organism Based on the most sensitive endpoint (growth) evaluated during this 61-5.2 Results and discussion day post hatch rainbow trout early life stage study the maximum acceptable toxicant concentration (MATC) limits for Sumilarv are estimated to be the mean measured concentrations of 4.3  $\mu g/L$ (NOEC) and 6.7µg/L (LOEC) with the point estimate MATC value being 5.4 µg/L 5.2.1 NOEC  $4.3 \mu g/L$ 5.2.2 LOEC  $6.7 \mu g/L$ The evaluation criteria for OECD guidelines 210/11 and 215 were all Conclusion met by this study. Based on the most sensitive endpoint (growth), the NOEC was  $4.3 \mu g/L$  and the LOEC was  $6.7 \mu g/L$ **Other Conclusions** 

Pyriproxyfen; CAS number: 95737-68-1 Doc IIIA		January 2012 RMS: NL
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Reliability		
Deficiencies		



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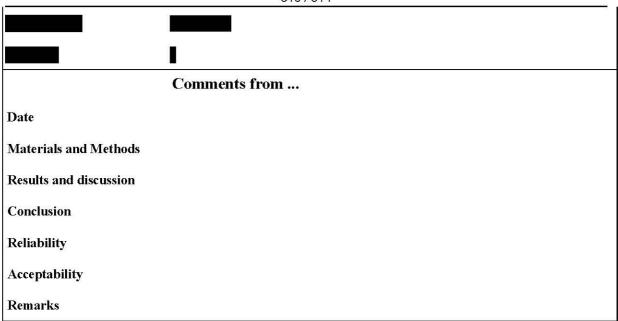
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### 7.4.3.3 Bioaccumulation in an aquatic organism

## 7.4.3.3.1 Bioaccumulation in an appropriate species of fish

Pyriproxyfen has a Log Pow of 5.37, which may give concerns with regard to possible bioaccumulation and subsequent secondary poisoning. However, information included within the dossier clearly indicates that this is not a concern. A fish bioconcentration study is submitted under Point 7.4.2. This study does not give a very high BCF (Whole fish 1379 to 1495) and pyriproxyfen is rapidly depurated from the fish (DT  $_{50}$  0.86 to 1.63 days).

Evaluation by Competent Authorities
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
Evaluation by Rapporteur Member State
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## 7.4.3.3.2 Bioaccumulation in an appropriate invertebrate species

Pyriproxyfen has a Log Pow of 5.37, which may give concerns with regard to possible bioaccumulation and subsequent secondary poisoning. However, information included within the dossier clearly indicates that this is not a concern.

The aquatic bioconcentration study summarised at Point 7.4.2 does not give a very high BCF (Whole fish 1379 to 1495) and pyriproxyfen is rapidly depurated from the fish ( $DT_{50}$  0.86 to 1.63 days). Pyriproxyfen is also not persistent within the environment with a mean  $DT_{50}$  in aquatic systems of 6.6 days. The risk of bioaccumulation can therefore be considered low and a bioaccumulation study in an aquatic invertebrate species is not necessary.

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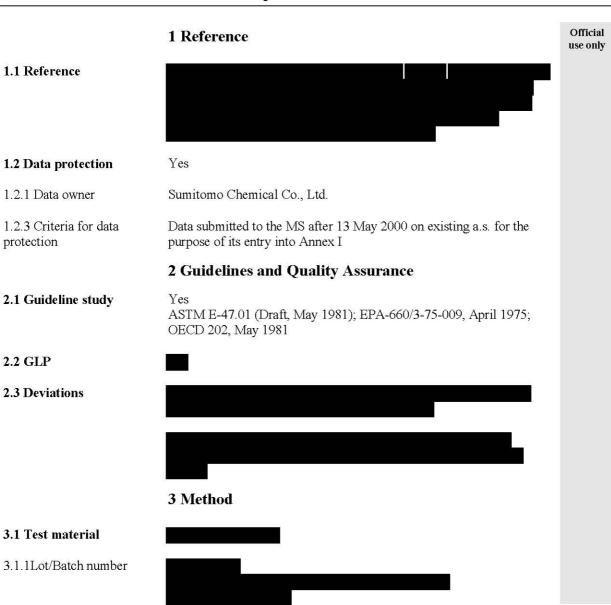
Pyriproxyfen; CAS number: 95737-68-1 January 2012
Doc IIIA RMS: NL

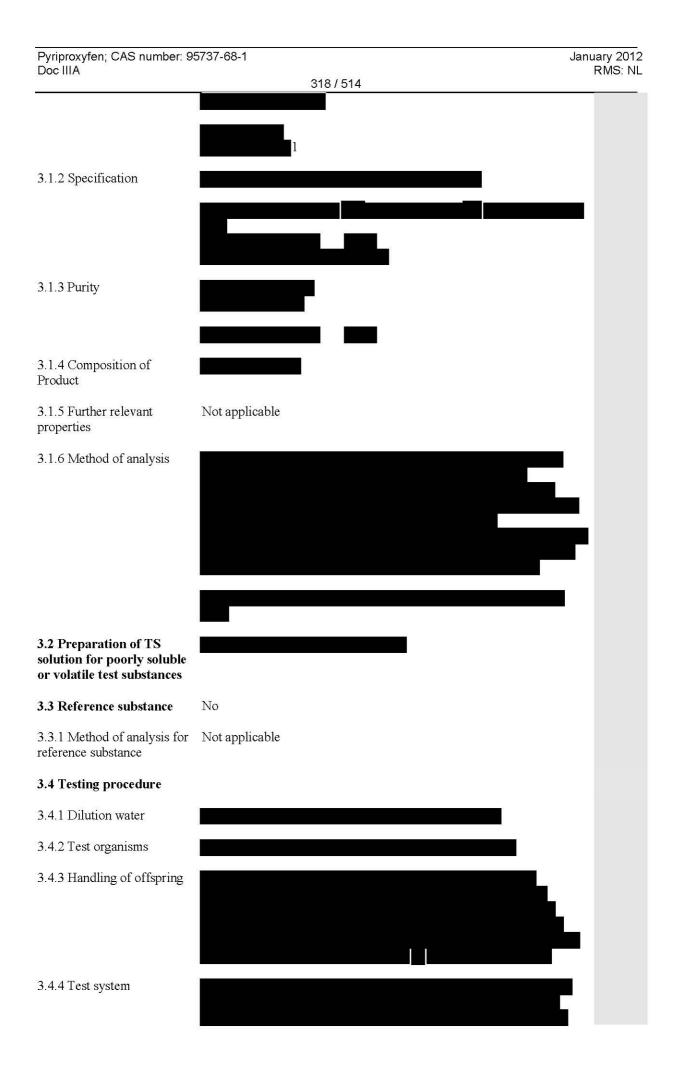
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Materials and Methods
Results and discussion
Conclusion
Reliability
Acceptability
Remarks

