Final Renewal report for the active substance **Pyriproxyfen**

Finalised by the Standing Committee on Plants, Animals, Food and Feed on 19 May 2020
in view of the renewal of the approval of pyriproxyfen as active substance
in accordance with Regulation (EC) No 1107/2009[1]

1. Procedure followed for the re-evaluation process

This renewal report has been established as a result of the evaluation of pyriproxyfen, in accordance with Regulation (EC) No 1107/2009[2] and Commission Regulation (EU) No 844/2012[3] following the submission of an application to renew the approval of this active substance expiring in December 2019.

Pyriproxyfen is a substance that was included in Annex I to Council Directive 91/414/EEC concerning the placing of plant protection products on the market, by Commission Directive 2008/69/EC[4]. Pyriproxyfen is deemed to have been approved under Regulation (EC) No 1107/2009 and is listed in Part A of the Annex to Commission Implementing Regulation (EU) No 540/2011[5].

An application for renewal of the approval of pyriproxyfen was submitted by the Sumitomo Chemical Agro Europe, in accordance with Article 1 of Regulation No 844/2012.

In addition, Sumitomo Chemical Agro Europe submitted an application for maximum residue levels (MRL) as referred to in Article 7 of the Regulation (EC) No. 396/2005[6].

Commission Implementing Regulation (EU) 2018/1796[7] extended until 31 December 2019 the period of approval of pyriproxyfen to allow the completion of its review.

Commission Regulation (EU) No 686/2012[8] designated the rapporteur Member States and the co-rapporteur Member States who had to submit the relevant renewal assessment reports and recommendations to the European Food Safety Authority (EFSA).

For pyriproxyfen the rapporteur Member State was the Netherlands and the co-rapporteur Member State was Spain.

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1 Renewal Report established in accordance with Art. 14 of Regulation (EU) No 844/2012; does not necessarily represent the views of the European Commission.
2 OJ L 309, 24.11.2009, p. 1.
3 OJ L 252, 19. 9.2012, p. 26.
4 OJ L L 172, 02.7.2008, p. 9.
5 OJ L 153, 11.6.2011, p. 1.
6 OJ L 70, 16.03.2005, p. 1.
7 OJ L 294, 21.11.2018, p. 15.
8 OJ L 200, 27.7.2012, p. 5.

The Netherlands finalised its examination, in the form of a renewal assessment report. This Report was sent to the Commission and the European Food Safety Authority on 14 December 2017 and included a recommendation concerning the decision to be taken with regard to the renewal of the approval of pyriproxyfen for the supported uses.

In accordance with Article 13 of Implementing Regulation (EU) No 844/2012, the EFSA organised an intensive consultation of technical experts from Member States, to review the renewal assessment report and the comments received thereon (peer review).

The EFSA sent to the Commission its conclusion on the risk assessment (Conclusions regarding the peer review of the pesticide risk assessment of the active substance)[9] on 20 May 2019. This conclusion refers to several background documents: the renewal assessment report including its revisions and the EFSA peer review report.

According to the provisions of Article 14 of Implementing Regulation (EU) No 844/2012, the Commission referred a draft renewal report on the renewal of approval to the Standing Committee on Plants, Animals, Food and Feed, for examination on 20 and 21 October 2019. The draft renewal report was finalised by the Standing Committee on 19 May 2020.

The present renewal report contains the conclusions of the final examination by the Standing Committee. Given the importance of the conclusion of the EFSA, and its background documents, these documents are also considered to be part of this renewal report.

2. Purposes of this renewal report

This renewal report, including the background documents and appendices hereto, has been developed and finalised in support of **Commission Implementing Regulation (EU) 2020/968[10]** concerning the renewal of the approval of pyriproxyfen as active substance under Regulation (EC) No 1107/2009, and to assist the Member States in decisions on individual plant protection products containing pyriproxyfen they have to take in accordance with the provisions of that Regulation, and in particular the provisions of Article 29(1) of Regulation (EC) No 1107/2009 and the uniform principles laid down in Regulation (EU) No 546/2011[11].

This renewal report provides also for the evaluation required under part I, Section A.2 (b) of the above-mentioned uniform principles, as well as under several specific sections of chapter B of these principles. In these sections it is provided that Member States, in evaluating applications and granting authorisations, shall take into account the information concerning the requirements of Regulation (EU) No 283/2013[12], submitted for the purpose of renewal of approval of the active substances, as well as the result of the evaluation of those data.

This renewal report will be made available to the public.

The information in this renewal report is, at least partly, based on information which is confidential and/or protected under the provisions of Regulation (EC) No 1107/2009. It is therefore recommended

9 EFSA (European Food Safety Authority), 2019. Conclusion on the peer review of the pesticide risk assessment of the active substance pyriproxyfen EFSA Journal 2019;17(6):5732.

