[redacted]	Amount [redacted]		
	[redacted]		
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]

7.2.2.3 Extent and nature of bound residues

No specific studies available. Further studies are not required as sufficient information on the extent and nature of bound residues in soil is provided in the laboratory aerobic soil metabolism studies (section 7.2.2.1).

	Evaluation by Competent Authorities
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	Evaluation by Rapporteur Member State
[redacted]	[redacted]
	Comments from ...
Date	
Materials and Methods	
Results and discussion	
Conclusion	
Reliability	
Acceptability	
Remarks	

7.2.2.4 Other soil degradation studies

Section A7.2.2.4/01 Other soil degradation studies – soil photolysis

Official use only

1 Reference

1.1 Reference	[redacted] (1995c) [redacted]
1.2 Data protection	Yes
1.2.1 Data owner	Sumitomo Chemical Co., Ltd.
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	Yes Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 161-3
2.2 GLP	Yes
2.3 Deviations	[redacted]

3 Materials and Methods

3.1 Test material	[redacted]
3.1.1 Lot/Batch number	[redacted]
3.1.2 Specification	[redacted]
3.1.3 Purity	[redacted]
3.1.4 Further relevant properties	Not applicable
3.2 Reference substance	[redacted]

[redacted]

[redacted]

3.2.1 Initial concentration of reference substance [redacted]

3.3 Testing procedure

3.3.1 Test system

The photolytic degradation of pyriproxyfen was studied on a [redacted] sandy loam soil. [redacted] Dark controls were

included. [redacted]

3.3.2 Sampling

Duplicate soil samples were taken at 0, 3, 6, 10, 14, and 18 days [redacted] and 0, 2, 4, 7, 10, 14 and 20 days ([redacted] after treatment

3.3.3 Analysis

[redacted]

4 Results

4.1 Distribution of radioactivity

Total recoveries for both irradiated and non-irradiated soil ranged between 91.7-105.9% of the applied radioactivity throughout the study.

[redacted]

4.2 Metabolites identified

[redacted]

4.3 Dissipation rate

[redacted]

5 Applicant's Summary and Conclusion

5.1 Materials and methods

The photolytic degradation of pyriproxyfen was studied on a [redacted] sandy loam soil

The Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 161-3 guidelines were followed without significant deviations

5.2 Results and discussion

[redacted]

5.3 Conclusion

The degradation of pyriproxyfen is accelerated under irradiated conditions. The first order DT_{50} of pyriproxyfen was 7.99-14.1 days in irradiated soil (r^2 0.86-0.96) and 16.2-29.1 days in dark soil (r^2 0.85-0.89). [redacted] was the most important metabolite in the irradiated soil (max. 13.1% AR). Other identified metabolites in irradiated soil were [redacted] (max. ≤3.5% AR) and [redacted] (max. ≤0.6% AR). All metabolites observed in the irradiated soil were also present in the dark control

5.3.1 Reliability [redacted]

5.3.2 Deficiencies [redacted]

Evaluation by Competent Authorities
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
Evaluation by Rapporteur Member State
[redacted]

[redacted]

Comments from ...

Date

Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

[redacted]

[redacted]	[redacted]
[redacted]	
[redacted]	[redacted]
[redacted]	[redacted]
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[redacted]	[redacted]
[redacted]	[redacted]

7.2.3 Adsorption and mobility in soil, further studies

See section 7.2.3.1

7.2.3.1 Adsorption and desorption in accordance with the new test guideline EC C18 or the corresponding OECD 106 and, where relevant, adsorption and desorption of metabolites and degradation products

The adsorption / desorption data for pyriproxyfen are summarised in section 7.1.3.

Section A7.2.3.1/01 Adsorption and desorption of metabolites and degradation products

		Official use only
	1 Reference	
1.1 Reference	[redacted]	
1.2 Data protection	Yes	
1.2.1 Data owner	Sumitomo Chemical Co., Ltd.	
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	Yes Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 163-1	
2.2 GLP	Yes	
2.3 Deviations	No	
	3 Materials and Methods	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	[redacted]	
3.1.3 Purity	[redacted]	
3.1.4 Further relevant properties	[redacted]	
3.1.5 Method of analysis	Adsorption and desorption [redacted] was studied using the batch equilibrium method to determine the K_f and K_{oc} values of [redacted] on four representative agricultural soils and one lake	

sediment. [redacted]

3.2 Degradation products [redacted]

3.2.1 Method of analysis for degradation products [redacted]

3.3 Reference substance [redacted]

[redacted]

3.3.1 Method of analysis for reference substance HPLC

3.4 Soil types [redacted]

3.5 Testing procedure

3.5.1 Test system [redacted]

Preliminary investigations were conducted to determine the solubility, the adsorption equilibrium time and the appropriate soil or sediment:test solution ratio for the definitive study