#### 7.4.3.4 Effects on reproduction and growth rate with an invertebrate species

Section A7.4.3.4/01 Effects on reproduction and growth rate with an Annex Point IIIA XIII 2.4 invertebrate species





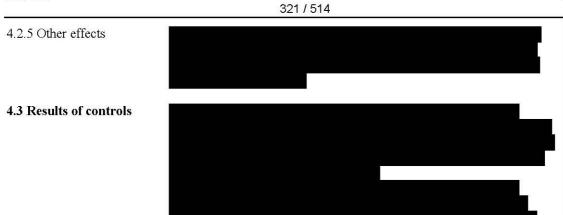


Pyriproxyfen; CAS number: 95737-68-1

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# 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

Two 21-day flow-through chronic toxicity dose-response tests were performed in order to evaluate the effects of on the immobilisation (mortality) and reproduction rate of Daphnia magna. The tests were following the procedures outlined in the guidelines ASTM E-47.01 (Draft, May 1981); EPA-660/3-75-009, April 1975 and OECD 202, May 1981. the study was conducted with radio-labelled test material in order to verify the exposition concentrations

There were slight deviations from the guideline regarding food supply and turnover rate (see 2.3.). These deviations were considered not to have affected the study outcome.

#### 5.2 Results and discussion

5.2.2 LOEC

Summarize relevant results; discuss relevant test material-specific properties (e.g. solubility, stability, adsorption behaviour, volatility)

In the first test (with lower test concentrations), mean measured test concentrations (analysed at six dates throughout the study) ranged from 71% to 93% of nominal, indicating that the nominal concentrations were generally achieved. In the second test (with lower test concentrations), mean measured test concentrations (analysed at six dates throughout the study) ranged from 75% to 111% of nominal, indicating that the nominal concentrations were achieved.

In both studies, the mortality of the adult Daphnia was not affected in any of the treated groups. No clear effects on the reproductive success and body length were observed in test 1. During Test 2, statistically significant effects ( $\alpha$ =0.05) were recorded regarding time to first brood, reproductive success and body length of P<sub>0</sub>-generation.

5.2.1 NOEC 15 ng/L (at p = 0.05) for reproduction and body length  $\geq$ 240 ng/L (at p = 0.05) for mortality and immobilisation

27 ng/L (at p = 0.05) for reproduction and body length >240 ng/L (at p = 0.05) for mortality and immobilisation

 $5.2.3 \,\mathrm{EC}_{50} \,(\mathrm{EC}_{\mathrm{x}})$  EC<sub>50</sub>: >240 ng/L (mortality and immobilisation)

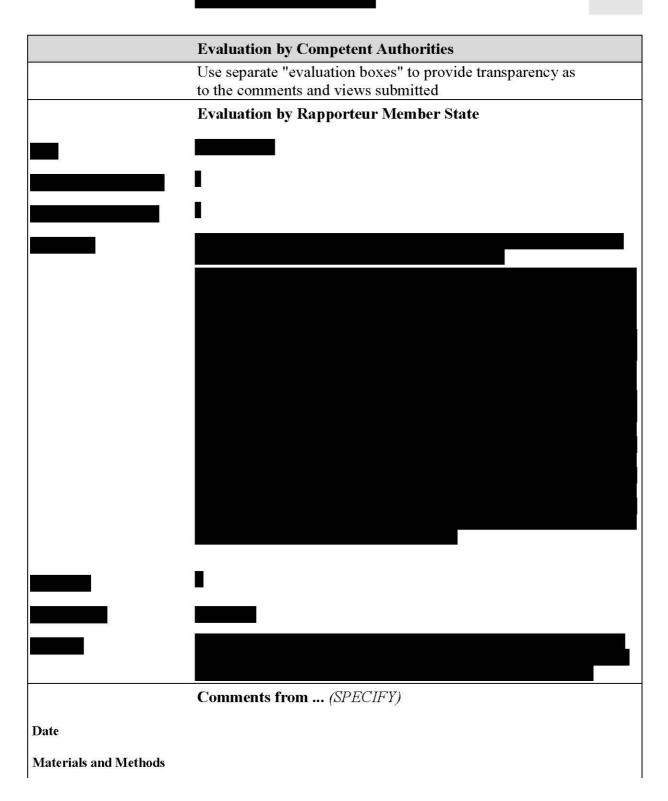
Pyriproxyfen; CAS number: 95737-68-1 January 2012
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5.3 Conclusion

The validity criteria can be considered as fulfilled. A clear dose-response relationship was observed for the reproductive success (see validity criteria summarized in table A7.4.3.4-08)

5.3.1 Reliability

5.3.2 Deficiencies



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Conclusion
Reliability
Acceptability
Remarks

Test 1 and Test 2: 164-188 mg/L as CaCO <sub>3</sub>

Table A7.4.3.4-03: Test organisms

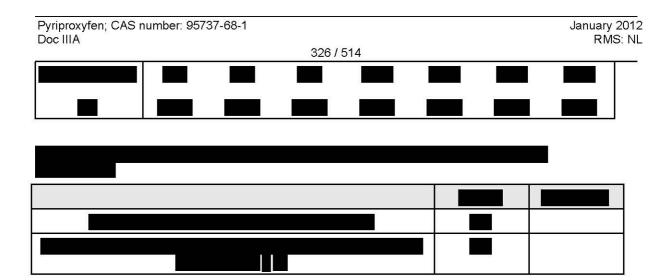
Table A7.4.3.4-03: Test organisms	
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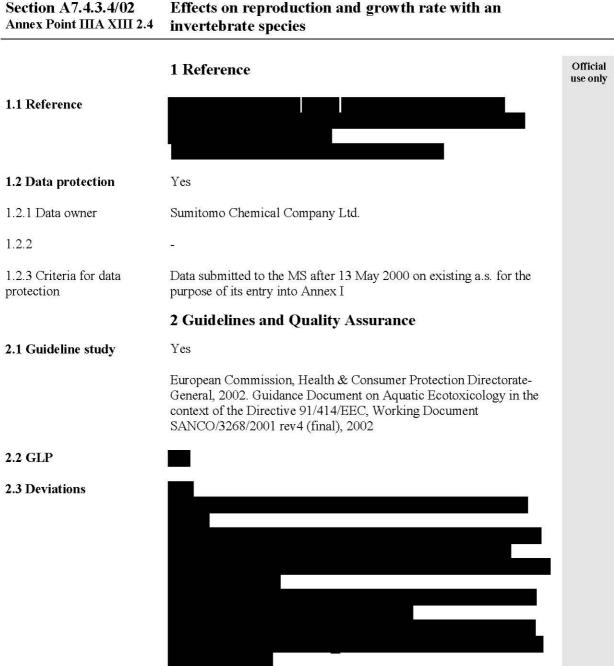
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#### Effects on reproduction and growth rate with an Annex Point IIIA XIII 2.4 invertebrate species



