Claims:

1. The use of adjuvants comprising sophorolipids, sophorolipid preparations, and derivatives thereof, as a constituent of tank mix additives, as a tank mix additive themselves, or as a formulation additive, in each case with the function of the adjuvant, for crop protection and/or for the industrial non-crop sector.

2. The use as claimed in claim 1, characterized in that as derivatives use is made of sophorolipid esters.

3. The use as claimed in at least one of claims 1 and 2, characterized in that adjuvants comprising sophorolipids boost the efficacy of pesticides and/or enhance the activity, with the proviso that the dose range of the adjuvant lies between 10-3000 ml/ha.

4. The use as claimed in at least one of claims 1 to 3, characterized in that the adjuvant and the pesticide act synergistically together.

5. The use as claimed in claim 4, characterized in that the combination of adjuvant and pesticide acts synergistically in a ratio of active pesticidal ingredient to adjuvant of 1:120 to 30:1.

6. The use as claimed in at least one of claims 1 to 5, characterized in that as pesticides use is made of compounds from the group of the herbicides, insecticides, growth regulators and/or fungicides or mixtures thereof, or plant strengtheners, micronutrients, and macronutrients.

7. The use as claimed in claim 6, characterized in that as pesticides use is made of contact fungicides, such as sulfur, and/or systemic herbicides selected from the group of the sulfonylureas and/or systemic fungicides selected from the class of the triazoles, and also mixtures of these and other pesticides.

8. The use as claimed in at least one of claims 1 to 7, characterized in that the adjuvants are used as additives in pesticide formulations such as suspension concentrates, capsule suspensions, emulsifiable concentrates, water-soluble concentrates, oil dispersions, suspoemulsions, emulsions in water, water-dispersible granules or powders, in addition to other added substances, in amounts of 1% by weight to 99% by weight.

9. The use as claimed in claim 8, characterized in that the adjuvants are used in amounts of 1.5% by weight to 60% by weight.

10. The use of sophorolipids as claimed in claim 1 in crop protection product formulations, as emulsifier, dispersant, defoamer or as wetting agent.

11. A composition comprising

a) sophorolipids and/or sophorolipid preparations and also derivatives thereof obtainable by fermentative preparation, and at least one

b) active pesticidal ingredient

with the proviso that component (a) has no inherent pesticidal activity.

12. A composition as claimed in claim 11 comprising sophorolipids and pesticides, characterized in that the pesticidal efficacy and activity of the composition is greater than the sum of the efficacies of the individual components.

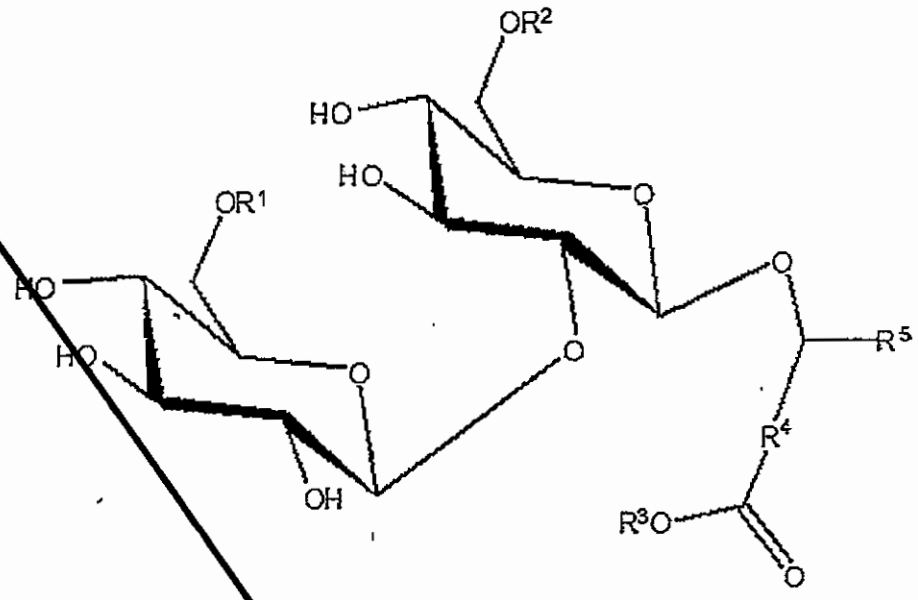
13. A composition as claimed in at least one of claims 11 to 12, characterized in that the sophorolipids, derivatives thereof or the sophorolipid preparations are present in the adjuvant, based on the solids, with a fraction of > 30% by weight in the adjuvant.

