

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference see form PCT/ISA/220		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/EP2020/078341	International filing date (day/month/year) 08.10.2020	Priority date (day/month/year) 10.10.2019
International Patent Classification (IPC) or both national classification and IPC INV. A01N25/02 A01N25/30 A01N33/12 A01N43/36 A01P7/02		
Applicant BAYER AKTIENGESELLSCHAFT		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Zanobini, Alessandra Telephone No. +49 89 2399-0
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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-15</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-15</u>
Industrial applicability (IA)	Yes: Claims	<u>1-15</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Reference is made to the following documents:

- D1 WO 2011/029552 A2 (BAYER CROPSCIENCE AG [DE]; STORK ANDREAS [DE] ET AL.) 17 March 2011 (2011-03-17)
- D2 WO 2008/151725 A1 (BAYER CROPSCIENCE AG [DE]; VERMEER RONALD [DE] ET AL.) 18 December 2008 (2008-12-18)
- D3 WO 2009/004281 A2 (SYNGENTA LTD [GB]; WILLIAMS KIRSTY JANE [GB] ET AL.) 8 January 2009 (2009-01-08)
- D4 WO 2016/008696 A1 (BASF SE [DE]) 21 January 2016 (2016-01-21)

A composition comprising an active ingredient that is partially soluble in the solvent; an ammonium salt, a dispersant that is an alkyl propoxylate ethoxylate, a water insoluble filler and optionally a surfactant, a solvent of formula 4. The use of such composition in insect control.

Re Item V

Novelty

D1 describes an agent to be added to agrochemical compositions in order to achieve a better penetration of the active ingredients in the leaves. The preferred chemicals to be applied are compounds A and B and also some pyrethroids such as deltamethrin. The additive is an alcohol alkoxylated by several EO and PO units, as described on p. 3. Propylene glycol is mentioned as suitable solvent on p. 11. Ammonium salts are mentioned as possible emulsifiers are mentioned on p. 12, third paragraph. Table II discloses the use of propylene carbonate in combination with the alkyl propoxylate and ethoxylate (1a-1c and 3b). Examples B,C, D on p. 18 and 19 disclose some compositions comprising the additive and the solvent with an insecticidal compound. The document is not relevant for novelty because no filler is mentioned nor the physical state of the active ingredient in the solvent.

D2 describes a formulation for a pesticide that comprises alcohol ethoxylate propoxylates and ammonium sulfate. It can also comprise a filler such as caolin, rutil, silica or synthetic silica. Methyl ester of colza oil or further oils are the preferred solvents. The document is not relevant for novelty because no solvent of formula 4 is comprised in the mixture.

D3 describes physically stable oil dispersions. The active ingredient is suspended in an oil and bentonite organoclays (such as tetralkyl ammonium hectorite) are added to the compositions with an activator such as propylene carbonate. Various emulsifiers can be

used such as alkyl ethoxylate with 1 to 20 EO units. Propylene glycol monobutyl ether is the preferred solvent and different glycol ether are used. Alkyl ammonium salts are mentioned on p. 7, l. 13. Bisamides, mectins or pyrethroids are within the suitable pesticide to be formulated with this compositions. **D3** differs from the present application because it does not disclose alkyl ethoxylate propoxylate as surfactants.

D4 describes oil-in-water emulsions comprising a pesticide dissolved in a water immiscible solvent, modified silica particles and a nonionic emulsifier. C12-C18 alcohols that are ethoxylated and propoxylated are used as adjuvants and also propylene glycol is present in the composition with the silica particles. Insecticides are formulated with this composition but the document is not relevant for novelty because no ammonium salt is comprised and because the pesticide is dissolved in a solvent. An emulsion is formed with water.

Inventive Step

D2 is considered to represent the closest prior-art to the subject matter of claims 1 to 15 since it is directed to the formation of oil suspension that are stable and can guarantee sufficient penetration of the active ingredient in the plant system.

Claims 1 to 15 differ from **D2** in that a solvent of formula 4 is comprised in the composition.

The effect of this component is a stabilisation of the composition. According to the application, these components are known as penetration enhancer.

The effect is disclosed for a compound of formula I-2.

It cannot be obviously extrapolated for any solid pesticide to be formulated as an oil suspension in a solvent where it is not soluble. The problem has not been solved over the whole scope.

The problem to be solved by the present application is therefore the provision of an alternative formulation that can stabilise a solid pesticide.

The alternative appears obvious in view in particular of **D3**, from the field of stabilisation of solid agrochemicals in oil suspension, wherein the use of different glycol ether is recommended in order to achieve stable dispersion of active ingredients in the presence of filler. In view of **D3**, starting from **D2**, it would have been obvious the addition of a glycol ether to the composition of **D2**, resulting in the present invention.

No inventive step can be acknowledged.

Industrial Applicability

Claims 1 to 15 are considered as industrially applicable.

Re Item VII

Acknowledgement of the Prior Art

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in **D3** is not mentioned in the description, nor are these documents identified therein.

Re Item VIII

Clarity

The application does not meet the requirements of Article 6 PCT, because claims 1, 3, 9 and 14 are not clear.

The terms "preferably" and "optionally" used in claims 1, 3, 9, 14 are vague and unclear and leave the reader in doubt as to the meaning of the technical features to which they refer, thereby rendering the definition of the subject-matter of said claims unclear.

Expressions of this kind have no limiting effect on the scope of the claim, that is the feature following any such expression is to be regarded as entirely optional.

The attention of the Applicant is drawn to the fact that the whole application (description and method claims) seems to be directed to formulation of insecticide but claim 1 is rather directed to any active ingredient.