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# 3 Method 3.1 Test material 3.1.1Lot/Batch number 3.1.2 Specification 3.1.3 Purity 3.1.4 Composition of Product 3.1.5 Further relevant Not applicable properties 3.1.6 Method of analysis Not applicable 3.2 Preparation of TS solution for poorly soluble or volatile test substances 3.3 Reference substance No 3.3.1 Method of analysis for Not applicable reference substance 3.4 Testing procedure 3.4.1 Test water 3.4.2 Test organisms 3.4.3 Test system 3.4.4 Test conditions 36 days acclimation, 57 days after dosing 3.4.5 Duration of the test 3.4.6 Test parameter Community effects 3.4.7 Examination / Samples were taken at 8 and 1 days before application, and at 3, 7, 14, Sampling (Zooplankton) 21, 28, 35, 42, 49 and 56 days after application to assess effects on zooplankton (species composition and abundance). On each occasion, water was sampled in each microcosm from several points by means of a perspex tube to obtain a total sample volume of approximately 1 litre. The water was filtered through a 55-µm mesh plankton net and the plankton preserved in formalin. The filtered water was poured back into microcosm from which it had originally been taken 3.4.8 Examination / Effects on phytoplankton (chlorophyll-a) were carried out at the same Sampling (Phytoplankton) time as for the zooplankton, in order to avoid a dilution effect on the chlorophyll-a. An integral water sample of about 250 mL was collected from each microcosm, at three random locations. Water samples of ca. 100 mL were concentrated over a glass-fibre filter, using a vacuum pump and surplus water and filtrates were returned to the appropriate microcosms

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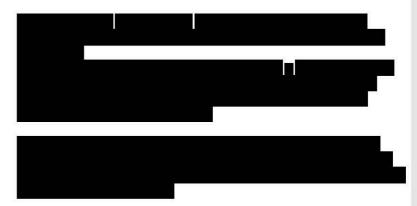
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#### 3.4.9 Monitoring of TS concentration

Yes

Samples were taken from the 5 µg a.s./L microcosm at -1d, < 1 h, 1 d, 3 d, 7 d, 14 d and every 2 weeks, until 2 consecutive time points gave an analysis below the limit of detection (approximately 0.01 µg a.s./L). Additional analysis of water samples taken from all microcosms shortly after application (about 1 hour) was conducted to verify the initial exposure concentrations

#### 3.4.9 Statistics



#### 4 Results

#### 4.1 Range finding test

Not performed

4.1.1 Concentrations

Not applicable

4.1.2 Number/percentage of Not applicable

animals showing adverse

effects

4.1.3 Nature of adverse effects

Not applicable

#### 4.2 Results test substance

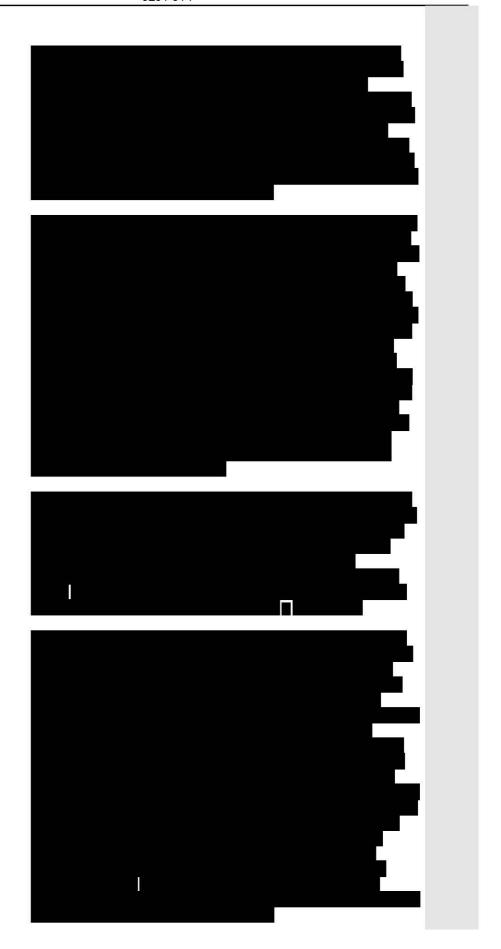
4.2.1 Initial concentrations of test substance

4.2.2 Actual concentrations of test substance



4.2.3 Effect data

4.2.3.1 Effect data (Zooplankton)





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4.2.4 Concentration / response curve

4.2.5 Other effects

#### 4.3 Results of controls

# 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

This test to assess the impact of was carried out in indoor laboratory plankton-dominated microcosms. The guidelines followed were:

European Commission, Health & Consumer Protection Directorate-General, 2002. Guidance Document on Aquatic Ecotoxicology in the context of the Directive 91/414/EEC, Working Document SANCO/3268/2001 rev4 (final), 2002.

Nominal concentrations of 0.00, 0.02, 0.08, 0.32, 1.2, 5 and 20 µg a.i./L were applied as a single application to microcosms. Effects on zooplankton, phytoplankton, and community metabolism were measured. The concentration of pyriproxyfen was measured over time for one microcosm in the 5µg a.i./L group

#### 5.2 Results and discussion

The measured concentrations from samples taken showed that the nominal values were achieved. The half-life for pyriproxyfen in the water phase of the fate microcosm (5  $\mu$ g a.i./L – treatment level) was about 1 day. There were no consistent treatment-related effects in physico-chemical endpoints

There were no consistent treatment related effects on nutrients or chlorophyll-a levels.

