

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

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/US2021/018198

International filing date (day/month/year)
16.02.2021

Priority date (day/month/year)
19.02.2020

International Patent Classification (IPC) or both national classification and IPC
INV. A01N25/30 A01N25/04

Applicant
SASOL CHEMICALS GMBH

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:



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Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

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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>6, 7, 9-23</u>
	No: Claims	<u>1-5, 8, 24</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-24</u>
Industrial applicability (IA)	Yes: Claims	<u>1-24</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

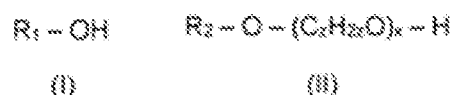
Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents (**D1-D5**) and to the International Search Report wherein the most relevant passages thereof are cited; the numbering will be adhered to during the rest of the procedure:

- D1** WO 2015/103192 A1 (Rhodia Operations [FR]) 9 July 2015
- D2** WO 2015/091617 A1 (BASF SE [DE]) 25 June 2015
- D3** EP 0 968 649 A1 (Du Pont [US]) 5 January 2000
- D4** WO 99/26472 A1 (Henkel Corp [US]) 3 June 1999
- D5** EP 1 875 803 A2 (Oxiteno SA Ind e Comercio [BR]) 9 January 2008

The patent application relates to a crop husbandry composition comprising (i) an alcohol or mixture of alcohols of the formula (I); and (ii) an alcohol alkoxylate or mixture of alcohol alkoxylates of the formula (II), wherein R_1 and R_2 are independently a linear or branched C_{18} - C_{40} alkyl groups; $z = 2 - 3$; $x = 1 - 150$.



Furthermore the patent application also relates to a crop husbandry emulsion comprising the crop husbandry composition and water; to a field solution comprising the crop husbandry composition and 90 - 99.9 wt.% water; to a method for the cultivation, treatment, and/or protection of plants, crops, seeds, plant propagation material, aquatic environments, soil using either the crop husbandry emulsion or the field solution as well as to the use of the crop husbandry composition for the cultivation, treatment, and/or protection of plants, crops, seeds, plant propagation material, aquatic environments or soil.

1. Novelty (Art. 33(2) PCT)

The patent application does not meet the criteria of Article 33(1) PCT, because the subject-matter of at least claims 1-5, 8 and 24 is not considered to be novel in the sense of Article 33(2) PCT.

1.1 Claims 1-14 of the patent application are directed towards an entity, that is a crop husbandry composition, whereby the term '*crop husbandry*' has been understood to be the '*practice of combining agricultural crops or animal husbandry with the maintenance and cultivation of trees on the same patch of land*'. The novelty of a composition is determined solely by its components, with the intended use of the composition only constituting a limiting technical feature in terms of defining the composition to be in a form suitable for the said use. Thus the composition of claims 1-14 is regarded as a composition comprising the defined components which is in a form *suitable for* use in crop husbandry (PCT Guidelines 5.21).

1.2 Document **D1** discloses formulations for use in crop protection comprising a fatty alcohol (R_1 = linear or branched C_8 - C_{24} alkyl) falling within the scope of formula (I) of the patent application. Although the formulation of D1 may also comprise a surfactant, including a non-ionic surfactant such as an alcohol ethoxylate, there does not appear to be an explicit disclosure of a fatty alcohol ethoxylate of formula (II) as defined in the patent application.

1.3 Document **D2** discloses formulations for use in crop protection comprising a fatty alcohol falling within the scope of formula (I) of the patent application (R_1 = C_{12} - C_{22} fatty alcohol, including the C_{20} -linear saturated alcohol, arachidyl alcohol). Notably the formulation may also comprise a fatty alcohol ethoxylate (R_2 = C_6 - C_{22} alkyl, z = 2 - 4, x = 1 - 15; preferred C_{14} - C_{20} alkyl, z = 2, x = 1 - 8; most preferred C_{14} - C_{20} alkyl, z = 2, x = 2 - 6), whereby the preferred and most preferred alcohol ethoxylate of D2 falls within the scope of formula (II) of the patent application (page 13, lines 29-32). Furthermore the formulation comprises dicamba which possesses an aromatic ether moiety. Consequently the subject-matter of at least claims 1-5, 8 and 24 is not considered to be novel over D2 (Article 33(2) PCT).

1.4 Document **D3** discloses formulations for use in crop protection comprising fatty alcohol ethoxylates falling within the scope of formula (II) of the patent application (linear or branched C_8 - C_{26} alkyl; z = 2; x = 6 - 50). The formulations of D3 do not appear to comprise a fatty alcohol as defined in formula (I) of the patent application.

1.5 Document **D4** discloses further formulations for use in crop protection comprising a fatty alcohol ethoxylate in which R is a C_8 - C_{26} alkyl group. Although the ethoxylation number is not explicitly disclosed, it would appear credible that it lies within the broad range of 1-150 defined by x in formula (II) of the patent application. The formulations of D4 do not however appear to comprise a fatty alcohol as defined in formula (I) of the patent application.

