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INTELLECTUAL PROPERTY LAW
INCLUDING PATENT, TRADEMARK, COPYRIGHT
LAW, UNFAIR COMPETITION AND RELATED MATTERS

10 December 2021

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80298 Munich
Germany

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SASOL CHEMICALS GMBH

Re: Article 34 Amendments

Dear Sir/Madam:

The Written Opinion dated 11 June 2021 is duly noted. Enclosed herein are amendments under Article 34.

The status of the claims is as follows:

Claims 1-2 amended; claims 3-12 unchanged; claims 13-15 amended; claims 15-20 unchanged; claims 21 and 22 amended; claim 23 unchanged; and claim 24 amended.

Basis for amendment to claim 1 - Claim 1 is amended to change the carbon chain lengths of R₁ and R₂. Support for these amendments is found on page 2, lines 26 to 28, and in claim 2 as originally filed. Claim 1 is further amended to recite the mass ratio of alcohol or mixture of alcohols and the alcohol alkoxylate or mixture of alcohol alkoxylates from claim 14, which was found to be novel.

Basis for amendment to claim 2 - Claim 2 is amended to recite that R₁ and R₂ are the same. Support for this amendment can be found on page 2, line 30.

Basis for amendment to claim 13 - Claim 13 is amended to remove "or any other active ingredient useful in crop husbandry" as per the observation made in the Written Opinion.

Basis for amendment to claim 14 - Claim 14 is amended to remove the mass ratios which are redundant in light of the amendment made to claim 1.

Basis for amendment to claims 21, 22, and 24 - Claims 21, 22, and 24 are amended to remove "or the like" as per the observation made in the Written Opinion.

Novelty/Inventive Step

The examiner has found that claims 1 - 5, 8 and 24 are not novel over D2. The examiner is of the opinion that D2 discloses an alcohol as claimed in claim 1 and also an alcohol alkoxylate as claimed in claim 1 and therefor D2 anticipates claim 1.

The examiner also found that the claims are not inventive over D2.

Claim 1 claims a crop husbandry composition. Page 1, lines 17 to 21 discloses that crop husbandry involves a number of activities to ensure crop wellness.

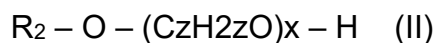
Claim 1 claims that the crop husbandry composition comprises

(a) an alcohol or mixture of alcohols of the formula (I)



and

(b) an alcohol alkoxylate or mixture of alcohol alkoxylates of the formula (II)



wherein:

R_1 and R_2 are independently of one another a linear or branched alkyl, each having a total number of carbon atoms from 20 to 32, z has a value of 2 or 3, and x has a value of from 1 to 150, and

wherein the alcohol or mixture of alcohols and the alcohol alkoxylate or mixture of alcohol alkoxylates are in a mass ratio of from about 99:1 to about 51:49.

It is submitted that for the reasons set out below, D2 does not disclose the combination of features (a) and (b). D2 also does not disclose the mass ratio of alcohol(s) to alcohol alkoxylate(s) set out in amended claim 1 with the result that amended claim 1 is novel over D2.

It is also submitted that, for the reasons set out below, amended claim 1 is inventive over D2.

D2 relates to a composition which comprises dicamba and a drift control agent which is at least one fatty alcohol. The term “fatty alcohol” is described on page 13, lines 13 to 21 of D2 and includes both unsaturated fatty alcohols and fully saturated fatty alcohols. Unsaturated fatty alcohols do not fall within the scope of claim 1 since claim 1 requires R₁ to be an alkyl, and in an unsaturated fatty alcohol R₁ of claim 1 is not an alkyl.

The saturated fatty alcohols in D2 range from C6 alcohol (hexanol) to C22 alcohol (behenyl alcohol). That is alcohols, where in formula I of claim 1, R₁ is from C6 to C22. Thus, the saturated fatty alcohols of D2 only overlap partially with the range of C20 to C32 alkyls claimed in amended claim 1 and most of the range disclosed in D2 (C6 to C19) does not overlap with the claimed range.

The most-preferred fatty alcohols disclosed on page 2, lines 23 to 25 of D2 are cetyl alcohol, myristic alcohol, arachidyl alcohol and oleyl alcohol. Only arachidyl alcohol falls within the scope of claim 1. From the disclosure on page 3, lines 9 to 18 and example 1 (especially page 24, lines 5 to 7) it is seen that the preferred fatty alcohol of D2 comprises a combination of fatty alcohols wherein a very small amount (less than 3 wt% in the example) falls within the scope of claim 1. That is, arachidyl alcohol is a minor component in D2.