The cladoceran *Daphnia* gr.*galeata* was the most sensitive taxon and its NOEC<sub>population</sub> was 1.2  $\mu$ g a.i./L. Duration of effects at the 5 $\mu$ g a.i./L was < 7 days. At the 20  $\mu$ g a.i./L treatment level effects were consistent. Recovery occurred within 35 days

There were no consistent treatment-related effects on copepods. Some rotifer populations showed a consistent increase in abundance in the 20  $\mu g$  a.i./L microcosms. However the total rotifer abundance had recovered within 28 days of treatment. The NOEC for rotifers was 5  $\mu$  a.i./L

The NOEC<sub>community</sub> was 5  $\mu$ g a.i./L Recovery of the community was within 28 days in the 20  $\mu$ g a.i./L microcosms. The community response was mainly dominated by the increase in rotifers. This can be explained by a reduction in grazing/competition on this group as a result of direct effects caused by pyriproxyfen on sensitive zooplankton at the highest treatment level. Indirect effects (increase in rotifers) were of a longer duration than direct effects (decrease in sensitive cladocerans in the form of D.gr. galeata)

5.2.1 NOEC NOEC for most sensitive population (Daphnia gr. galeata) = 1.2  $\mu g$ 

a.i./L

 $NOEC_{community} = 5.0 \mu g \ a.i./L$ 

5.2.2 LOEC Not reported

## **5.3 Conclusion** Summary of effects:

Treatment (µg a.i./L)	Response
0.02	No treatment-related effects observed
0.08	No treatment-related effects observed
0.32	No treatment-related effects observed
1.2	No treatment-related effects observed.  NOEC for cladoceran populations
5.0	Slight transient effect: reduction in 1 cladoceran species, duration < 1 week. No effects at the community level – NOECcommunity
20.0	Clear effects: Reduction in cladocerans but recovery within 35 days after treatment, indirect effects on some rotifers were observed, with an increase in one species up to the end of the experiment. However, most rotifer species, as well as total rotifer abundance had recovered within 42 days. Community recovery occurred within 28 days after treatment.

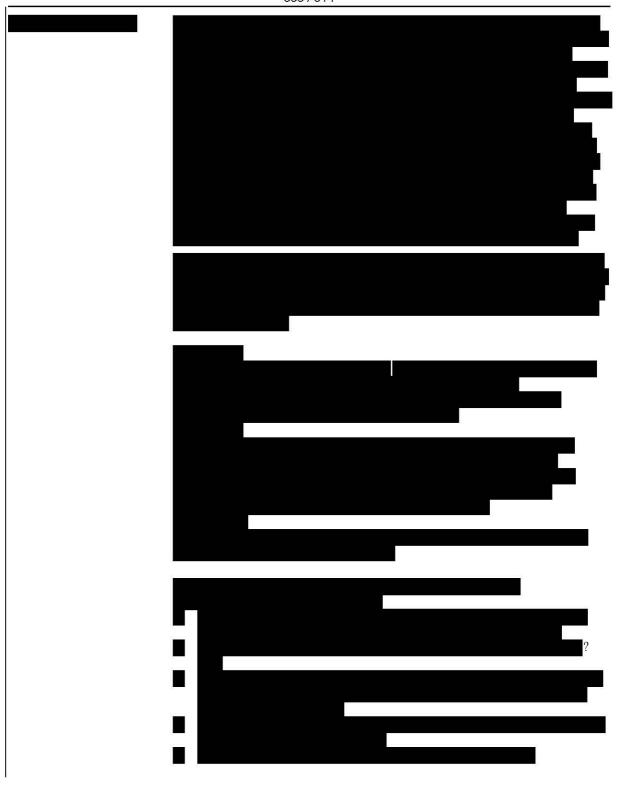
5.3.1 Reliability

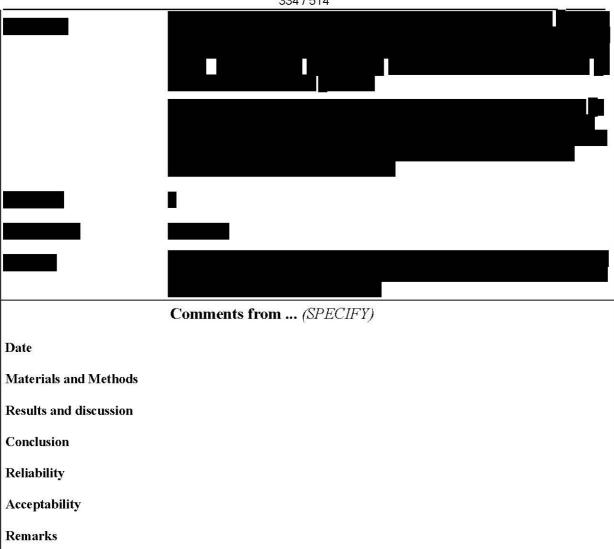
5.3.2 Deficiencies

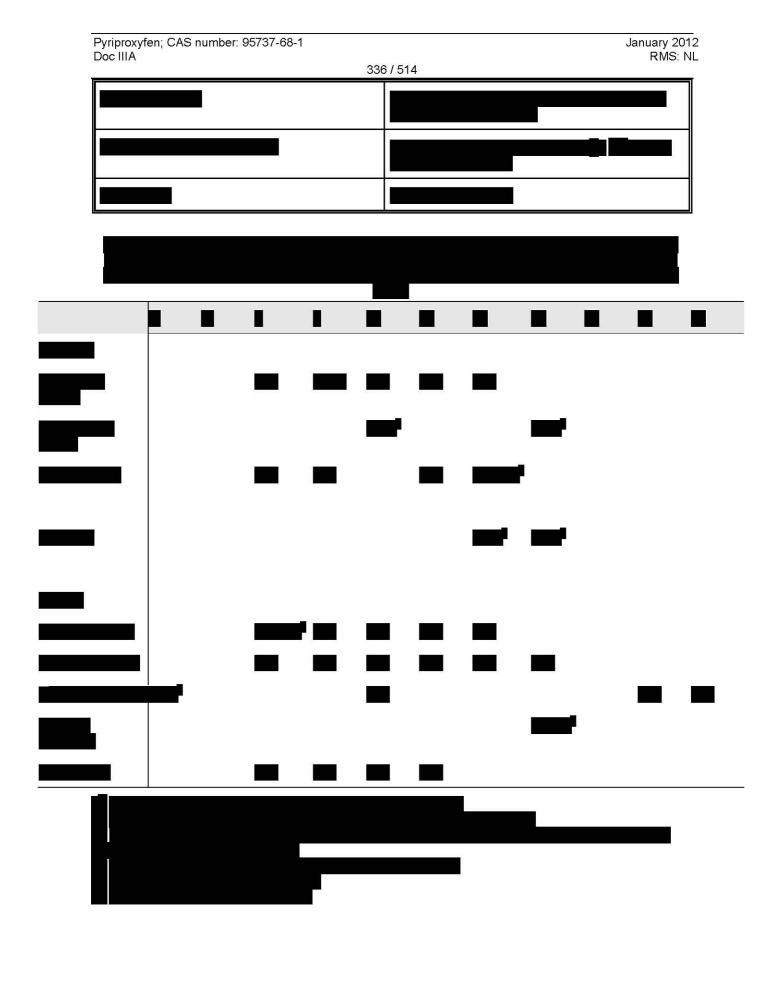
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**Evaluation by Rapporteur Member State** 









