(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 123 669 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
16.08.2001 Bulletin 2001/33

(51) Int Cl.[7]: **A45D 40/00**

(21) Application number: **00300997.4**

(22) Date of filing: **09.02.2000**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

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(54) Method of testing an antiperspirant

(57) The invention relates to methods and packages for allowing several people to test a cream or gel antiperspirant product in a hygienic manner. A dispenser containing the product and having a single outlet with a cross-sectional area of from 0.2 to 20 mm^2, which is adapted to dispense the product in an unbroken stream, is provided to two or more people. Each person dispenses a portion of the product onto their own skin so that they can rub the product onto their skin without further contact with the dispenser or the product it contains.

The invention provides a convenient means for allowing several potential customers to try antiperspirant creams and gels without hygiene concerns and without the use of excessive numbers of single-use, disposable packages. The method is particularly valuable for prepurchase trial in a retail environment.

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Description

Field of the Invention

[0001] The present invention relates to a method of allowing several people to test an antiperspirant product. The invention is particularly valuable in a retail environment where several potential customers may wish to test a product before purchasing.

Background

[0002] Antiperspirant products are many and varied. They are available in a variety of product forms such as aerosol sprays, liquid roll-ons, sticks and creams or gels. Many potential customers for such products are familiar with only one or two product forms and, even then, are desirous for further information about a product before committing themselves to a purchase. It is known in the cosmetics industry, particularly for fragrances and colour cosmetics, to use product samples or 'testers' to allow potential customers to try a product before purchase.

[0003] An important benefit for cream or gel antiperspirant products is their application characteristics, which can only really be appreciated by trial. There are problems however in applying the 'tester' approach to such products. One is that they are mostly used for the axillae. The packaging is generally designed to suit the use, typically so that the product can be wiped onto the skin. Quite apart from many people's reluctance to apply such a product in public, in situations where the same package might be used by many people, many customers have a concern about hygiene. One approach has been to have disposable product applicators which are discarded after a single use. This is wasteful of packaging and presents greater logistical problems, such as the handling in a retail environment of the number of testers required, including disposal of used testers. French patent application 2 766 339 is directed towards a package for cream antiperspirants which is designed for use as a tester. Whilst the design proffered aims to minimise the packaging parts employed it does not address the hygiene concerns that many people have over tester use. Similarly WO00/00056 and WO00/00059 disclose applicator pads which are suitable as sampling devices but do not fully meet the need for a tester device able to be used by several people.

[0004] It is an accordingly an object of the present invention to provide improved packages and methods for demonstrating the particular advantages of cream or gel antiperspirant products.

[0005] It is a further object of the invention to provide packages and methods for dispensing cream or gel antiperspirant products onto the hands of several potential customers thereof without cross-contamination from one potential customer to the next.

[0006] It is yet a further object of the invention to provide hygienic packages and methods for dispensing cream or gel antiperspirant products onto the hands of several potential customers thereof with a minimum of packages.

Summary of the Invention

[0007] The present invention relates to a method of allowing several people to test a cream or gel antiperspirant product in a hygienic manner, the method comprising:

a) providing a dispenser containing the product to two or more people, wherein the dispenser has a single outlet having a cross-sectional area of from 0.2 to 20 mm^2 and is adapted to dispense the product in an unbroken stream;

b) instructing or allowing each person to dispense, or have dispensed, a portion of the product contained in the dispenser onto their own skin and thence to rub the product onto their skin without further contact with the dispenser or the product it contains.

[0008] In an alternative aspect, the invention relates to use of a dispenser comprising a reservoir for a cream or gel antiperspirant product and a single outlet which has a cross-sectional area of from 0.2 to 20 mm^2, the dispenser being adapted to dispense a cream or gel antiperspirant product in an unbroken stream, for allowing several people to test a cream or gel antiperspirant product, wherein each of two or more people dispenses, or has dispensed, a portion of the product contained in the dispenser onto their own skin.

[0009] In a third aspect, the invention relates to a dispenser containing a cream or gel antiperspirant product, characterised in that the dispenser has a single dispensing outlet having a cross-sectional area of from 0.2 to 20 mm^2 and is adapted to deliver multiple unit doses of the product of from 0.5 to 2g.

[0010] The present methods and uses provide convenient means for allowing several potential customers to try antiperspirant creams and gels without hygiene concerns and without the use of excessive numbers of single-use, disposable packages.

Detailed Description of the Invention

[0011] All percentages and ratios used herein are by weight of the total composition and all measurements made are at 25°C, unless otherwise specified.

[0012] The present methods and uses relate to the dispensing of antiperspirant creams and gels. By 'creams and gels' are meant products which do not flow rapidly like water when applied to an open surface but instead form an essentially static mass which can nevertheless be made to flow by the application of a light

shear force, such as by rubbing the product onto the skin.