14. A composition as claimed in claim 11, characterized in that as hydrophobic substrate of the fermentative preparation use is made of hydrocarbons, fatty acids, fatty acid esters, and/or fatty alcohols or mixtures thereof.

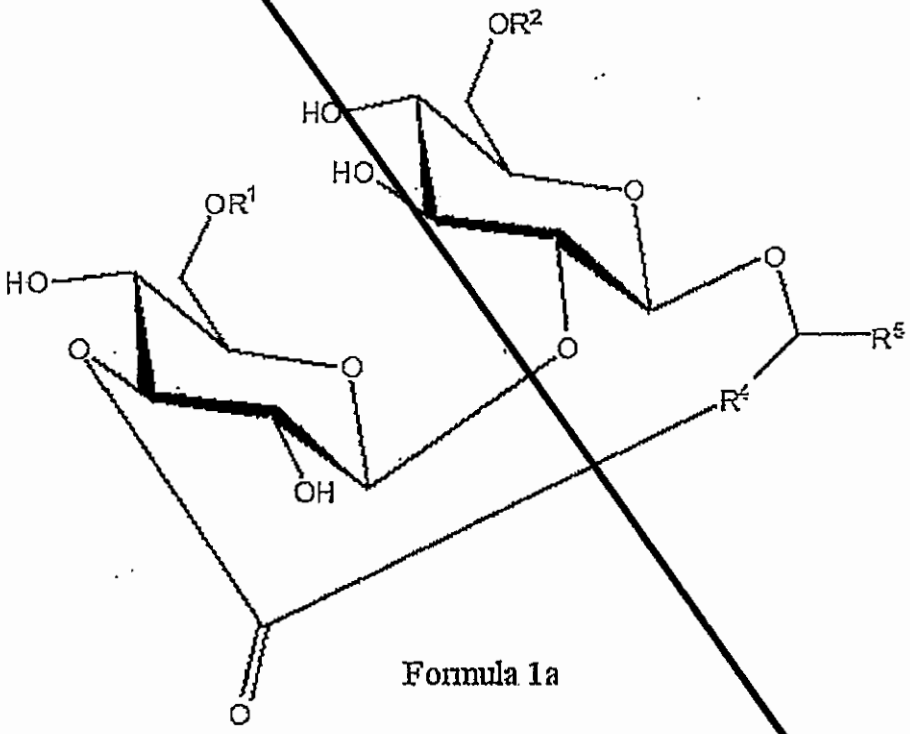
15. A composition as claimed in at least one of claims 11 to 14, characterized in that the sophorolipid fraction in the adjuvant in purified or unpurified form

i) is present as a mixture of lactone and acid form, with an acid fraction of 10% to 100% by weight, or
ii) consists to a fraction of > 90% by weight of the lactone form, which can be solubilized by adjustment of the pH to a level of between 6 and 8, or
iii) is present as methyl or ethyl ester, with a fraction of 1% to 100% by weight of the respective ester.

16. A composition as claimed in at least one of claims 11 to 15, characterized in that as sophorolipids use is made of those of the formula 1 or 1a,



Formula 1



Formula 1a

where

R^1 and R^2 independently of one another are either H or an acetyl group,

R^3 is H or a methyl, ethyl or hexyl group,

R^4 independently at each occurrence is a saturated or unsaturated divalent, branched or unbranched organic group,

R^5 is H or a methyl group,

with the proviso that the total number of the carbon atoms in groups R^4 and R^5 does not exceed the number 29.

17. A process for preparing a solubilized lactone form of the sophorolipids, characterized in that the lactone form is brought into solution by fatty acids present, by adjustment of the pH to 6-8.

18. The process as claimed in claim 17, characterized in that as fatty acids use is made of the fatty acids present from the fermentation and/or fatty acids added additionally, the fatty acids corresponding to the acid components of the triglycerides used as substrates, selected from the group consisting of tallow, sunflower oil, rapeseed oil, safflower oil, soya bean oil, palm oil, palm kernel oil, coconut oil, olive oil, or else short-chain to medium-chain carboxylic acids having an alkyl chain length of 6 to 22 carbon atoms.

19. A composition comprising the solubilized lactone form of a sophorolipid, prepared by a process of claim 17 or 18.

Claims:

1. The use of adjuvants comprising sophorolipids, as a constituent of tank mix additives, as a tank mix additive themselves, or as a formulation additive, in each case with the function of the adjuvant, for crop protection and/or for the industrial non-crop sector, wherein the adjuvants comprising sophorolipids boost the efficacy of pesticides and/or enhance the activity, with the proviso that the dose range of the adjuvant lies between 10-3000 ml/ha.