4 Results

4.1 Adsorption / desorption

Mass balances ranged from 90-101.2% of applied radioactivity and [redacted] remained stable throughout the adsorption / desorption study. The adsorption and desorption of [redacted] to soil / sediment was well described by the Freundlich equation. [redacted]

[redacted]

4.2 Degradation product(s) No degradation products were detected. [redacted] was stable throughout the study

5 Applicant's Summary and Conclusion

5.1 Materials and methods Adsorption and desorption of [redacted] was studied using the batch equilibrium method to determine the K_f and K_{oc} values of [redacted] on four representative agricultural soils and one lake sediment

The Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 163-1 guidelines were followed without significant deviations

5.2 Results and discussion The adsorption and desorption of [redacted] was well described by the Freundlich equation. The Freundlich coefficients (K_f) for adsorption and desorption of [redacted] anged from 2.76-32.8 and 36.3-386, respectively. The adsorption and desorption coefficients (K_{oc}) based on organic carbon content ranged from 921-4250 and 19077-47542, respectively. No pH dependency was observed. No degradation products were detected. [redacted] was stable throughout the study. The test material specific properties (e.g. solubility, stability, volatility, specific activity, radiochemical purity) are not expected to have any impact on the results of this study

5.3 Conclusion [redacted] can be classified as slightly mobile according to the McCall mobility classification. From these findings it can be concluded that although there is a slight possibility that [redacted] may leach to groundwater, this metabolite is not expected to leach through agricultural soils to groundwater in significant amounts

5.3.1 Reliability [redacted]

5.3.2 Deficiencies [redacted]

Evaluation by Competent Authorities
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
Evaluation by Rapporteur Member State
[redacted]
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[redacted]	[redacted]
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[redacted]	[redacted]

Comments from ...

Date

Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

[redacted]

	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Section A7.2.3.1/02 Adsorption and desorption of metabolites and degradation products

Official use only

1 Reference

1.1 Reference [redacted]

1.2 Data protection Yes

1.2.1 Data owner Sumitomo Chemical Co., Ltd.

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 Yes

Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 163-1

2.2 GLP Yes

2.3 Deviations [redacted]

3 Materials and Methods

3.1 Test material [redacted]

3.1.1 Lot/Batch number [redacted]

3.1.2 Specification [redacted]

3.1.3 Purity [redacted]

3.1.4 Further relevant properties Not applicable

3.1.5 Method of analysis Adsorption and desorption of [redacted] was studied using the batch equilibrium method to determine the K_f and K_{oc} values of [redacted] on four representative agricultural soils and one lake sediment. [redacted]

3.2 Degradation products [redacted]

3.2.1 Method of analysis for degradation products Not applicable

3.3 Reference substance

[redacted]

3.3.1 Method of analysis for reference substance

[redacted]

3.4 Soil types

[redacted]

3.5 Testing procedure

3.5.1 Test system

[redacted]

Preliminary investigations were conducted to determine the solubility, the adsorption equilibrium time and the appropriate soil or sediment:test solution ratio for the definitive study

4 Results

4.1 Adsorption / desorption

[redacted]

4.2 Degradation product(s)

No degradation products were detected. [redacted] was stable throughout the study

5 Applicant's Summary and Conclusion

5.1 Materials and methods

Adsorption and desorption of [redacted] was studied using the batch equilibrium method to determine the K_f and K_{oc} values of [redacted] on four representative agricultural soils and one lake sediment

The Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 163-1 guidelines were followed without

	significant deviations
5.2 Results and discussion	The adsorption and desorption of [redacted] was well described by the Freundlich equation. The Freundlich coefficients (K_f) for adsorption and desorption of [redacted] ranged from 0.11-0.34 and 0.45-1.05, respectively. The adsorption and desorption coefficients (K_{oc}) based on organic carbon content ranged from 9-120 and 57-881, respectively. No pH dependency was observed. No degradation products were detected. [redacted] was stable throughout the study. The test material specific properties (e.g. solubility, stability, volatility, specific activity, radiochemical purity) are not expected to have any impact on the results of this study
5.3 Conclusion	[redacted] can be classified as highly to moderately mobile according to the McCall mobility classification. This metabolite may therefore have an appreciable potential of leaching through agricultural soils to groundwater
5.3.1 Reliability	[redacted]
5.3.2 Deficiencies	[redacted]

Evaluation by Competent Authorities	
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
Evaluation by Rapporteur Member State	
[redacted]	[redacted]
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[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Comments from ...

