In EP 1105087 antiperspirants compositions comprising aluminium chlorohydrate salts and calcium chloride are disclosed. It is claimed that the calcium chloride salts improve the thermal efficacy of the antiperspirant compositions, however, nothing is taught regarding the skin feel.

Also, US 3,998,788 discloses the use of trace amounts of calcium or magnesium salts to form complexes with aluminium or aluminium-zirconium chlorohydrates for use in antiperspirant compositions. The presence of small amounts of these salts is reported to enhance antiperspirant efficacy. The salts are however not salts of organic acids, nor are any effects with respect to skin feel reported.

Hence, an improved antiperspirant composition with high efficacy and further improved good skin feel properties would be advantageous, and in particular an aluminium chloride based antiperspirant composition with additives to even further improve skin feel while maintaining high efficacy would be advantageous.

Summary

In one aspect, the present invention refers to an anhydrous antiperspirant composition comprising i) AlCl3 or any hydrates thereof, ii) at least one calcium or magnesium salt of lactic acid, and iii) at least one water miscible solvent. In another aspect, the present invention refers to a method of preventing or reducing perspiration comprising applying to the skin an anhydrous antiperspirant composition comprising i) AlCl3 or any hydrates thereof, ii) at least one calcium or magnesium salt of lactic acid, and iii) at least one water miscible solvent. In yet another aspect, the present invention refers to a method of manufacturing an anhydrous antiperspirant composition comprising I) providing at least one water miscible solvent, II) optionally adding a thickening agent, III) Adding at least one calcium or magnesium salt of lactic acid, IV) optionally adding an oil phase, V) Adding a solution of AlCl3 or any hydrates thereof to form said anhydrous antiperspirant composition.

Thus, an object of the present invention relates to improved high efficacy antiperspirant compositions based on aluminium chloride dissolved in a water miscible solvent, wherein said compositions have further improved skin feel properties while maintaining high antiperspirant efficacy.

In particular, it is an object of the present invention to provide an aluminium chloride antiperspirant that further solves the above mentioned problems of the prior art with irritation on the skin caused by the formation of hydrochloric acid upon contact of aluminium chloride with water.

The present inventors have surprisingly found that the addition of at least one calcium or magnesium salt of an organic acid to anhydrous antiperspirant compositions comprising aluminium chloride leads to further improved skin feel as compared to using other salts, such as for example aluminium salts of organic acids, while maintaining the high efficacy of the antiperspirant. This improved skin feel and reduction in irritation could surprisingly be provided even when increasing the amount of aluminium chloride in the composition as compared to the prior art.

Claims

1. An anhydrous antiperspirant composition comprising

i) $AlCl_3$ or any hydrates thereof,

ii) at least one calcium or magnesium salt of lactic acid, and

iii) at least one water miscible solvent.

2. A composition according to claim 1, wherein said salt of a lactic acid is a calcium salt.

3. A composition according to any one of claims 1-2, wherein said salt of a lactic acid is calcium lactate.

4. A composition according to claim 1, wherein said composition comprises an oil phase.

5. A composition according to any one of claims 1-4, wherein said composition comprises a thickening agent.

6. A composition according to any one of claims 1-5, wherein said $AlCl_3$ or hydrate thereof is present in an amount in the range of 5-25%(w/w), such as in the range of 6-22%(w/w), 7-20%(w/w), 8-19%(w/w), 9-18%(w/w), 10-17%(w/w), 11-17%(w/w), 12-17%(w/w), such as in the range of 13-17%(w/w) as compared to total composition weight.

7. A composition according to any one of claims 1-6, wherein said calcium or magnesium salt of a lactic acid is present in an amount in the range of 1-25%(w/w), such as in the range of 2-20%(w/w), 4-18%(w/w), 5-16%(w/w), 6-15%(w/w), 7-14%(w/w), 8-13%(w/w), 9-12%(w/w), such as in the range of 10-12%(w/w) as compared to total composition weight.

8. A composition according to any one of claims 1-7, wherein said solvent is present in an amount in the range of 5-90%, such as in the range of 10-90%(w/w), 15-90%(w/w), 20-90%(w/w), 30-90%(w/w), 40-90%(w/w), 45-85%(w/w), 50-85%(w/w), 55-85%(w/w), 60-85%(w/w), 65-85%(w/w), 70-

80%(w/w), such as in the range of 72-76%(w/w) as compared to total composition weight.

9. A composition according to any one of claims 3-8, wherein said thickening agent is present in an amount in the range of 0.01-20% (w/w), such as in the range 0.05-18%(w/w), 0.08-15%(w/w), 0.10-12%(w/w), 0.12-10%(w/w), 0.15-8%(w/w), 0.17-5%(w/w), 0.19-2%(w/w), such as in the range of 0.20-0.1%(w/w) as compared to total composition weight.

10. A composition according to any one of claims 2-9, wherein said oil phase is present in an amount in the range of 0.001-1.0% (w/w), such as in the range 0.005-0.80%(w/w), 0.01-0.70%(w/w), 0.02-0.70%(w/w), 0.03-0.70%(w/w), such as in the range of 0.04-0.70%(w/w) as compared to total composition weight.

11. A composition according to any one of claims 1-10, wherein the $AlCl_3$ or any hydrates thereof and the calcium or magnesium salt of lactic acid are dissolved in the solvent.

12. A composition according to any one of claims 1-11, wherein said composition is a solution.

13. A composition according to any one of claims 1-12, wherein said composition has an efficacy which corresponds to an effectiveness where at least 50% of a group of efficacy test population experiences a more than 20% reduction in sweat production.

14. A method of preventing or reducing perspiration comprising applying to the skin an anhydrous antiperspirant composition comprising:
i) $AlCl_3$ or any hydrates thereof,
ii) at least one calcium or magnesium salt of lactic acid, and
iii) at least one water miscible solvent.

15. A method of manufacturing an anhydrous antiperspirant composition comprising:

I) providing at least one water miscible solvent

II) optionally adding a thickening agent

III) Adding at least one calcium or magnesium salt of lactic acid

IV) optionally adding an oil phase

V) Adding a solution of $AlCl_3$ or any hydrates thereof

to form said anhydrous antiperspirant composition.