2. The use as claimed in claim 1, characterized in that as derivatives use is made of sophorolipid esters.

3. The use as claimed in claim 1 or claim 2, characterized in that the adjuvant and the pesticide act synergistically together.

4. The use as claimed in claim 3, characterized in that the combination of adjuvant and pesticide acts synergistically in a ratio of active pesticidal ingredient to adjuvant of 1:120 to 30:1.

5. The use as claimed in at least one of claims 1 to 4, characterized in that as pesticides use is made of compounds from the group of the herbicides, insecticides, growth regulators and/or fungicides or mixtures thereof, or plant strengtheners, micronutrients, and macronutrients.

6. The use as claimed in claim 5, characterized in that as pesticides use is made of contact fungicides, such as sulfur, and/or systemic herbicides selected from the group of the sulfonylureas and/or systemic fungicides

selected from the class of the triazoles, and also mixtures of these.

7. The use as claimed in at least one of claims 1 to 6, characterized in that the adjuvants are used as additives in pesticide formulations such as suspension concentrates, capsule suspensions, emulsifiable concentrates, water-soluble concentrates, oil dispersions, suspoemulsions, emulsions in water, water-dispersible granules or powders, in addition to other added substances, in amounts of 1% by weight to 99% by weight.

8. The use as claimed in claim 7, characterized in that the adjuvants are used in amounts of 1.5% by weight to 60% by weight.

9. The use of sophorolipids as claimed in claim 1 in crop protection product formulations, as emulsifier, dispersant, defoamer or as wetting agent.

10. A composition comprising

a) sophorolipids and/or sophorolipid preparations and also derivatives thereof obtainable by fermentative preparation, and at least one

b) active pesticidal ingredient

with the proviso that component (a) has no inherent pesticidal activity.

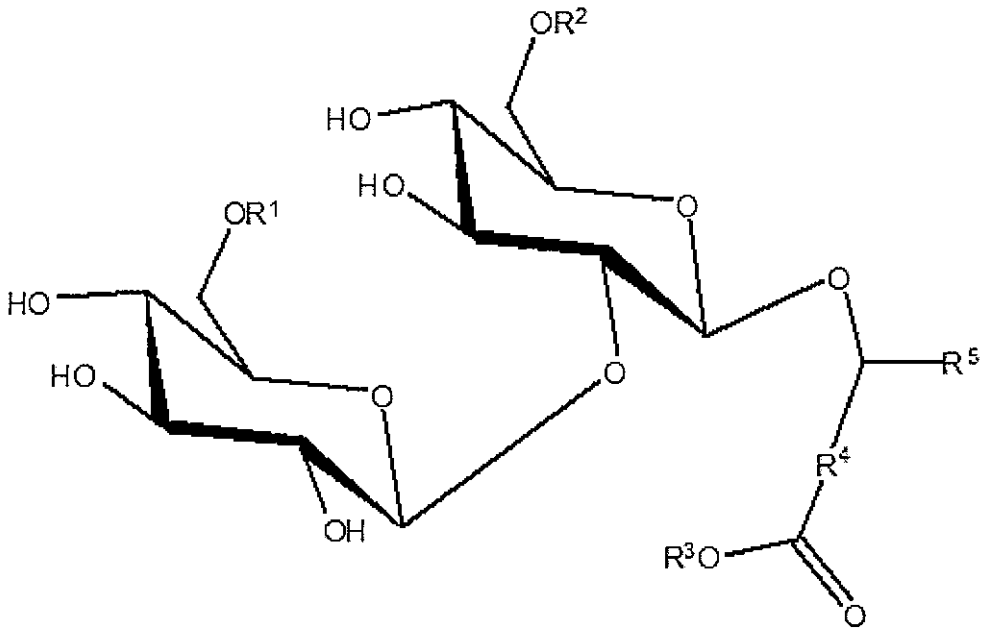
11. A composition as claimed in claim 10, characterized in that the sophorolipids, derivatives thereof or the sophorolipid preparations are present in the adjuvant, based on the solids, with a fraction of > 30% by weight in the adjuvant.

12. A composition as claimed in claim 10, characterized in that as hydrophobic substrate of the fermentative preparation use is made of hydrocarbons, fatty acids, fatty acid esters, and/or fatty alcohols or mixtures thereof.