## 7.4.3.5 Effects on any other specific, non-target organisms (flora and fauna) believed to be at risk

#### Effects on sediment dwelling organisms 7.4.3.5.1

Section A7.4.3.5.1/01 Effects on sediment dwelling organisms Annex Point IIIA XIII 2.4

1.1 Reference	1 Reference	Official use only
1.2 Data protection	Yes	
1.2.1 Data owner	Sumitomo Chemical Company, Ltd.	
1.2.2		
1.2.3 Criteria for data protection	Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I $$	
	2 Guidelines and Quality Assurance	
2.1 Guideline study	OECD 219 (Draft, 2001)	

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338 / 514 2.2 GLP 2.3 Deviations 3 Method 3.1 Test material 3.1.1Lot/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 Not applicable 3.3 Reference substance 3.3.1 Method of analysis for Not applicable reference substance 3.4 Testing procedure 3.4.1 Dilution water Non-biting Midge (Chironomus riparius). 3.4.2 Test organisms 3.4.3 Handling of offspring 3.4.4 Test system Glass beakers containing sediment and water, 3.4.5 Test conditions 3.4.6 Duration of the test 28 days

3.4.7 Test parameter

Emergence/sex ratio

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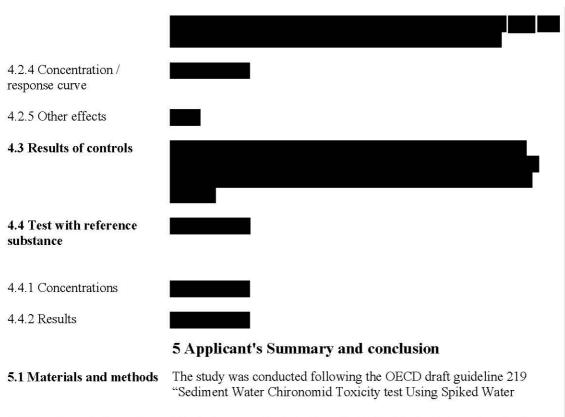
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3.4.8 Examination / During period of expected emergence, daily check of emerged midges, number and sex of emerged midges was recorded Sampling 3.4.9 Monitoring of TS concentration 3.4.10 Statistics 4 Results 4.1 Range finding test Not performed 4.1.1 Concentrations Not applicable 4.1.2 Number/percentage of Not applicable animals showing adverse effects 4.1.3 Nature of adverse Not applicable effects Non-entry field 4.2 Results test substance 4.2.1 Initial concentrations 2.5, 5, 10, 20 and 40 µg a.i./L of test substance 4.2.2 Actual concentrations of test substance 4.2.3 Effect data

Midges emerged	



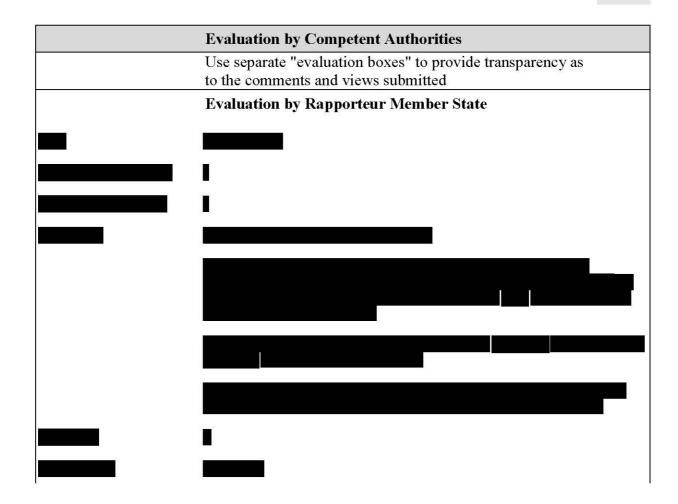
5.2 Results and discussion

The test was conducted with radiolabelled test substance in spiked water. Since the test substance disappears rapidly from the water phase, the values measured one hour after application do not reflect the whole amount of applied test substance, but only the proportion that still was in the water phase one hour after application. That is why the results were based on nominal values and not on measured values

No statistically significant deviations from the pooled controls were observed

5.2.1 NOEC ≥40 µg a.s./L

Pyriproxyfen; CAS number: 95737-68-1 Doc IIIA		January 2012 RMS: NL
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5.2.2 LOEC	>40 µg a.s./L	
$5.2.3  \mathrm{EC}_{50}  (\mathrm{EC}_{x})$	>40 μg a.s./L	
5.3 Conclusion	The validity criteria can be considered as fulfilled.	
5.3.1 Reliability		
5.3.2 Deficiencies		