Dispensers

[0013] Dispensers herein are adapted to dispense a cream or gel antiperspirant product in an unbroken stream, by which is meant that the dispenser comprise means to deliver product from a reservoir containing the product, via an outlet channel to a restricted outlet having a cross-sectional area of from 0.2 to 20 mm^2, preferably from 0.5 to 10 mm^2, more preferably from 1 to 5 mm^2 from which an aliquot of the product can be continuously delivered onto the skin or another surface until a desired amount has been dispensed, and that the product then separates from the dispenser or can readily be separated from it by movement of the dispenser relative to the surface onto which the product is dispensed. Preferably, internal cross-sectional dimensions of the outlet channel are at least as large as that of the outlet. With dimensions as described, a suitable quantity of product can be dispensed without unduly disturbing the product rheology by excessive shear, such as might result from spraying.

[0014] Many different dispenser types can meet, or be adapted to meet by those of skill in the art, this need, including, but not limited to pump dispensers, syringe pumps and squeezable tubes. Preferred are dispensers adapted to deliver multiple unit doses of the product of from 1 to 500 mg, preferably from 5 to 100 mg, more preferably from 15 to 50 mg. A dose of about 30 mg is particularly suitable for rubbing into the back of the hand. Particularly preferred in this respect are pump dispensers, which are capable of giving consistent repeat dosing and are easy to operate. A suitable pump dispenser is described in US-A-5,803,318 assigned to Valois S.A., though the outlet of that dispenser, which is described as and shown set up to produce a spray, requires some modification to the outlet channel to produce an unbroken stream. Such modification is within the means of one of ordinary skill in the art.

[0015] In order to provide a balance between a sufficient number of uses from a single dispenser, and thus minimise pack wastage and in-store refuse, and having an easily handled dispenser, preferred dispensers have a reservoir volume of from 10 to 150ml, preferably from 15 to 100 ml, and more preferably from 20 to 100 ml. At the preferred levels of product usage, a single dispenser can provide several hundred doses of product without cross-contamination.

Product rheology

[0016] In preferred embodiments herein, the product is a cream or gel having a rheology characteristic selected from: a static yield stress value of at least 50 Pa, preferably at least 200 Pa at 37°C; and a viscosity of at least 1 Pa.s, preferably at least 5 Pa.s, more preferably at least 15 Pa.s at 25°C. It is preferred that both static yield stress and viscosity are within the ranges cited. Preferably, the delta stress value of the antiperspirant products is from 10 Pa to 1,000 Pa, more preferably from 100 Pa to 500 Pa at 37°C. The maximum static yield stress values for the products are preferably less than 12,000 Pa, more preferably less than 7,000 Pa at 37°C.

[0017] Viscosity is measured on a Brookfield DV-I+ cone and plate viscometer using spindle S52 at 1 rpm. The delta stress and static yield stress can be measured as set out below.

Methodology: delta stress and static yield stress

[0018] Delta stress and static stress yield values for the antiperspirant products are determined using a Rheometrics Dynamic Stress rheometer with data collection and analysis performed using Rhios software 4.2. The rheometer is configured in a parallel plate design using a 25 mm upper plate (part no. LS-PELT-IP25). The rheometer, plate and software are all available from Rheometrics Inc., Piscatawany, New Jersey, USA. Temperature control is set at 37°C. Analysis of the antiperspirant product is performed in the "Stress Sweep: steady sweep" default test mode. Rheometer settings are initial stress 0.1 Pa (1.0 dyne/cm^2), final stress 6393 Pa (63,930 dyne/cm^2), stress increment 10 Pa (100 dyne/cm^2), and maximum time per data point (5 seconds).

[0019] The term "static yield stress" as used herein refers to the minimum amount of stress that must be applied to the antiperspirant product to move the upper plate of the Rheometrics Dynamic Stress Rheometer a distance of about 4.2 micro radians, in accordance with the analysis methods described herein. In other words, static yield stress represents the point in a stress sweep analysis (described herein) of a product at which point the rheometer is first capable of measuring product viscosity.

[0020] The term "delta stress" as used herein is determined by subtracting the static yield stress from the dynamic yield stress of a composition. The dynamic yield stress is the point at which the measured viscosity begins to rapidly decline. This can be easily determined by finding the last stress value where the increment between stress values is 10 Pa (100 dynes/cm^2). In other words, the delta stress of the composition represents the incremental amount of stress that must be applied to the composition, beyond the static yield stress of the composition, to substantially liquefy the composition.

[0021] The antiperspirant cream composition is evaluated for rheology characteristics after the composition has been packaged in the applicator device of the present invention. A section of the composition is carefully removed from the applicator so that the product is subjected to minimal shear, and especially so that it is not permitted to curl or otherwise reconfigure to a shape other than that of the section as it was removed from the

composition. The section is carefully placed flat on the lower plate of the rheometer taking care to minimise the application of shear stress on the section during the placement. The area of the placed section is at least about the size of the upper plate to assure proper contact between the two plates during testing. The upper plate is then lowered toward the bottom plate, and positioned about 2 mm above the lower plate, and therefore about 1 mm from the product section which is positioned flat on the lower plate. The upper plate is further lowered at a minimal rate toward the lower plate, and positioned about 1.000 (±0.002) mm above the lower plate, at which point the product is gently positioned between and contacting each of the lower and upper plates. Excess product extending away from and around the parallel positioned plates is gently removed using a spatula, and taking care to subject the product positioned between plates to minimal or no further shear from the spatula. The solvent guard pad on the rheometer is saturated with the type of liquid carrier corresponding to that in the test product. The solvent guard is lowered over the parallel plates to prevent solvent loss from the test product that is positioned between the plates during analysis. The product is now ready for determination of dynamic stress, static yield stress, and delta stress.