Date

Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

[redacted]

	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Section A7.2.3.1/03 Adsorption and desorption of metabolites and degradation products

Official use only

1 Reference

1.1 Reference [redacted]

1.2 Data protection Yes

1.2.1 Data owner Sumitomo Chemical Co., Ltd.

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

Not applicable. Calculation only

2.2 GLP No

Calculation only

2.3 Deviations [redacted]

3 Materials and Methods

3.1 Test material Not applicable. Calculation only

3.1.1 Lot/Batch number Not applicable. Calculation only

3.1.2 Specification Not applicable. Calculation only

3.1.3 Purity Not applicable. Calculation only

3.1.4 Further relevant properties Not applicable. Calculation only

3.2 Reference substance Not applicable. Calculation only

3.2.1 Initial concentration of reference substance Not applicable. Calculation only

3.3 Test system The soil adsorption coefficient (K_{oc}) of [redacted] was calculated based on the MCI (molecular connectivity index)/fragment contribution method using the PCKOCWIN© Program (Version 1.6)

4 Results

4.1 Estimated K_{oc} The soil adsorption coefficient (K_{oc}) of [redacted] was calculated to be 9620

5 Applicant's Summary and Conclusion

5.1 Materials and methods The soil adsorption coefficient (K_{oc}) of [redacted] was calculated based on the MCI (molecular connectivity index)/fragment contribution method using the PCKOCWIN© Program (Version 1.6)

5.2 Results and discussion The soil adsorption coefficient (K_{oc}) of [redacted] was calculated to be 9620

5.3 Conclusion The K_{oc} of [redacted] was estimated to be 9620. [redacted] s therefore expected to be immobile in soil and is extremely unlikely to leach to groundwater in significant amounts

5.3.1 Reliability [redacted]

5.3.2 Deficiencies [redacted]

Evaluation by Competent Authorities

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

Evaluation by Rapporteur Member State

[redacted]

Comments from ...

Date

Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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	[redacted]					

Pyriproxyfen and its metabolites [redacted] are not expected to be mobile and will not leach through agricultural soils in significant amounts. [redacted] s expected to be mobile in soil and may therefore have an appreciable potential to leach through agricultural soils to groundwater. However, this metabolite is not formed in significant amounts in soil (max. 8.6% AR) and is readily degraded (DT_{50} 0.4-37 days). It is therefore unlikely that [redacted] will leach through soils to groundwater in significant amounts.

7.2.3.2 Mobility in at least three soil types and where relevant mobility of metabolites and degradation products

Section A7.2.3.2/01 **Mobility in at least three soil types and where relevant mobility of metabolites and degradation products**

Official use only

1 Reference

1.1 Reference	[redacted]
1.2 Data protection	Yes
1.2.1 Data owner	Sumitomo Chemical Co., Ltd.
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 When the study was performed no guidelines were available
2.2 GLP	[redacted]
2.3 Deviations	[redacted]

3 Materials and Methods

3.1 Test material	[redacted]
3.1.1 Lot/Batch number	[redacted]
3.1.2 Specification	[redacted]e
3.1.3 Purity	[redacted]
3.1.4 Further relevant properties	Not applicable
3.2 Reference substance	[redacted]

[redacted]

3.2.1 Initial concentration of reference substance

[redacted]

3.3 Testing procedure

3.3.1 Test system

The leaching behaviour of pyriproxyfen was investigated by soil column method using [redacted] silt loam and [redacted] sandy loam soils.

[redacted]

3.3.2 Sampling

Leachate was collected as a single fraction at the end of leaching

3.3.3 Analysis

[redacted]

4 Results

4.1 Distribution of

[redacted]

radioactivity

[redacted]

5 Applicant's Summary and Conclusion

5.1 Materials and methods

The leaching behaviour of pyriproxyfen was investigated by soil column method using [redacted] silt loam and [redacted] andy loam soils

5.2 Results and discussion

Mass balances were 98% and 93.7% of the applied radioactivity for the [redacted] soil columns [redacted] The majority of the applied radioactivity was retained in the treated soil portion and the 0-5 cm section. Total leached radioactivity was 0.1% AR ([redacted] and 2.8% AR ([redacted], respectively. The leachate of the [redacted] soil column contained no pyriproxyfen but 7 polar compounds (all <1% AR). Radioactivity in the treated soil layer was fractionated into organic extract (30.7-43.4% AR), aqueous extract (0.2-0.8% AR) and unextractables (39.3-58.4% AR). The organic extract included pyriproxyfen (24.7-34.1% AR) and metabolites [redacted] 0.7-0.9% AR) and [redacted] (1.8-2.9% AR)

5.3 Conclusion

Soil columns treated with [redacted] showed only low amounts of radioactivity in the leachate (0.1% [redacted] silt loam, and 2.8% AR [redacted] andy loam). The leachate of the [redacted] soil contained no pyriproxyfen but several polar components, all <1% AR. The study represents a worst-case leaching scenario and clearly demonstrates that pyriproxyfen is immobile in soil and is therefore unlikely to leach to groundwater

5.3.1 Reliability

[redacted]

5.3.2 Deficiencies

[redacted]

Evaluation by Competent Authorities
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
Evaluation by Rapporteur Member State
[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Comments from ...