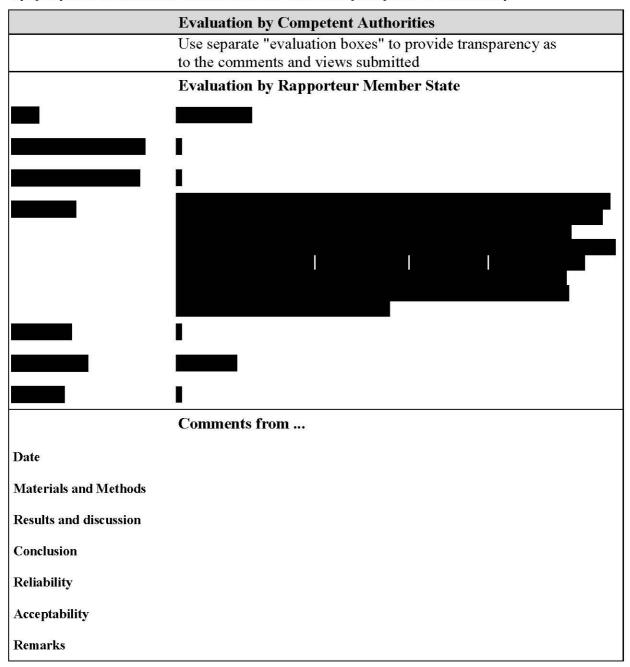
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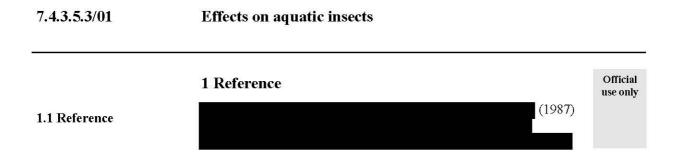
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#### 7.4.3.5.2 Aquatic plant toxicity

Pyriproxyfen is an insecticide, therefore additional tests with aquatic plants are not necessary.

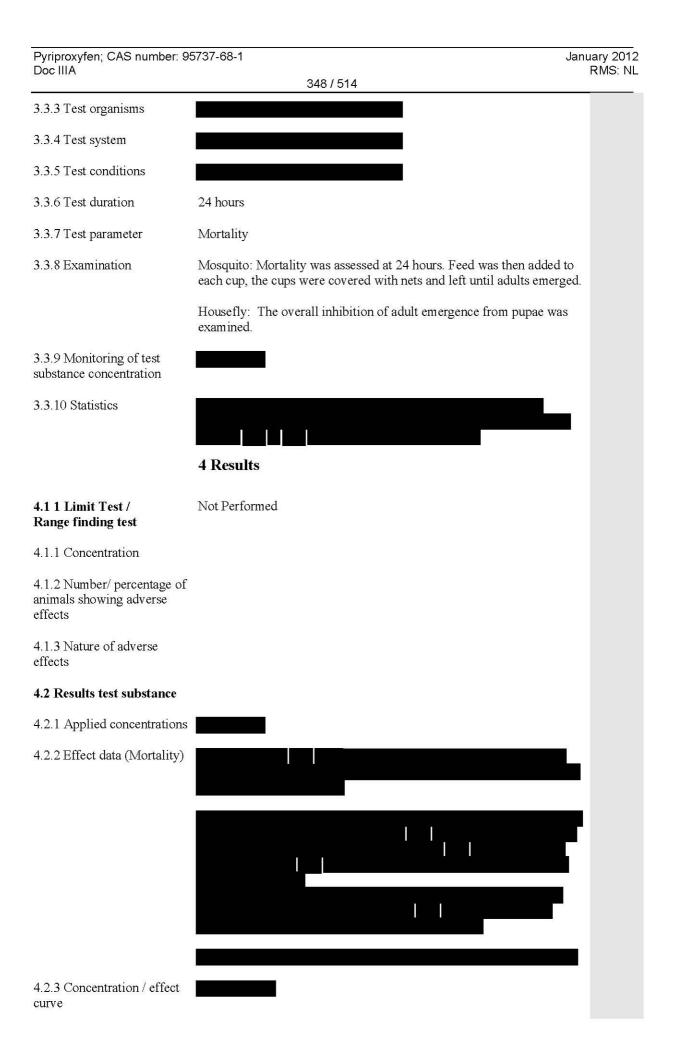




Pyriproxyfen; CAS number: 95737-68-1 January 2012
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1.2 Data protection	No
1.2.1 Data owner	Published report
1.2.3 Criteria for data protection	Data submitted to the MS after 13 May $2000$ on existing a.s. for the purpose of its entry into Annex I
	2 Guidelines and Quality Assurance
2.1 Guideline study	No
2.2 GLP	No
2.3 Deviations	
	3 Method
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 Reference substance	Methoprene (purity 88.2%), diflubenzuron (25% wettable powder), temephos (5% wettable powder)
3.2.1 Method of analysis for reference substance	
3.3 Testing procedure	
3.3.1 Preparation of the test substance	
3.3.2 Application of the test substance	

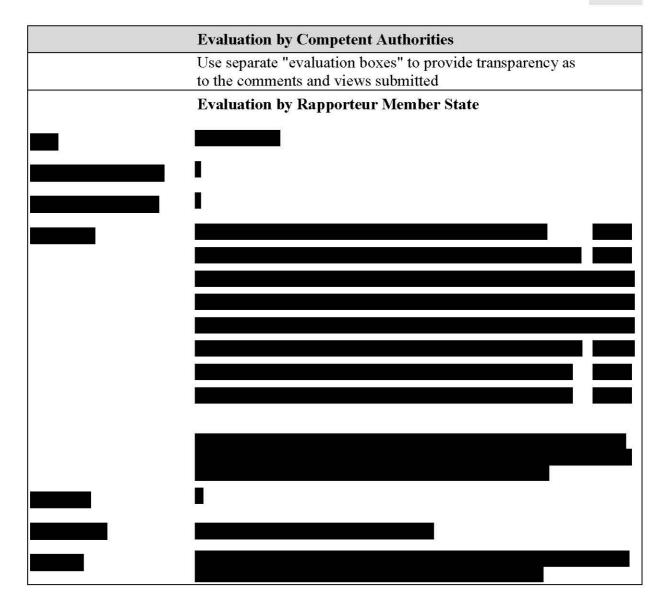


Pyriproxyfen; CAS number: 95 Doc IIIA	5737-68-1 Jar	nuary 2012 RMS: NL
DOC IIIA	349 / 514	KIVIO, INL
4.2.4 Effect Data (Reproduction)		
4.2.5 Other effects		
4.3 Results of controls		
4.3.1 Mortality		
4.3.2 Number/ percentage of animals showing adverse effects		
4.3.3 Nature of adverse effects		
4.4 Test with reference substance		
4.4.1 Concentrations		
4.4.2 Results		
	5 Applicant's Summary and conclusion	
5.1 Materials and methods	The activity against the larvae of Culex pipiens pallens, Anopheles stephensi and Aedes aegypti was evaluated by the immersion method.  Mortality was assessed at 24 hours, then feed was added to the cup which was covered with a cup until adults emerged.  The effects of on eggs or 4-day old larvae of Musca domestical were evaluated using the artificial and chicken manure medium methods. Eggs deposited within 3 hours or larvae were released into the medium and were reared until pupation. Pupae were transferred into new containers and the adults that emerged normally were counted.	
5.2 Results and discussion		X
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5.2.1 NOEC	Not reported	