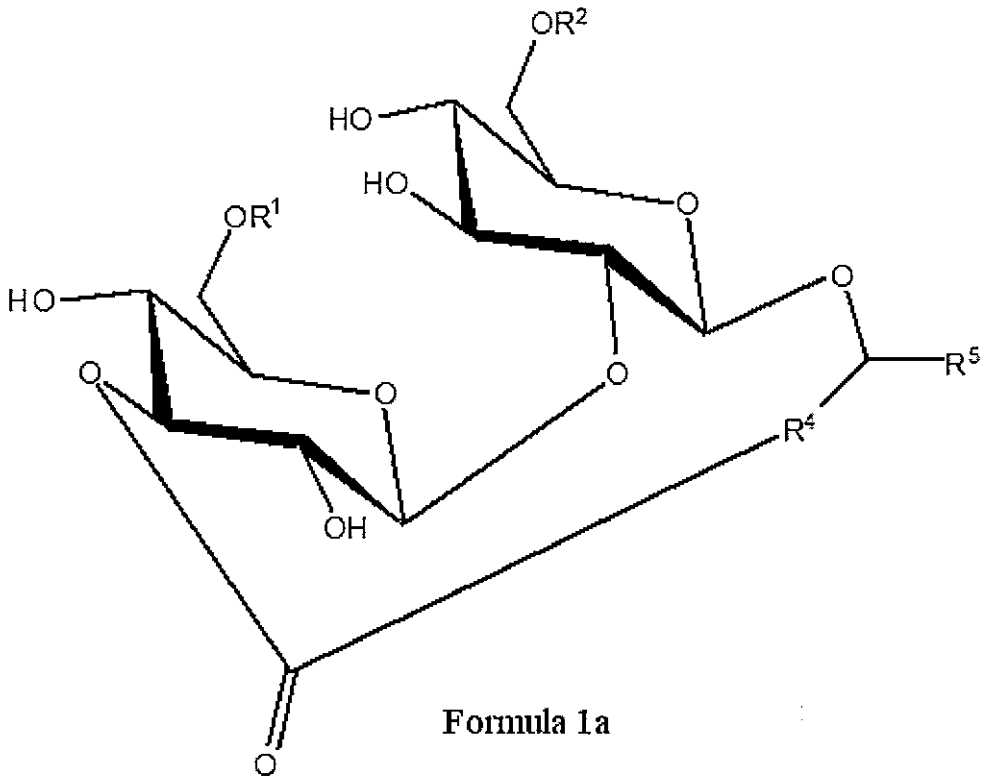
13. A composition as claimed in at least one of claims 10 to 12, characterized in that the sophorolipid fraction in the adjuvant in purified or unpurified form

i) is present as a mixture of lactone and acid form, with an acid fraction of 10% to 100% by weight, or
ii) consists to a fraction of > 90% by weight of the lactone form, which can be solubilized by adjustment of the pH to a level of between 6 and 8, or
iii) is present as methyl or ethyl ester, with a fraction of 1% to 100% by weight of the respective ester.

14. A composition as claimed in at least one of claims 10 to 13, characterized in that as sophorolipids use is made of those of the formula 1 or 1a,



Formula 1



Formula 1a

where

R^1 and R^2 independently of one another are either H or an acetyl group,

R^3 is H or a methyl, ethyl or hexyl group,

R^4 independently at each occurrence is a saturated or unsaturated divalent, branched or unbranched organic group,

R^5 is H or a methyl group,

with the proviso that the total number of the carbon atoms in groups R^4 and R^5 does not exceed the number 29.

15. A process for preparing a solubilized lactone form of the sophorolipids, characterized in that the lactone form is brought into solution by fatty acids present, by adjustment of the pH to 6-8.

16. The process as claimed in claim 15, characterized in that as fatty acids use is made of the fatty acids present from the fermentation and/or fatty acids added additionally, the fatty acids corresponding to the acid components of the triglycerides used as substrates, selected from the group consisting of tallow, sunflower oil, rapeseed oil, safflower oil, soya bean oil, palm oil, palm kernel oil, coconut oil, olive oil, or else short-chain to medium-chain carboxylic acids having an alkyl chain length of 6 to 22 carbon atoms.

17. The use as claimed in claim 5, characterized in that as pesticides use is made of contact fungicides, such as sulfur, and/or systemic herbicides selected from the group of the sulfonylureas and/or systemic fungicides selected from the class of the triazoles, and other pesticides.

18. A composition comprising the solubilized lactone form of a sophorolipid, prepared by a process of claim 15 or 16.