Claim 1 has now been amended further to include subject matter of claim 14 as examined. This amendment describes a relative high ratio of the C20 to C32 alcohol(s) to the alcohol alkoxylate(s). This ratio is not at all disclosed in D2 and it is to be noted that D2 discloses only very low amounts of C20 to C32 alcohols. The Written Opinion has also acknowledged novelty of claim 14 over the prior art. This amendment serves to further distinguish amended claim 1 over D2.

In D2 it is optional to include an alkoxylated fatty alcohol. It is even emphasized on page 8, line 19 that in one embodiment an alkoxylated fatty alcohol is not included. No advantage of including an alkoxylated fatty alcohol is disclosed in D2 and the example of D2 does not include an alkoxylated fatty alcohol. Therefore D2 provides no incentive for including an alkoxylated fatty alcohol.

Even should an alkoxylated fatty alcohol be included in D2, then these alkoxylated fatty alcohols only overlap in a very limited way with the alcohol alkoxylates claimed in amended claim 1. The alkoxylated fatty alcohols disclosed in D2 includes (see page 7, line 36 to page 8) compounds wherein the equivalent of R₂ in claim 1 is an alkyl or alkenyl. Alkenyl is not an alkyl as required by claim 1 and therefore does not fall within the scope of claim 1. Where the equivalent R₂ is alkyl in D2, D2 discloses that it is a C₆ to C₂₂ alkyl while amended claim 1 claims C₂₀ to C₃₂ alkyl. That is the fatty alcohol alkoxylates in D2 which includes an alkyl group overlap only partially with the range of C₂₀ to C₃₂ alkyls claimed in claim 1 and most of the range disclosed in D2 (C₆ to C₁₉) does not overlap with the claimed range.

Furthermore, D2 teaches that more preferably the equivalent of R₂ in D2 is C₁₆ to C₁₈ alkyl or alkenyl, and oleyl and cetyl are especially preferred. Thus, the more preferred and the especially preferred alcohol alkoxylates disclosed in D2 do not fall within the scope of claim 1 with the result that the preferred embodiments of D2 direct away from the alcohol alkoxylates of amended claim 1.

As set out above, D2 also does not disclose the ratio of alcohol(s) to alcohol alkoxylate(s) now claimed in amended claim 1.

In order to arrive at claim 1 from the teachings of D2, a person skilled in the art would have to specifically select an alcohol of amended claim 1 from the very broad range of fatty alcohols disclosed in D2 (discussed above). Then they would have to select to include an alcohol alkoxylate and then an alcohol alkoxylate which falls within the scope of claim 1 would have to be selected from the very broad range of fatty alcohol alkoxylates disclosed in D2 (discussed above). Then it would have to be selected to combine the alcohol(s) and alcohol alkoxylate(s) in the ratio as set out in claim 1.

Although D2 discloses in general alcohols which may fall within the scope of amended claim 1 and alcohol alkoxylates which may fall within the scope of amended claim 1, D2 does not disclose the combination of the specific alcohols claimed in amended claim 1 and the specific alcohol alkoxylates of amended claim 1. That is, D2 does not clearly and unambiguously disclose the specific combination of features (a) and (b) set out claim 1 and D2 also does not disclose the combination in the ratio as set out in amended claim 1. For these reasons amended claim 1 is novel over D2.

Furthermore, as set out above, D2 provides no incentive to use an alcohol alkoxylate in combination with an alcohol of amended claim 1. However, even if such an alcohol alkoxylate should be included, then the preferred teachings of D2 direct away from the inclusion of an alcohol alkoxylate which falls within the scope of amended claim 1. This is so since, as set out above, the more preferred alcohol alkoxylates of D2 include R₂ which is C16 to C18 alkyl or alkenyl (outside the scope of claim 1), and oleyl and cetyl (also outside the scope of amended claim 1) being especially preferred. No incentive is provided in the prior art to use the specific combination of alcohol and alcohol alkoxylate as claimed in amended claim 1 or to use them in the ratio as claimed in amended claim 1.

As set out above one of the main differences between amended claim 1 and D2 is that D2 does not disclose an alcohol with a R₁ group as claimed in claim 1 in combination with an alcohol alkoxylate with a R₂ group as claimed in claim 2. In the experimental data of the present application R₁ and R₂ of Comparative Composition 1 do not fall within the scope of amended claim 1, while R₁ and R₂ of inventive Compositions 2 and 3 do fall within the scope of claim 1. The experimental data presented in the present application shows that the compositions of the present invention (Composition 2 and Composition 3) as used in corresponding emulsions EW2 and EW3, and field solutions FS2 and FS3, have clearly superior thermal, emulsion stability, rheological, foaming, UV absorbance, and coating properties over Comparative Composition 1, emulsion comparative EW1 and field solution comparative FS1.