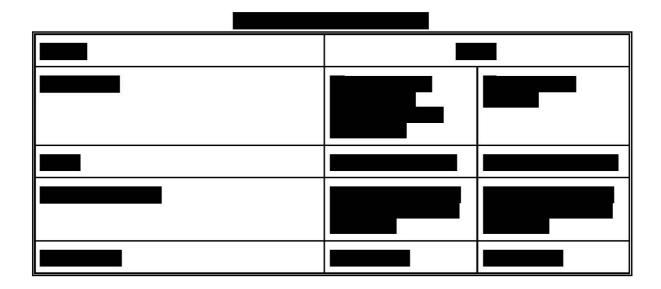
Pyriproxyfen; CAS number: 95737-68-1
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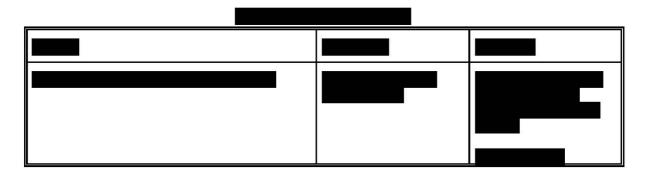
January 2012
RMS: NL

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5.2.2 LOEC	Not reported	
5.2.3 IC <sub>50</sub>	The IC <sub>50</sub> values against the larvae of of <i>Culex pipiens</i> pallens, <i>Anopheles stephensi</i> and <i>Aedes aegyptiwa</i> were $0.0046$ , $0.043$ and $0.023$ ppb respectively.	
	Against WHO and CSMA strain larvae the IC $_{50}$ values were 0.0091 and 0.0031 $\mu g/g$ medium.	ľ
$5.2.4  \mathrm{LC}_{100}$		
5.3 Conclusion	is a strong insect growth regulator and should be of practical use for control of these insects.	
5.3.1 Other Conclusions		
5.3.2 Reliability		
5.3.3 Deficiencies		



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Materials and Methods		
Results and discussion		
Conclusion		
Reliability		
Acceptability		
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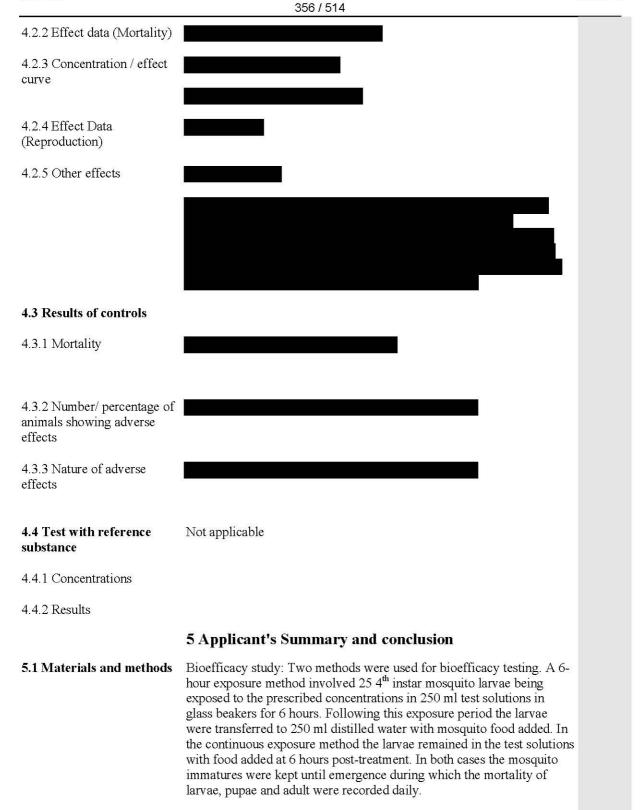
### 7.4.3.5.3/02 Effects on aquatic insects

Official 1 Reference use only 1.1 Reference No 1.2 Data protection 1.2.1 Data owner Published report 1.2.3 Criteria for data Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I protection 2 Guidelines and Quality Assurance 2.1 Guideline study Yes WHO (1981) Instruction for determining the susceptibility or resistance of mosquito larvae to insect developmental inhibitors. WHO/UBC/91.812 2.2 GLP 2.3 Deviations 3 Method 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 Reference substance 3.2.1 Method of analysis for reference substance 3.3 Testing procedure 3.3.1 Preparation of the test

Pyriproxyfen; CAS number: 95737-68-1 January 2012 RMS: NL Doc IIIA 355 / 514 substance 3.3.2 Application of the test substance 3.3.3 Test organisms 3.3.4 Test system 3.3.5 Test conditions 3.3.6 Test duration 6 hour exposure method: 6 hours exposure followed by emergence period in distilled water Continuous exposure method: The larvae were exposed continuously to the test solution until emergence. 3.3.7 Test parameter Bioefficacy study: mortality including abnormal immatures and adults. The parameters of the sub-lethal effects study were % pupation, % adult emergence and its sex ratio, fecundity of emerging adults and % hatchability of eggs produced by emerging adults. 3.3.8 Examination The mortality of larvae, pupae and adults were recorded daily in the bioefficacy study. In the sub-lethal effects study, daily observations were made of pupation, adult emergence, sex ratio, fecundity and hatchability of eggs. 3.3.9 Monitoring of test substance concentration 3.3.10 Statistics 4 Results 4.1 1 Limit Test / Not Performed Range finding test 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 Applied concentrations 0, 0.4, 2.0, 20.0, 40.0, 60.0 and 100 x 10<sup>-5</sup> mg/l

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Sub-lethal effect study: Using the  $LC_{50}$  value determined under continuous exposure,  $4^{th}$  instar larvae were exposed to  $2.14 \times 10^{-5}$  mg/l with 25 larvae per 250 ml solution. After 6 hours exposure food was provided and observations were made of sub-lethal effects until the completion of the experiment. For the fecundity experiment, 30 blood fed females were placed individually in polyethelene cups containing moist filter paper. The egg laying period was limited to 5 days. The filter paper was then dried for 2 days and the eggs were

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counted. All eggs were given a single flooding and the number of larvae hatched within 5 days was taken as an indication of egg hatchability. Sub lethal effects in the F1 generation were determined by looking at the % of pupation, % of adult emergence and its related sex ratio.

