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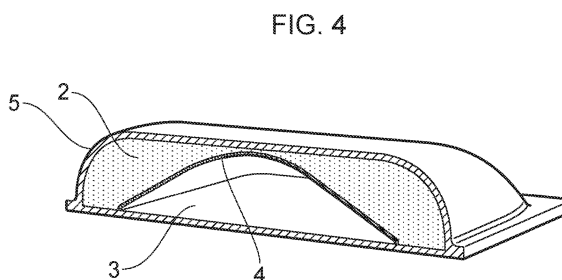
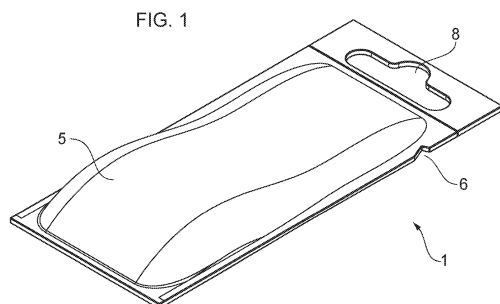
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(54) Title of the Invention: **A container suitable for hair colourant**
 Abstract Title: **Container with separate sealed chambers**

(57) A container 1 suitable for hair colourant, in which the container comprises separate and sealed first and second chambers 2, 3, in which the first chamber 2 is configured to receive a colourant solution, and in which the second chamber 3 is configured to receive a developing solution, wherein the first and second chambers may be sized to receive solution amounts sufficient for a patch test or a hair strand test only. The container may be formed from layering layers of polyester film 5 and an internal wall 4 may be weakened so that excess squeezing pressure applied to the container will cause the internal wall to rupture allowing the contents of the two chambers to mix. A slot 8 may be formed so that the container can be hung on a hook or similar for storage or display. A mixing nozzle may be provided and container may be used for epoxy glue. A display and storage apparatus (figure 5) is also disclosed.