10 OJ L 213, 6.7.2020, p. 7.

11 OJ L 155, 11.6.2011, p. 127.

12 OJ L 93, 3.4.2013, p. 1.

that this renewal report would not be accepted to support any registration outside the context of that Regulation, e.g. in third countries, for which the applicant has not demonstrated to have regulatory access to the information on which this renewal report is based.

3. Overall conclusion in the context of Regulation (EC) No 1107/2009

The overall conclusion from the evaluation is that it may be expected that plant protection products containing pyriproxyfen will fulfil the safety requirements laid down in Article 4 (1) to (3) of Regulation (EC) No 1107/2009. This conclusion is however subject to compliance with the particular requirements in sections 4, 5, 6 and 7 of this report, as well as to the implementation of the provisions of Article 29(1) of Regulation (EC) No 1107/2009 and the uniform principles laid down in Regulation (EU) No 546/2011, for each pyriproxyfen containing plant protection product for which Member States will grant or review the authorisation.

Furthermore, these conclusions were reached within the framework of the uses as insecticide, which were proposed and supported by the applicant and mentioned in the list of uses supported by available data, (attached as Appendix II to this renewal report).Citrus fruit were deleted as attractive for bees.

The following reference values have been finalised as part of this evaluation:

ADI: 0.05 mg/kg bw per day,
ARfD: 1 mg/kg bw,
AOEL: 0.04 mg/kg bw per day,
AAOEL: 0.4 mg/kg bw per day.

To note, the ADI has changed compared to the previous EU agreed reference value (0.1 mg/kg/bw per day) and furthermore, an ARfD has now been derived, while this was not done in the first EU peer review.

With particular regard to residues, no areas of concern were identified. The Theoretical Maximum Daily Intake (TMDI) for all considered consumer groups is at or below 7.5 % (DE, Child) of the Acceptable Daily Intake (ADI), based on EFSA PRIMo Model rev.2. The International Estimated Short-Term Intake (IESTI) is max 6.2% (oranges, UK infant) of the Acute Reference Dose (ARfD), based on the same model.

Extension of the use pattern beyond those described above will require an evaluation at Member State level in order to establish whether the proposed extensions of use can satisfy the requirements of Article 29(1) of Regulation (EC) No 1107/2009 and of the uniform principles laid down in Regulation (EU) No 546/2011.

The review has identified several acceptable exposure scenarios for operators, workers, residents, bystanders and groundwater which require however to be confirmed for each plant protection product in accordance with the relevant sections of the above-mentioned uniform principles.

No critical areas of concern have been identified by EFSA (2019) for pyriproxyfen.

The following points were not finalised by EFSA (2019), but they are not considered critical for the renewal of approval as explained below:

1. *In the absence of validated analytical methods to support most of the available (old) toxicological studies, their reliability could not be concluded upon.*

   The toxicological studies were carried out, submitted for evaluation and accepted as valid according to the (previous) Directive 91/414/EEC. They were resubmitted for the renewal of approval process. In order to avoid duplicating testing on vertebrate animals, they should still be considered as acceptable despite the absence of validated analytical methods.

2. *Comparative in vitro metabolism with possible identification of unique human metabolites could not be concluded.*

   A present, no OECD test guideline for this kind of study is available[13]. In addition, based on the metabolic profile of pyriproxyfen observed in rodent (rat and mouse) and non-rodent (laying hen and goat) species and the general knowledge of metabolism in humans, it is not expected that metabolism of pyriproxyfen in humans will be different to other species on which testing was performed.

3. *The consumer dietary risk assessment could not be finalised in view of the identified data gaps for pyriproxyfen residues. In addition, the consumer risk assessment is not finalised considering the lack of appropriate information to address the effect of water treatment processes on the nature of residues potentially present in surface water, when surface water is abstracted for drinking.*

   A provisional assessment of the consumer risk from exposure to pyriproxyfen could be conducted for the representative uses. The highest chronic exposure to pyriproxyfen residues was calculated for Dutch children, representing 7.5% of the ADI of pyriproxyfen. The highest acute dietary intake was calculated for oranges (UK infant), accounting for a maximum of 6.2% of the ARfD of pyriproxyfen. Based on this provisional consumer dietary risk assessment, no concern for the consumer is expected for the representative uses. Some minor data gaps, relevant for the use on pome fruits or tomato outdoor, can be dealt with at national level through Member States, paying particular attention to the consumer risk assessment when authorising products containing pyriproxyfen.

   With regard to the impact of water treatment processes on residues in drinking water, at the time of submission of the dossier, there was no agreed guidance for assessing the effects of water treatment processes on residues that may occur in drinking water. There are no indications from the existing data that harmful by-products would be formed, nevertheless, further information is requested as confirmatory information once pertinent guidance becomes available.