Date

Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

[redacted]

[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

Section A7.2.3.2/02 Mobility in at least three soil types and where relevant mobility of metabolites and degradation products

Official use only

1 Reference

1.1 Reference [redacted]

1.2 Data protection Yes

1.2.1 Data owner: Sumitomo Chemical Co., Ltd.

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 [redacted]

Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 163-1

2.2 GLP [redacted]

2.3 Deviations [redacted]

3 Materials and Methods

3.1 Test material [redacted]

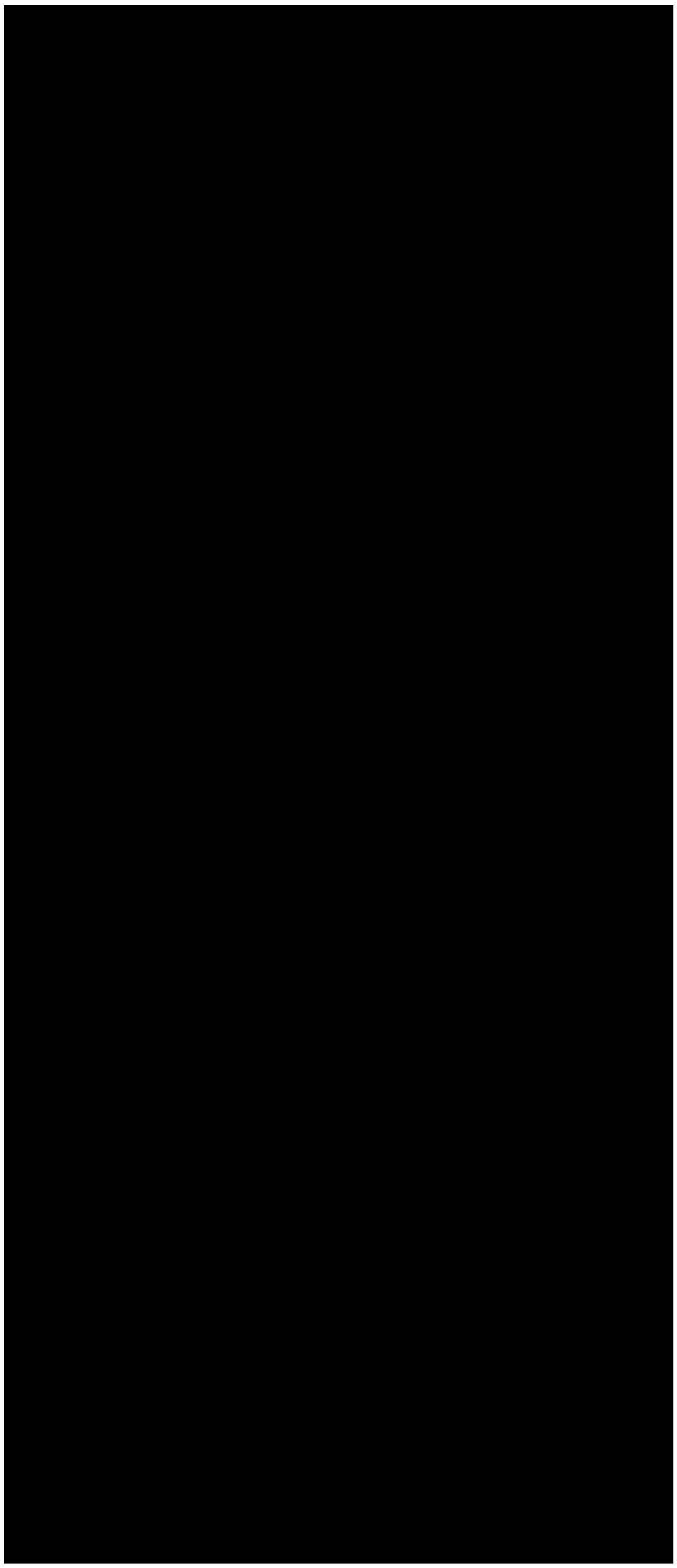
3.1.1 Lot/Batch number [redacted]

3.1.2 Specification [redacted]

3.1.3 Purity [redacted]

3.1.4 Further relevant properties: Not applicable

3.2 Reference substance [redacted]



[redacted]

3.2.1 Initial concentration of reference substance

[redacted]