Thus, the crop husbandry composition of claim 1 solves a different problem from that of D2 (in D2 it is drift control). There is no indication in the prior art that the advantages of the present invention can be achieved by using an alcohol with a R₁

group as claimed in amended claim 1 in combination with an alcohol alkoxylate with a R₂ group as claimed in amended claim 1.

In view of the above it is submitted that amended claim 1 is novel and inventive over D2. The rest of the claims all include the features of amended claim 1 and therefore these claims are also novel and inventive over D2.

References D1, and D3 to D5 make no further contribution which detract from the above arguments.

In view of the above it is submitted that amended claim 1 is novel and inventive over the prior art. The rest of the claims all include the features of claim 1 and therefore these claims are also novel and inventive over the prior art.

Respectfully submitted,

/Erin J. Werner/

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Date: 10 December 2021

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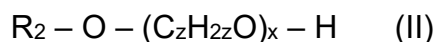
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CLAIMS

1. A crop husbandry composition, the crop husbandry composition comprising:
an alcohol or mixture of alcohols of the formula (I)



and an alcohol alkoxylate or mixture of alcohol alkoxylates of the formula (II)



wherein:

R_1 and R_2 are independently of one another a linear or branched alkyl, each having a total number of carbon atoms from 20 48 to 3240, z has a value of 2 or 3, and x has a value of from 1 to 150, and
wherein the alcohol or mixture of alcohols and the alcohol alkoxylate or mixture of alcohol alkoxylates are in a mass ratio of from about 99:1 to about 51:49.

2. The crop husbandry composition according to claim 1, wherein R_1 and R_2 are the same ~~independently of one another a linear or branched alkyl, each having a total number of carbon atoms from 18 to 32, preferably a linear or branched alkyl, each having a total number of carbon atoms from 20 to 32.~~
3. The crop husbandry composition according to claim 1 or claim 2, wherein z is 2, so that the alcohol alkoxylate of formula (II) is an alcohol ethoxylate or the mixture of alcohol alkoxylates is a mixture of alcohol ethoxylates.
4. The crop husbandry composition according to any one of claims 1 to 3, wherein x has a value of from 10 to 50, preferably 15 to 35, most preferably 20 to 30.

5. The crop husbandry composition according to any one of claims 1 to 4, wherein the alcohols or mixture of alcohols is present in the crop husbandry composition in a mass percentage of from about 60wt% to about 90wt%, preferably about 70wt% to about 80wt%, based on the total weight of the crop husbandry composition.
6. The crop husbandry composition according to any one of claims 1 to 5, wherein the alcohol alkoxylate or mixture of alcohol alkoxylates is present in the crop husbandry composition in a mass percentage of from about 10wt% to about 40wt%, preferably from about 20wt% to about 30wt%, based on the total weight of the crop husbandry composition.
7. The crop husbandry composition according to any one of claims 1 to 6, wherein the alcohols present are greater than 50wt% linear alcohols, preferably between 60wt% and 90wt% linear alcohols, based on the total weight of linear and branched alcohols present.
8. The crop husbandry composition according to any one of claims 1 to 7, wherein the alcohol or mixture of alcohols includes additional components comprising paraffins, esters, ethers or mixtures thereof.
9. The crop husbandry composition according to claim 8, wherein the crop husbandry composition includes from about 0.7wt% to about 4wt% paraffins, preferably from about 0.7wt% to about 2.5wt% paraffins; from about 1.5wt% to about 9wt% esters, preferably from about 4wt% to about 9wt% esters; and from about 1wt% to about 6wt% ethers, based on the total weight of the alcohols or mixture of alcohols and the additional components.
10. The crop husbandry composition according to claim 8 or claim 9, wherein the alcohols are present in the alcohol or mixture of alcohols in a mass percentage of from about 65wt% to about 99wt%, preferably 70wt% to 95wt%, most preferably

75wt% to 85wt%, based on the total weight of the alcohols or mixture of alcohols and the additional components.