#### 5.2 Results and discussion

The results from both the 6-hour and the continuous exposure methods indicated that caused more mortality at pupal than at larval or adult stages. The LC<sub>50</sub> values and 95% confidence limits for the exposure methods were  $25.57 \times 10^{-5}$  (18.39 – 31.43) and  $2.14 \times 10^{-5}$  (1.49 -2.93mg/l for the 6 hour and continuous exposure methods respectively. The continuous exposure method was able to control *Aedes aegypti* at a much lower dose than the 6-hour method.

The sub lethal effects seen all occurred in the treated generation. Adult emergence was reduced by 48.7%, sex ratio for the emerging female versus male ratio was 1.7:1.0 and egg hatchability was reduced by 36.8%. For the F1 generation, all parameters tested showed no significant effect. This suggested that did not persist in the subsequent generation.

5.2.1 NOEC Not reported

 $5.2.2 \, \text{LOEC}$   $0.4 \times 10^{-5} \, \text{mg/l}$ 

5.2.3 LC<sub>50</sub> 6-hour exposure method:  $25.57 \times 10^{-5} \text{ mg/l}$ 

Continuous exposure method: 2.14 x 10<sup>-5</sup> mg/l

5.2.4 LC<sub>100</sub> Not applicable

5.3 Conclusion

The continuous exposure method was able to control *Aedes aegypti* at lower doses. The  $LC_{50}$  value of  $2.14 \times 10^{-5}$  mg/l is consistent with previously obtained results. Most of the mortality occurred in the pupal stage and a minimal level occurred at the larval and adult stages. The action of was similar to terpenoid and butyl-substituted insect growth regulators. The F1 generation did not show any effects on the percentage of pupae or adult emergence and the sex ratio was similar to that of mosquitoes in the field. This suggested that did not persist in the subsequent generation.

5.3.1 Other Conclusions

5.3.2 Reliability

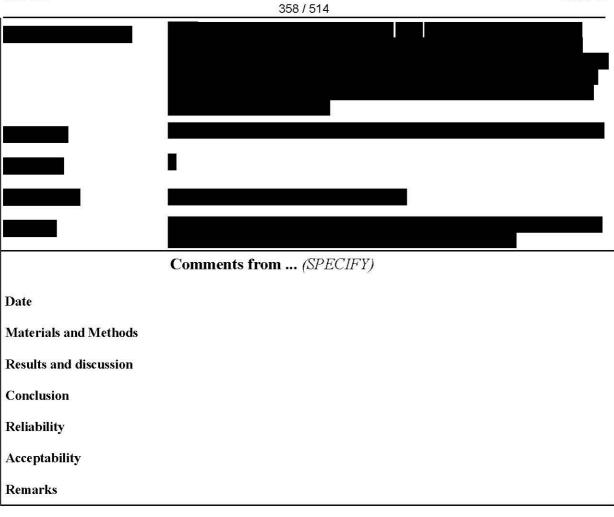
5.3.3 Deficiencies

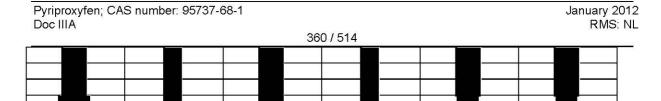
#### **Evaluation by Competent Authorities**

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

**Evaluation by Rapporteur Member State** 

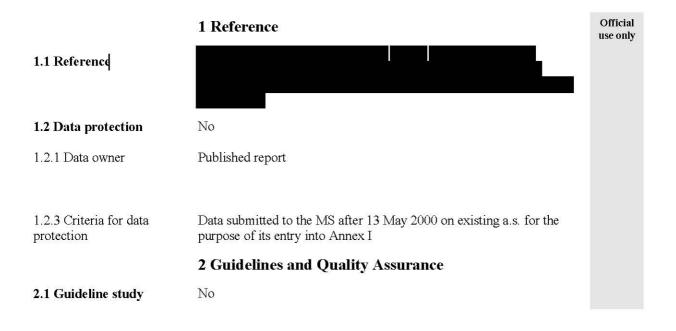
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# 7.4.3.5.3/03 Effects on aquatic insects



Pyriproxyfen; CAS number: 95737-68-1 January 2012 Doc IIIA RMS: NL 361 / 514 2.2 GLP 2.3 Deviations 3 Method 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 Reference substance Methoprene 3.2.1 Method of analysis for reference substance 3.3 Testing procedure 3.3.1 Preparation of the test substance 3.3.2 Application of the test substance 3.3.3 Test organisms 3.3.4 Test system 3.3.5 Test conditions 3.3.6 Test duration 10 days 3.3.7 Test parameter Emergence/mortality 3.3.8 Examination Emergence was determined 10 days after insecticide exposure 3.3.9 Monitoring of test substance concentration 3.3.10 Statistics 4 Results

4.1 1 Limit Test /

Not Performed

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# Doc IIIA 362 / 514 Range finding test 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 Applied concentrations 4.2.2 Effect data (Mortality) 4.2.3 Concentration / effect curve 4.2.4 Effect Data (Reproduction) 4.2.5 Other effects 4.3 Results of controls 4.3.1 Mortality 4.3.2 Number/percentage of animals showing adverse effects 4.3.3 Nature of adverse effects 4.4 Test with reference substance 4.4.1 Concentrations 4.4.2 Results 5 Applicant's Summary and conclusion As part of an evaluation into the efficacy of novel insecticides in the 5.1 Materials and methods control of Aedes aegypti the toxicity of pyriproxyfen was tested.



5.2 Results and discussion

Pyriproxyfen was approximately 28 fold more toxic to Aedes aegypti than methoprene.

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5.2.1 NOEC	Not reported		
5.2.2 LOEC	Not reported		
5.2.3 LC <sub>50</sub>	The $EC_{50}$ for pyriproxyfen was 0.0017 µg/l.		
5.2.4 LC <sub>100</sub>	Not reported		
5.3 Conclusion	Pyriproxyfen is an effective insect growth regulator preventing the emergence of adults from treated larvae and is considered promising fo mosquito control. Insect growth regulators are slower acting than other types of insecticide but are highly potent.		
5.3.1 Other Conclusions			
5.3.2 Reliability			
5.3.3 Deficiencies			