3.3 Testing procedure

3.3.1 Test system

Aged residues of pyriproxyfen were prepared in a [redacted] loam soil by adding [redacted] and [redacted] in acetonitrile to soil (250 g dry weight) at a rate of 0.6 mg/kg. The soil was then mixed and split into portions (20 g), which were incubated under aerobic conditions in the dark at 25°C for up to 14 days. [redacted]

[redacted]

3.3.2 Sampling

Duplicate samples from the aged residue experiment were taken for analysis at 0, 2, 4, 7, 9, 11 and 14 days after treatment. Leachate from the column leaching study was collected in 4 equal fractions at the end of leaching

3.3.3 Analysis

[redacted]

4 Results

4.1 Distribution of radioactivity – column leaching study

[redacted]

4.2 Distribution of radioactivity – aged residue study

[redacted]

[redacted]

5 Applicant's Summary and Conclusion

5.1 Materials and methods

The metabolism and column leaching behaviour of pyriproxyfen was investigated in a [redacted] sandy loam soil

The Environmental Protection Agency Pesticide Assessment Guidelines, Subdivision N, Section 163-1 guidelines were followed without significant deviations

5.2 Results and discussion

In the leaching study mass balances were 98.6% AR [redacted] label) and 90.3% AR ([redacted] abel), respectively. Total leached radioactivity was 7.6% AR [redacted] label) and 1.0% AR ([redacted] label). The leachate of the [redacted] label consisted mainly of [redacted] (6.5% AR). Pyriproxyfen, [redacted] and others were each ≤0.81% AR. In both soil columns the majority of radioactivity was recovered from the 0-3 cm section (88% AR [redacted] abel, 86% AR [redacted] label). In the 3-9 cm section recovered radioactivity was 1.4-2.3% AR and was <1% AR in all other sections. Radioactivity in the treated soil layer was fractionated into extractables (43-49% AR) and unextractables (39-42% AR). The extract contained pyriproxyfen (26-35% AR), [redacted] (1.9-2.0% AR), [redacted] (7.2-7.4% AR), [redacted] (0.56% AR) and others (4.5-8.5% AR). No volatiles were detected and formation of CO_2 was insignificant (≤0.1% AR)

During ageing, pyriproxyfen degraded with a half-life of 7.1-9.4 days (25°C). Identified metabolites were [redacted] (max. 2% AR), [redacted] (max. 8.2% AR) and [redacted] (max. 4.4% AR)

5.3 Conclusion

The results of the aged residue column leaching study with pyriproxyfen clearly demonstrate that the mobility and leaching potential of pyriproxyfen and its metabolites [redacted] is low. Although a significant proportion of the total [redacted] was identified in leachate, overall levels were low. This suggests that [redacted] may have a slight potential to leach to groundwater, but it is not expected to reach groundwater in significant amounts

5.3.1 Reliability [redacted]

5.3.2 Deficiencies [redacted]

Evaluation by Competent Authorities
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
Evaluation by Rapporteur Member State
[redacted]
[redacted]
[redacted]

[redacted]

Comments from ...

Date

Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]								[redacted]

[redacted]

7.3 Fate and behaviour in air

Based on a vapour pressure of <1.33 x 10^{-5} Pa at 22.81°C and a water solubility of 0.101 mg/L at 20°C, the calculated Henry's law constant for pyriproxyfen is <4.23 x 10^{-2} Pa m^3 mol^{-1} at 20-23°C (see Doc IIIA, section 3.2). These values demonstrate the relatively low volatility of pyriproxyfen and suggest that it has a low potential to partition from water to air. Exposure to air is therefore expected to be insignificant.

Based on the estimated vapour pressure for [redacted] of 0.0777 Pa at 25°C ([redacted] 2003; [redacted]) and a water solubility of 65 g/L at 25°C [redacted] 1996; [redacted]), the estimated Henry's law constant for [redacted] is 2.0 x 10^{-4} Pa m^3 mol^{-1} at 25°C ([redacted] 2003a; [redacted]). This suggests that [redacted] has a low potential to partition from water to air and that exposure to air will be negligible. Based on an estimated (MPBPWIN v1.4) vapour pressure of 1.05 x 10^{-7} Pa for [redacted] and 1.77 x 10^{-4} Pa for [redacted] at 25°C, ([redacted] 2005[redacted]), these metabolites are not expected to occur in air.