Product compositions

[0022] The chemical characteristics of the products herein are not critical provided that they are safe and effective for antiperspirant use, and are compatible with the dispenser. Preferred products are anhydrous antiperspirant creams comprising from 40 to 70% volatile silicone, such as cyclomethicone, from 10 to 30% antiperspirant active, preferably an aluminium salt, more preferably an aluminium zirconium salt, and from 1 to 10%, more preferably from 3 to 8% gellant. More preferred products further include an emollient, especially a non-volatile silicone emollient. Suitable gelling agents for use herein include fatty alcohols, esters of fatty alcohols, fatty acids, hydroxy fatty acids, esters and amides of fatty acids or hydroxy fatty acids, ethers of fatty acids, ethoxylated fatty alcohols, ethoxylated fatty acids, waxes, cholesterolic materials, dibenzylidene alditols, lanolinolic materials, other amide and polyamide gellants, and corresponding salts thereof. All such gellants preferably have a fatty alkyl moiety having from about 14 to about 60 carbon atoms, more preferably from about 20 to about 40 carbon atoms, and which may be saturated or unsaturated, branched or linear or cyclic.

[0023] Exemplary products for use herein are described in WO97/17942, incorporated herein by reference in its entirety, which describes in more detail preferred product rheologies for use herein.

Use

[0024] In use, each person wishing to test the product is instructed or allowed to dispense, or have dispensed (e.g. by an assistant in a store), a portion of the product contained in the dispenser onto their own skin. The person can then rub the product onto their skin without further contact with the dispenser or the product it contains.

[0025] In this way the dispenser can be made available to five or more people, preferably to twenty or more people, more preferably to fifty or more people, each of whom tests the product. By use of dispensers of this type, no product is transferred from one person's skin to the next.

Example

[0026] A 30 ml pump dispenser, manufactured by Valois S.A. of Le Neubourg France with a single outlet having a rectangular cross-section of about 2 mm by 1mm in cross-section is filled with an antiperspirant cream. The cream contains 0.75% fragrance, 5% dimethicone, 6.3% triglyceride gellants, 25% aluminium zirconium trichlorohydrex gly (commonly known as IZAG), the balance being cyclopentasiloxane. It has a viscosity of about 100 Pa.s in pack and about 40 Pa.s when dispensed. The dispenser is finger-actuated and a single depression of the pump delivers a dose of about 30 mg in an unbroken stream which separates cleanly from the outlet. The dispenser is provided to a retail store for the purpose of demonstrating the product to customers. In the store, people expressing an interest in the product are invited to dispense an aliquot of the product onto the back of their hand and rub it in.

Claims

1. A method of allowing several people to test a cream or gel antiperspirant product in a hygienic manner, the method comprising:

   a) providing a dispenser containing the product to two or more people, wherein the dispenser has a single outlet having a cross-sectional area of from 0.2 to 20 mm^2 and is adapted to dispense the product in an unbroken stream;
   b) instructing or allowing each person to dispense, or have dispensed, a portion of the product contained in the dispenser onto their own skin and thence to rub the product onto their skin without further contact with the dispenser or the product it contains.

2. The method of Claim 1 wherein the dispenser is made available to five or more people and each person tests the product.

3. The method of Claim 1 wherein the product has a viscosity of greater than 1000 mPa.s at 25°C.

4. The method of Claim 1 wherein the dispenser is a pump dispenser adapted to deliver multiple unit doses of the product of from 1 to 500 mg.

5. Use of a dispenser comprising a reservoir for a cream or gel antiperspirant product and a single outlet which has a cross-sectional area of from 0.2 to 20 mm^2, the dispenser being adapted to dispense a cream or gel antiperspirant product in an unbroken stream, for allowing several people to test a cream or gel antiperspirant product, wherein each of two or more people dispenses, or has dispensed, a portion of the product contained in the dispenser onto their own skin.

6. A dispenser containing a cream or gel antiperspirant product, characterised in that the dispenser has a single dispensing outlet having a cross-sectional area of from 0.2 to 20 mm^2 and is adapted to dispense a cream or gel antiperspirant product in an unbroken stream.

7. A dispenser according to Claim 6 which is a pump dispenser adapted to deliver multiple unit doses of the product of from 1 to 500 mg.

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 30 0997

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Y	* page 1, line 26 - line 30 * * page 2, line 10 - line 20 * * page 3, line 10 - line 20 * * page 11, line 31 - page 12, line 3; claim 1; figures 1-3 *	3	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	5 July 2000	Acerbis, G

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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L : document cited for other reasons

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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