4. *The chronic risk assessment to aquatic invertebrates for the pertinent aquatic metabolite PYPAC, could not be finalised.*

   In the written procedure during the peer-review process (ecotoxicological section) there was broad support that the new information available in the RAR can lead to the conclusion that PYPAC has negligible effect compared to pyriproxyfen.

   Nevertheless, Member States will be obliged to pay particular attention to the protection of aquatic invertebrates when granting authorisations for all uses of pyriproxyfen and, where relevant, impose appropriate risk mitigation measures such as no-spray buffer zones and/or spray drift reduction.

[13] EFSA Workshop on in vitro comparative metabolism studies in regulatory pesticide risk assessment **https://doi.org/10.2903/sp.efsa.2019.EN-1618**.

5. *The risk assessment to sediment-dwelling organisms from exposure via the sediment could not be finalised.*

   Based on the available indoor microcosm study, which found a low risk to aquatic sediment-dwellers, it is likely that there is a low risk for the outdoor uses in pome fruit (late and early application), tomatoes (with appropriate risk mitigation) and in closed permanent glasshouses with the use of high technology systems excluding effluent into sediment.

   Nevertheless, Member States will be obliged to pay particular attention to the protection of sediment-dwelling organisms when granting authorisations for all uses of pyriproxyfen.

6. *The risk assessment for bees from the field use on ornamentals could not be concluded*

   The representative field use on ornamentals has been removed from the list of uses in Appendix II.

7. *The risk assessment for sublethal effects to honeybees could not be concluded (relevant for all outdoor uses)*

   In the absence of a conclusion on the risk for sublethal effects to honeybees, Member States will be obliged to pay particular attention to ensure the protection of bees and bee larvae for any field use of pyriproxyfen, and must impose restriction of use to only authorise for crops that are not flowering or are not attractive to bees, and must impose appropriate risk mitigation measures such as no-spray buffer zone and/or spray drift reduction.

As regards the new criteria to identify endocrine disrupting properties which became applicable on 10 November 2018[14], EFSA concluded that pyriproxyfen is not an endocrine disruptor.

The review has also concluded that under the proposed and supported conditions of use there are no unacceptable effects on the environment, as provided for in Article 4(3) (e) of Regulation (EC) No 1107/2009, provided that certain conditions are taken into account as detailed in section 6 of this report.

4. Identity and Physical/chemical properties

The main identity of pyriproxyfen is given in Appendix I.

The active substance shall have a minimum purity of 970 g/kg.

The manufacturing impurities listed below are of toxicological, ecotoxicological and/or environmental concern.

The following maximum limits shall apply to those impurities in the active substance as manufactured:

- Toluene: 5 g/kg.

[14] Commission Regulation (EU) 2018/605 of 19 April 2018 amending Annex II to Regulation (EC) No 1107/2009 by setting out scientific criteria for the determination of endocrine disrupting properties. (OJ L 101, 20.4.2018, p. 33).

5. Endpoints and related information

In order to facilitate Member States, in granting or reviewing authorisations, to apply adequately the provisions of Article 29(1) of Regulation (EC) No 1107/2009 and the uniform principles laid down in Regulation (EU) No 546/2011, the most important endpoints were identified during the re-evaluation process. These endpoints are listed in the conclusion of the EFSA.

6. Particular conditions to be taken into account on short term basis by Member States in relation to the granting of authorisations of plant protection products containing pyriproxyfen

On the basis of the proposed and supported uses (as listed in Appendix II), the following issues have been identified as requiring particular and short term attention from all Member States, in the framework of any authorisations to be granted, varied or withdrawn, as appropriate:

- the dietary exposure of consumers to residues of pyriproxyfen;
- the protection of sediment-dwelling organisms and aquatic organisms. Specific conditions of use of the plant protection products shall include appropriate risk mitigation measures, e.g. no-spray buffer zone and/or spray drift reduction for outdoor uses, to achieve a low risk for aquatic organisms;
- the protection of bees. Specific conditions of use shall include restriction of application to periods outside of flowering of bee-attractive crops and flowering weeds, and risk mitigation measures, such as no-spray buffer zones and/or spray drift reduction as appropriate.

7. List of studies to be generated

The applicant shall submit to the Commission, the Member States and the Authority confirmatory information as regards:

1) The effect of water treatment processes on the nature of residues present in surface and groundwater, when surface water or groundwater is abstracted for drinking water.

   The applicant shall submit the information to the Commission, the Member States and the Authority within two years after adoption of a guidance document on evaluation of the effect of water treatment processes on the nature of residues present in surface and groundwater.