7.3.1 Phototransformation in air (estimation method), including identification of breakdown products

Section A7.3.1/06 Phototransformation in air (estimation method), including identification of breakdown products

Official use only

1 Reference	
1.1 Reference	[redacted]
1.2 Data protection	Yes
1.2.1 Data owner	Sumitomo Chemical Co., Ltd.
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	[redacted]
2.2 GLP	[redacted]
2.3 Deviations	[redacted]
3 Materials and Methods	
3.1 Test material	Not applicable. Calculation only
3.1.1 Lot/Batch number	Not applicable. Calculation only
3.1.2 Specification	Not applicable. Calculation only
3.1.3 Purity	Not applicable. Calculation only
3.1.4 Further relevant properties	Not applicable. Calculation only
3.2 Reference substance	Not applicable. Calculation only
3.2.1 Initial concentration of reference substance	Not applicable. Calculation only
3.3 Test system	The atmospheric oxidation rate for pyriproxyfen was estimated based on the Atkinson calculation using the Atmospheric Oxidation Program. This estimates the rate constant for the atmospheric gas-phase reaction between photochemically produced hydroxyl radicals and organic chemicals

4 Results

4.1 Estimated half-life

The half-life in air based on reaction with hydroxyl radicals (assumed average daylight concentration in the atmosphere 0.6 x 10^6 OH radicals/cm^3) was 6.143 hours (or 0.512 days under environmental conditions with a diurnal cycle of 12 hours). The half-life, recalculated by the CTB during the EU evaluation of pyriproxyfen under 91/414/EEC, using a 24-hour average OH radical concentration of 9.7 x 10^5 OH radicals/cm^3, was 3.8 hours. This is reported in Volume 3, Annex B of the DAR (November 2005)

5 Applicant's Summary and Conclusion

5.1 Materials and methods

The atmospheric oxidation rate for pyriproxyfen was estimated based on the Atkinson calculation using the Atmospheric Oxidation Program

5.2 Results and discussion

The half-life of pyriproxyfen in air based on reaction with hydroxyl radicals (9.7 x 10^5 OH radicals/cm^3; 24 hours) is 3.8 hours

5.3 Conclusion

The estimated atmospheric half-life of pyriproxyfen is 3.8 hours. Pyriproxyfen is therefore not expected to be persistent in air

5.3.1 Reliability [redacted]

5.3.2 Deficiencies [redacted]

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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Comments from ...
Date
Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

Section A7.3.1/07 Phototransformation in air (estimation method), including identification of breakdown products

Official use only

1 Reference

1.1 Reference [redacted]

1.2 Data protection Yes

1.2.1 Data owner Sumitomo Chemical Co., Ltd.

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 [redacted]

2.2 GLP [redacted]

2.3 Deviations [redacted]

3 Materials and Methods

3.1 Test material Not applicable. Calculation only

3.1.1 Lot/Batch number Not applicable. Calculation only

3.1.2 Specification Not applicable. Calculation only

3.1.3 Purity Not applicable. Calculation only

3.1.4 Further relevant properties Not applicable. Calculation only

3.2 Reference substance Not applicable. Calculation only

3.2.1 Initial concentration of reference substance Not applicable. Calculation only

3.3 Test system The atmospheric oxidation rate for [redacted] was estimated based on the Atkinson calculation using the Atmospheric Oxidation Program (AOPWIN v1.90; Meyland and Howard, 1993). This estimates the rate constant for the atmospheric gas-phase reaction between photochemically produced hydroxyl radicals and organic chemicals

4 Results

4.1 Estimated half-life The half-life in air based on reaction with hydroxyl radicals (assumed average daylight concentration in the atmosphere 0.6 x 10^6 OH

radicals/cm^3) was 23.519 hours (or 1.96 days under environmental conditions with a diurnal cycle of 12 hours). The half-life, recalculated by the CTB during the EU evaluation of pyriproxyfen under 91/414/EEC, using a 24-hour average OH radical concentration of 9.7 x 10^5 OH radicals/cm^3, was 0.6 days. This is reported in Volume 3, Annex B of the DAR (November 2005)

5 Applicant's Summary and Conclusion

5.1 Materials and methods The atmospheric oxidation rate for [redacted] was estimated based on the Atkinson calculation using the Atmospheric Oxidation Program

5.2 Results and discussion The half-life of [redacted] in air based on reaction with hydroxyl radicals (9.7 x 10^5 OH radicals/cm^3; 24 hours) is 0.6 days

5.3 Conclusion The estimated atmospheric half-life of [redacted] is 0.6 days. [redacted] is therefore not expected to be persistent in air

5.3.1 Reliability [redacted]

5.3.2 Deficiencies [redacted]

Evaluation by Competent Authorities
Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
Evaluation by Rapporteur Member State
[redacted]

Comments from ...
Date
Materials and Methods
Results and discussion
Conclusion
Reliability
Acceptability
Remarks

7.3.2 Fate and behaviour in air, further studies

No studies available. Further studies are not required, as pyriproxyfen is not intended for use as a fumigant. Sufficient information on the fate and behaviour of pyriproxyfen and its main metabolites in air is provided in sections 7.3 and 7.3.1.