1.6 Document **D5** discloses formulations for use in crop protection comprising a pesticide, a C₆-C₂₀ straight, branched saturated or unsaturated fatty alcohol and an alcohol ethoxylate having a C₁-C₃₀ alkyl group. A formulation comprising an alcohol of formula (I) and an alcohol alkoxylate of formula (II) as defined in the patent application does not appear to be mentioned in D5.

2. Inventive step (Art. 33(3) PCT)

The patent application does not meet the requirements of Article 33(3) PCT, since the subject-matter of claims 1-24 is not considered to involve an inventive step within the meaning of Article 33(3) PCT.

2.1 The subject-matter of at least claims 1-5, 8 and 24 is not novel and can therefore not involve an inventive step in the meaning of Art. 33(3) PCT.

2.2 Document **D2** may be regarded as the closest prior art to the subject-matter of the patent application, as it discloses crop protection formulations comprising a fatty alcohol and a fatty alcohol ethoxylate which both fall within the definition of formula (I) and (II) of the patent application (*i.e. same technical field of crop protection, same aim of providing enhanced efficacy of crop protection formulations, both main technical features in common*).

2.3 The difference between the subject-matter of D2 and that of the patent application appears to lie in the amount of alcohol ethoxylate of formula (II) comprised in the composition (Patent application: 10 - 40 wt.% as defined in claim 6 vs. D2: no amount defined).

2.4 No technical effect of this difference can be discerned from the patent application in the absence of appropriate comparative experimental data to the closest prior art.

2.5 The objective technical problem to be solved may therefore be regarded as the provision of an alternative composition suitable for use in crop husbandry and crop protection.

2.6 The solution to this problem presented in the patent application is composition comprising 10 - 40 wt.% of an alcohol ethoxylate of formula (II) as defined in claim 6.

2.7 The skilled person is aware of the use of both fatty alcohols and fatty alcohol alkoxylates falling within formula (I) and (II) as adjuvants in crop protection formulations (*e.g.* D1 and D3), as well as formulations comprising both thereof (D2). In the absence of a surprising or unexpected effect, the choice of 10 - 40 wt.% of alcohol alkoxylate in the composition of the patent application is considered to represent one of several routine possibilities which the skilled person would select without the exercise of

inventive skill, in order to solve the objective technical problem of merely providing an alternative crop husbandry composition. In addition none of the dependent claims appears to contain any additional technical features which, in combination with the features of any claim to which they refer, meet the requirements for the acknowledgement of an inventive step. Accordingly no inventive step can be acknowledged for the subject-matter of claims 1-14 of the patent application directed to the crop husbandry composition. Consequently since the crop husbandry composition is not considered to involve an inventive step, no inventive step can be acknowledged for the subject-matter of claims 15-18 directed to the crop husbandry emulsion, or for the subject-matter of claims 19-20 directed to the field solution, or for the subject-matter of method claims 21-24, or for the subject-matter of use claim 24 (Art. 33(3) PCT).

3. Industrial applicability (Art. 33(4) PCT)

Industrial applicability is acknowledged for the subject-matter of claims 1-24.

Re Item VII

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in documents D1-D5 has not been mentioned in the description, nor have these documents been identified therein.

Re Item VIII

Certain observations on the international application

1. The technical feature '*..or any other active ingredients useful in crop husbandry*' used in claim 13 is not considered to be clear since useful is both a relative and subjective term (Art. 6 PCT).

2. The term '*..or the like*' used in claims 21-22 and 24 is vague and unclear and leaves the reader in doubt as to the meaning of the technical feature to which it refers, thereby rendering the definition of the subject-matter of said claims unclear (Art. 6 PCT).

3. It appears that the 'comparative composition 1' of the example of the patent application falls within the scope of claim 1 since firstly 'Alcohol A' falls within the scope of formulae (I) of claim 1 as it comprises a large portion of a C₁₈-fatty alcohol (R₁ = C₁₈) (ca. 35 wt.%) and secondly the alcohol ethoxylate of this comparative example also falls

within the scope of formula (II) of claim 1 as it also comprises a C₁₈ fatty alcohol (R₂) and has both z and x values in the range defined in claim 1 (z = 2 (ethoxylate); x = 21) (Art. 6 PCT).

4. References to other documents in international applications may relate directly to the disclosure of the invention. If the matter the documents refer to is essential to satisfy the requirements of Art. 5 PCT, this matter should be explicitly described and incorporated into the description since the patent specification must be self-contained with regard to the essential features of the invention, that is it should be capable of being understood without reference to any other documents. As a consequence, expressions including '*incorporated herein by reference.*' (page 1, lines 6-7) should not have been used (PCT Guidelines 4.26).