   Some endpoints however may require the generation or submission of additional studies to be submitted to the Member States in order to ensure authorisations for use under certain conditions.

   A complete list of studies to be generated, still ongoing or available but not peer reviewed can be found in the relevant part of the EFSA Conclusion (pages 20 and 21).

8. Information on studies with claimed data protection

For information of any interested parties, the rapporteur Member State will keep available a document, which gives information about the studies for which the applicant has claimed data protection and which during the re-evaluation process were considered as essential with a view to

approval under Regulation (EC) No 1107/2009. This information is only given to facilitate the operation of the provisions of Article 62 of Regulation (EC) No 1107/2009 in the Member States. It is based on the best information available but it does not prejudice any rights or obligations of Member States or operators with regard to its uses in the implementation of the provisions of Article 62 of Regulation (EC) No 1107/2009 and neither does it commit the Commission.

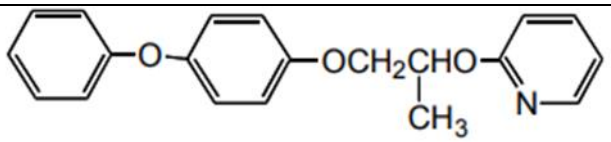
9. Updating of this renewal report

The information in this report may require to be updated from time to time in order to take account of technical and scientific developments as well as of the results of the examination of any information referred to the Commission in the framework of Articles 13, 21, 38, 44, 56 of Regulation (EC) No 1107/2009. Any such adaptation will be finalised in the Standing Committee on Plants, Animals, Food and Feed, in connection with any amendment of the approval conditions for pyriproxyfen.

APPENDIX I

Main identity

PYRIPROXYFEN

Common name (ISO)	Pyriproxyfen
Chemical name (IUPAC)	4-phenoxyphenyl (*RS)*-2(2-pyridyloxy) propyl ether
Chemical name (CA)	2-((1-(4-Phenoxyphenoxy)propan-2-yl)oxy)pyridine
Other names	2-((1-(4-Phenoxyphenoxy)propan-2-yl)oxy)pyridine
CIPAC No	715
CAS No	95737-68-1
EC No (EINECS or ELINCS)	429-800-1
FAO SPECIFICATION	715/EC (June 2011) min. 97.0 ± 1 %
Minimum purity	min. 970 g/kg
Identity of relevant impurities (of toxicological, ecotoxicological and/or environmental concern) in the active substance as manufactured	Toluene: max 5 g/kg
Molecular formula	C20H19NO3
Molar mass	321.37 g/mol
Structural formula	

APPENDIX II
List of uses supported by available data
PYRIPROXYFEN

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Pome fruit (apple, pears)	SEU	Pyriproxyfen 100 g/L EC	F	Scales	EC	100 g/L	Foliar spray	BBCH 51-59 (Mar-May): pre-flowering	1	NA	0.003-0.006	400-1500	0.015-0.06	NA	
Tomatoes	SEU	Pyriproxyfen 100 g/L EC	F	White fly	EC	100 g/L	Foliar spray	BBCH 51-88 (Mar-Oct)	1-2	10 days	0.0025-0.01	300-2000	0.0075-0.1125	3	
Tomatoes	EU	Pyriproxyfen 100 g/L EC	G	White fly	EC	100 g/L	Foliar spray	BBCH 51-88 (Jan-Dec)	1-2	10 days	0.0025-0.01	300-2000	0.0075-0.1125	3	

(a) For crops, the EU and Codex classifications (both) should be taken into account; where relevant, the use situation should be described (e.g. fumigation of a structure)
(b) Outdoor or field use (F), greenhouse application (G) or indoor application (I)
(c) *e.g.* biting and sucking insects, soil born insects, foliar fungi, weeds

(i) g/kg or g/L. Normally the rate should be given for the active substance (according to ISO) and not for the variant in order to compare the rate for same active substances used in different variants (e.g. fluoroxypyr). **In certain cases, where only one variant is synthesised, it is more appropriate to give the rate for the variant (e.g. benthiavalicarb-isopropyl).**

(d) *e.g.* wettable powder (WP), emulsifiable concentrate (EC), granule (GR) (e) CropLife International Technical Monograph no 2, 6th Edition. Revised May 2008. Catalogue of pesticide formulation types and international coding system (f) All abbreviations used must be explained (g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench (h) Kind, *e.g.* overall, broadcast, aerial spraying, row, individual plant, between the plant- type of equipment used must be indicated	(j) Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application (k) Indicate the minimum and maximum number of applications possible under practical conditions of use (l) The values should be given in g or kg whatever gives the more manageable number (e.g. 200 kg/ha instead of 200 000 g/ha or 12.5 g/ha instead of 0.0125 kg/ha (m) PHI - minimum pre-harvest interval