Evaluation by Competent Authorities	
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Evaluation by Rapporteur Member State	
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Materials and Methods	
Results and discussion	
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Reliability	
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Remarks	

7.4 Effects on Aquatic Organisms

7.4.1 Aquatic toxicity, initial tests

7.4.1.1 Acute toxicity to fish

Section A7.4.1.1/01 Acute toxicity to fish

Annex Point IIA7.1

Official use only

1 Reference

1.1 Reference	[redacted]
1.2 Data protection	Yes
1.2.1 Data owner	Sumitomo Chemical Company, Ltd.
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	U.S. EPA Pesticide Assessment Guidelines No. 72-1 (June 1985)
2.2 GLP	[redacted]
2.3 Deviations	[redacted]

3 Materials and Methods

3.1 Test material	Pyriproxyfen
3.1.1 Lot/Batch number	[redacted]
3.1.2 Specification	[redacted]
3.1.3 Purity	[redacted]
3.1.4 Composition of Product	[redacted]
3.1.5 Further relevant properties	Not applicable
3.1.6 Method of analysis	Analysis by gas-liquid chromatography
3.2 Preparation of TS solution for poorly soluble or volatile test substances	The test substance was dissolved in acetone to prepare concentrated test solutions for dosing

3.3Reference substance	Not applicable
3.3.1 Method of analysis for reference substance	Not applicable
3.4 Testing procedure	
3.4.1Dilution water	[redacted]
3.4.2 Test organisms	Rainbow trout [redacted]
3.4.3 Test system	[redacted]
3.4.4 Test conditions	[redacted]
3.4.5 Duration of the test	96 hours
3.4.6 Test parameter	Mortality
3.4.7 Sampling	Sampling interval: start (0 hours) and end (96 hours) of exposure
3.4.8 Monitoring of TS concentration	Yes 0 and 96 hours
3.4.9 Statistics	Empirical estimate (no effects >50%)

4 Results

4.1 Limit Test	Two performed
4.1.1 Concentration	0.01, 0.1, 1, 5 and 10 mg/L
4.1.2 Number/ percentage of animals showing adverse effects	[redacted]
4.1.3 Nature of adverse effects	[redacted]
4.2 Results test substance	
4.2.1 Initial concentrations of test substance	[redacted]
4.2.2 Actual concentrations of test substance	Mean measured concentrations were 20.3, 32, 54, 102 and 325 µg/L. [redacted]
4.2.3 Effect data (Mortality)	[redacted]
4.2.4 Concentration / response curve	Not applicable.
4.2.5 Other effects	[redacted]

[redacted]

4.3 Results of controls

4.3.1 Number/ percentage of animals showing adverse effects	[redacted]
4.3.2 Nature of adverse effects	[redacted]

4.4 Test with reference substance

4.4.1 Concentrations	[redacted]
4.4.2 Results	[redacted]

5 Applicant's Summary and conclusion

5.1 Materials and methods	The study was conducted according to U.S. EPA Pesticide Assessment Guidelines No. 72-1. The test system was flow-through and rainbow trout were used as the test organisms
5.2 Results and discussion	The study was conducted using stock solutions prepared in acetone to allow testing up to 360 µg/L, the reported limit of water solubility of pyriproxyfen
5.2.1 LC_0	102 µg/L
5.2.2 LC_{50}	>325 µg/L
5.2.3 LC_{100}	>325 µg/L
5.3 Conclusion	The result indicates that pyriproxyfen is not acutely toxic to fish at the reported limit of water solubility
5.3.1 Other Conclusions	No other conclusions
5.3.2 Reliability	[redacted]
5.3.3 Deficiencies	[redacted]

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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Comments from ...

Date

Materials and Methods

Results and discussion

Conclusion

Reliability

Acceptability

Remarks

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Section A7.4.1.1/02 Acute toxicity to fish

Annex Point IIA7.1

1 Reference

Official use only

1.1 Reference

[redacted]

[redacted]

1.2 Data protection	Yes
1.2.1 Data owner	Sumitomo Chemical Company, Ltd.
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	U.S. EPA Pesticide Assessment Guidelines No. 72-1 (June 1985)
2.2 GLP	[redacted]
2.3 Deviations	[redacted]

3 Materials and Methods

3.1 Test material	Pyriproxyfen
3.1.1 Lot/Batch number	[redacted]
3.1.2 Specification	[redacted]
3.1.3 Purity	[redacted]
3.1.4 Composition of Product	[redacted]
3.1.5 Further relevant properties	[redacted]
3.1.6 Method of analysis	Analysis by gas-liquid chromatography
3.2 Preparation of TS solution for poorly soluble or volatile test substances	The test substance was dissolved in acetone to prepare concentrated test solutions for dosing
3.3 Reference substance	Not applicable
3.3.1 Method of analysis for reference substance	Not applicable
3.4 Testing procedure	
3.4.1 Dilution water	[redacted]
3.4.2 Test organisms	Bluegill sunfish [redacted] details are given in Table A7.4.1.1-10
3.4.3 Test system	[redacted]
3.4.4 Test conditions	[redacted]