11. The crop husbandry composition according to any one of claims 8 to 10, where in the additional components are present in the alcohol or mixture of alcohols in a mass percentage of from about 1wt% to about 35wt%, preferably 5wt% to 30wt%, most preferably 15wt% to 25wt%, based on the total weight of the alcohols or mixture of alcohols and the additional components.
12. The crop husbandry composition according to any one of claims 1 to 11, wherein the crop husbandry composition contains an agrochemically active ingredient in a mass percentage of from about 0.01 wt% to about 10 wt%, based on the total weight of the crop husbandry composition.
13. The crop husbandry composition according to claim 12, wherein the agrochemically active ingredient is a pesticide, a herbicide, a fungicide, a plant growth regulator, a nutrient, a fertilizer, a sun protection agent, ~~or any other active ingredient useful in crop husbandry,~~ or any combination of the aforesaid.
14. The crop husbandry composition according to any one of claims 1 to 13, wherein the alcohol or mixture of alcohols and the alcohol alkoxylate or mixture of alcohol alkoxylates are in a mass ratio of ~~from about 99:1 to about 51:49,~~ preferably from about 70:30 to about 90:10.
15. A crop husbandry emulsion, comprising the crop husbandry composition according to any one of claims 1 to 14, and water.
16. The crop husbandry emulsion according to claim 15, wherein the crop husbandry emulsion includes from about 20wt% to about 99wt% water, preferably from about 70wt% to about 99% water, more preferably about 80wt% to about 99wt% water, based on the total weight of the crop husbandry emulsion.

17. The crop husbandry emulsion according to claim 15 or claim 16, wherein the crop husbandry emulsion is a stable self-emulsifying fluid which is viscoelastic at 25°C and has an elastic modulus of at least 75% of the viscous modulus.
18. The crop husbandry emulsion according to any one of claims 15 to 17, wherein the crop husbandry emulsion absorbs or attenuates UV light in the wavelength range from about 190 nm to about 390 nm.
19. A field solution, comprising the crop husbandry composition according to any one of claims 1 to 14 and water, wherein the field solution includes from about 90wt% to about 99.9wt% water, based on the total weight of the field solution.
20. The field solution according to claim 19, where in the field solution absorbs or attenuates UV light in the wavelength range from about 190 nm to about 390 nm.
21. A method for the cultivation, treatment, and/or protection of plants, crops, seeds, plant propagation material, aquatic environments, or soil, ~~or the like~~, the method including applying a crop husbandry emulsion according to any one of claims 15 to 18 or a field solution according to claim 19 or claim 20 to the plants, crops, seeds, plant propagation material, aquatic environment, or soil, ~~or the like~~.
22. The method according to claim 21, wherein the crop husbandry emulsion or the field solution forms a coating on the plant, crop, seed or plant propagation material, aquatic environments, or soil, ~~or the like~~ to which it is applied.
23. The method according to claim 21 or claim 22, wherein the coating absorbs or attenuates UV light in the wavelength range from about 190 nm to about 390 nm.
24. Use of a crop husbandry composition according to any one of claims 1 to 14 for the cultivation, treatment, and/or protection of plants, crops, seeds, plant

propagation material, aquatic environments, or soil, ~~or the like~~ to which the crop husbandry composition is applied.

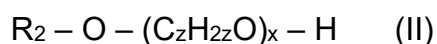
REPLACEMENT SHEET

CLAIMS

1. A crop husbandry composition, the crop husbandry composition comprising:
an alcohol or mixture of alcohols of the formula (I)



and an alcohol alkoxylate or mixture of alcohol alkoxylates of the formula (II)



wherein:

R_1 and R_2 are independently of one another a linear or branched alkyl, each having a total number of carbon atoms from 20 to 32, z has a value of 2 or 3, and x has a value of from 1 to 150, and
wherein the alcohol or mixture of alcohols and the alcohol alkoxylate or mixture of alcohol alkoxylates are in a mass ratio of from about 99:1 to about 51:49.

2. The crop husbandry composition according to claim 1, wherein R_1 and R_2 are the same.
3. The crop husbandry composition according to claim 1 or claim 2, wherein z is 2, so that the alcohol alkoxylate of formula (II) is an alcohol ethoxylate or the mixture of alcohol alkoxylates is a mixture of alcohol ethoxylates.
4. The crop husbandry composition according to any one of claims 1 to 3, wherein x has a value of from 10 to 50, preferably 15 to 35, most preferably 20 to 30.
5. The crop husbandry composition according to any one of claims 1 to 4, wherein the alcohols or mixture of alcohols is present in the crop husbandry composition in

REPLACEMENT SHEET

a mass percentage of from about 60wt% to about 90wt%, preferably about 70wt% to about 80wt%, based on the total weight of the crop husbandry composition.

6. The crop husbandry composition according to any one of claims 1 to 5, wherein the alcohol alkoxylate or mixture of alcohol alkoxylates is present in the crop husbandry composition in a mass percentage of from about 10wt% to about 40wt%, preferably from about 20wt% to about 30wt%, based on the total weight of the crop husbandry composition.
7. The crop husbandry composition according to any one of claims 1 to 6, wherein the alcohols present are greater than 50wt% linear alcohols, preferably between 60wt% and 90wt% linear alcohols, based on the total weight of linear and branched alcohols present.
8. The crop husbandry composition according to any one of claims 1 to 7, wherein the alcohol or mixture of alcohols includes additional components comprising paraffins, esters, ethers or mixtures thereof.
9. The crop husbandry composition according to claim 8, wherein the crop husbandry composition includes from about 0.7wt% to about 4wt% paraffins, preferably from about 0.7wt% to about 2.5wt% paraffins; from about 1.5wt% to about 9wt% esters, preferably from about 4wt% to about 9wt% esters; and from about 1wt% to about 6wt% ethers, based on the total weight of the alcohols or mixture of alcohols and the additional components.
10. The crop husbandry composition according to claim 8 or claim 9, wherein the alcohols are present in the alcohol or mixture of alcohols in a mass percentage of from about 65wt% to about 99wt%, preferably 70wt% to 95wt%, most preferably 75wt% to 85wt%, based on the total weight of the alcohols or mixture of alcohols and the additional components.

REPLACEMENT SHEET

11. The crop husbandry composition according to any one of claims 8 to 10, where in the additional components are present in the alcohol or mixture of alcohols in a mass percentage of from about 1wt% to about 35wt%, preferably 5wt% to 30wt%, most preferably 15wt% to 25wt%, based on the total weight of the alcohols or mixture of alcohols and the additional components.
12. The crop husbandry composition according to any one of claims 1 to 11, wherein the crop husbandry composition contains an agrochemically active ingredient in a mass percentage of from about 0.01 wt% to about 10 wt%, based on the total weight of the crop husbandry composition.
13. The crop husbandry composition according to claim 12, wherein the agrochemically active ingredient is a pesticide, a herbicide, a fungicide, a plant growth regulator, a nutrient, a fertilizer, a sun protection agent, or any combination of the aforesaid.
14. The crop husbandry composition according to any one of claims 1 to 13, wherein the alcohol or mixture of alcohols and the alcohol alkoxylate or mixture of alcohol alkoxylates are in a mass ratio of from about 70:30 to about 90:10.
15. A crop husbandry emulsion, comprising the crop husbandry composition according to any one of claims 1 to 14, and water.
16. The crop husbandry emulsion according to claim 15, wherein the crop husbandry emulsion includes from about 20wt% to about 99wt% water, preferably from about 70wt% to about 99% water, more preferably about 80wt% to about 99wt% water, based on the total weight of the crop husbandry emulsion.
17. The crop husbandry emulsion according to claim 15 or claim 16, wherein the crop husbandry emulsion is a stable self-emulsifying fluid which is viscoelastic at 25°C and has an elastic modulus of at least 75% of the viscous modulus.

REPLACEMENT SHEET

18. The crop husbandry emulsion according to any one of claims 15 to 17, wherein the crop husbandry emulsion absorbs or attenuates UV light in the wavelength range from about 190 nm to about 390 nm.
19. A field solution, comprising the crop husbandry composition according to any one of claims 1 to 14 and water, wherein the field solution includes from about 90wt% to about 99.9wt% water, based on the total weight of the field solution.
20. The field solution according to claim 19, where in the field solution absorbs or attenuates UV light in the wavelength range from about 190 nm to about 390 nm.
21. A method for the cultivation, treatment, and/or protection of plants, crops, seeds, plant propagation material, aquatic environments, or soil, the method including applying a crop husbandry emulsion according to any one of claims 15 to 18 or a field solution according to claim 19 or claim 20 to the plants, crops, seeds, plant propagation material, aquatic environment, or soil.
22. The method according to claim 21, wherein the crop husbandry emulsion or the field solution forms a coating on the plant, crop, seed or plant propagation material, aquatic environments, or soil, to which it is applied.
23. The method according to claim 21 or claim 22, wherein the coating absorbs or attenuates UV light in the wavelength range from about 190 nm to about 390 nm.
24. Use of a crop husbandry composition according to any one of claims 1 to 14 for the cultivation, treatment, and/or protection of plants, crops, seeds, plant propagation material, aquatic environments, or soil, to which the crop husbandry composition is applied.