3.4.5 Duration of the test	96 hours
3.4.6 Test parameter	Mortality
3.4.7 Sampling	Sampling interval: start (0 hours) and end (96 hours) of exposure
3.4.8 Monitoring of TS concentration	Yes 0 and 96 hours
3.4.9 Statistics	[redacted]

4 Results

4.1 Limit Test	Performed
4.1.1 Concentration	0.5 and 5.0 mg/L
4.1.2 Number/ percentage of animals showing adverse effects	[redacted]
4.1.3 Nature of adverse effects	[redacted]
4.2 Results test substance	
4.2.1 Initial concentrations of test substance	[redacted]
4.2.2 Actual concentrations of test substance	[redacted]
4.2.3 Effect data (Mortality)	[redacted]
4.2.4 Concentration / response curve	[redacted]
4.2.5 Other effects	[redacted]
4.3 Results of controls	
4.3.1 Number/ percentage of animals showing adverse effects	[redacted]
4.3.2 Nature of adverse effects	[redacted]
4.4 Test with reference substance	
4.4.1 Concentrations	[redacted]
4.4.2 Results	[redacted]

5 Applicant's Summary and conclusion

5.1 Materials and methods	The study was conducted according to U.S. EPA Pesticide Assessment

	Guidelines No. 72-1. The test system was flow-through and bluegill sunfish were used as the test organisms
5.2 Results and discussion	The study was conducted using stock solutions prepared in acetone to allow testing up to 360 µg/L, the reported limit of water solubility of pyriproxyfen
5.2.1 LC_0	270 µg/L
5.2.2 LC_{50}	>270 µg/L
5.2.3 LC_{100}	>270 µg/L
5.3 Conclusion	The result indicates that pyriproxyfen is not acutely toxic to fish at the reported limit of water solubility
5.3.1 Other Conclusions	No other conclusions
5.3.2 Reliability	[redacted]
5.3.3 Deficiencies	[redacted]

	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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Materials and Methods	
Results and discussion	
Conclusion	

Reliability
Acceptability
Remarks

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Section A7.4.1.1/03 Acute toxicity to fish

Annex Point IIA7.1

1 Reference

Official use only

1.1 Reference

[redacted]

1.2 Data protection	Yes
1.2.1 Data owner	Sumitomo Chemical Company, Ltd.
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 203 (17 July 1992) - equivalent to EEC C.1
2.2 GLP	[redacted]
2.3 Deviations	[redacted]

3 Materials and Methods

3.1 Test material	[redacted]
3.1.1 Lot/Batch number	[redacted]
3.1.2 Specification	[redacted]
3.1.3 Purity	[redacted]
3.1.4 Composition of Product	[redacted]
3.1.5 Further relevant properties	[redacted]
3.1.6 Method of analysis	[redacted]
3.2 Preparation of TS solution for poorly soluble or volatile test substances	[redacted]
3.3 Reference substance	[redacted]
3.3.1 Method of analysis for reference substance	[redacted]
3.4 Testing procedure	
3.4.1 Dilution water	[redacted]
3.4.2 Test organisms	Rainbow trout (*Oncorhynchus mykiss*). [redacted]
3.4.3 Test system	[redacted]
3.4.4 Test conditions	[redacted]
3.4.5 Duration of the test	96 hours

3.4.6 Test parameter	Mortality
3.4.7 Sampling	Sampling interval: start (0 hours) and end (96 hours) of exposure
3.4.8 Monitoring of TS concentration	[redacted]rs
3.4.9 Statistics	[redacted]

4 Results

4.1 Limit Test	Performed
4.1.1 Concentration	10 and 100 mg/L
4.1.2 Number/ percentage of animals showing adverse effects	[redacted]
4.1.3 Nature of adverse effects	[redacted]
4.2 Results test substance	
4.2.1 Initial concentrations of test substance	[redacted]
4.2.2 Actual concentrations of test substance	[redacted]
4.2.3 Effect data (Mortality)	[redacted]
4.2.4 Concentration / response curve	[redacted]
4.2.5 Other effects	[redacted]
4.3 Results of controls	
4.3.1 Number/ percentage of animals showing adverse effects	[redacted]
4.3.2 Nature of adverse effects	[redacted]
4.4 Test with reference substance	
4.4.1 Concentrations	[redacted]
4.4.2 Results	[redacted]

5 Applicant's Summary and conclusion

5.1 Materials and methods	The study was conducted according to OECD guideline 203. The test system was static and rainbow trout were used as the test organisms