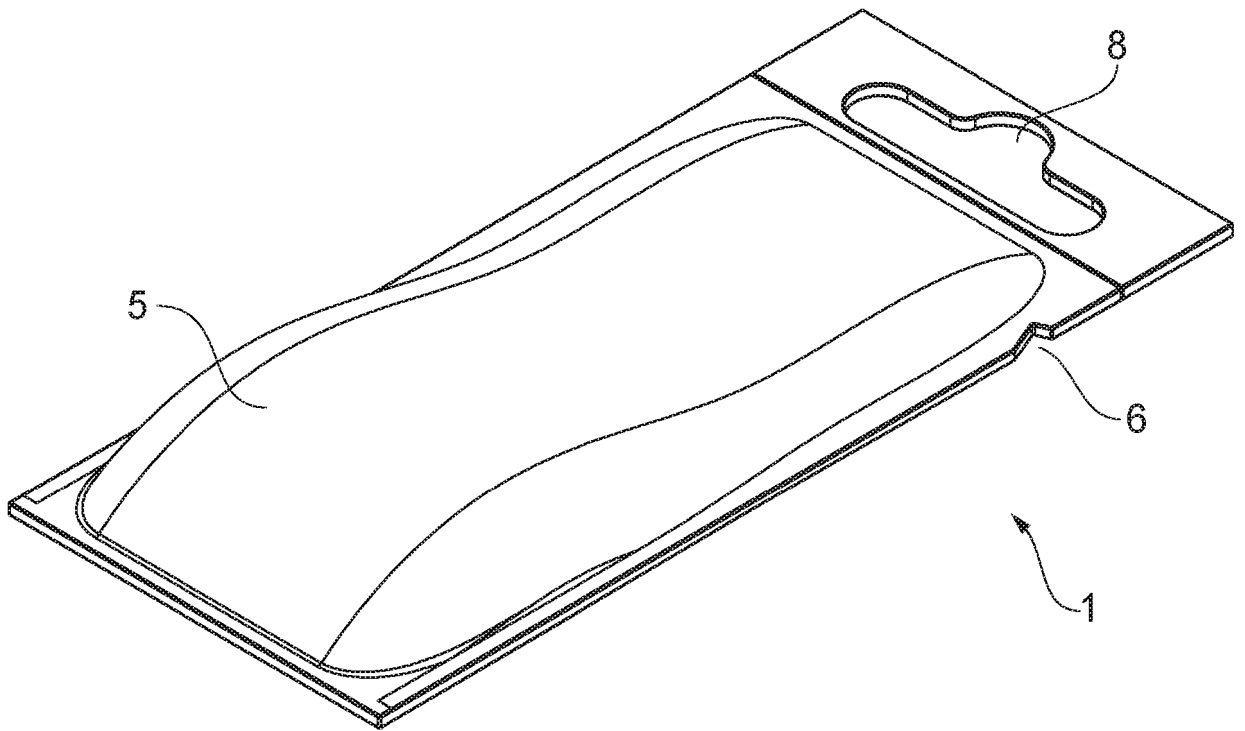


FIG. 1

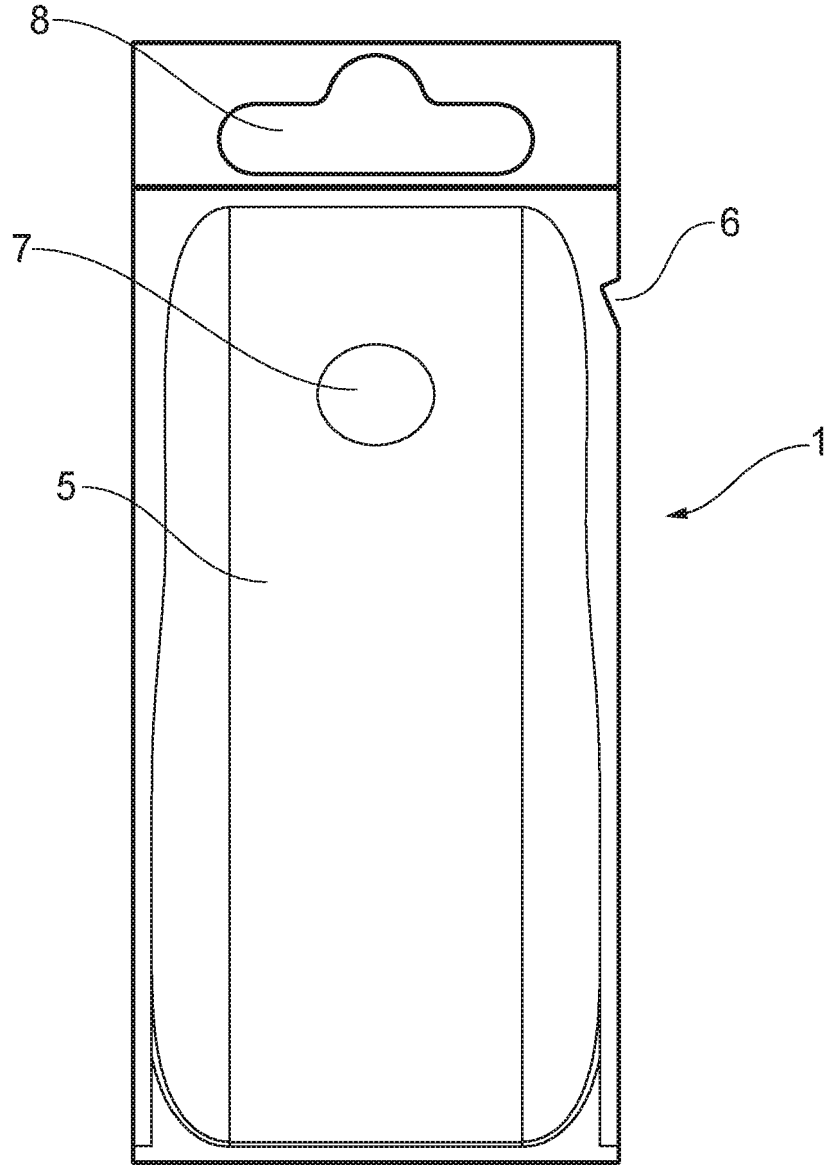


FIG. 2

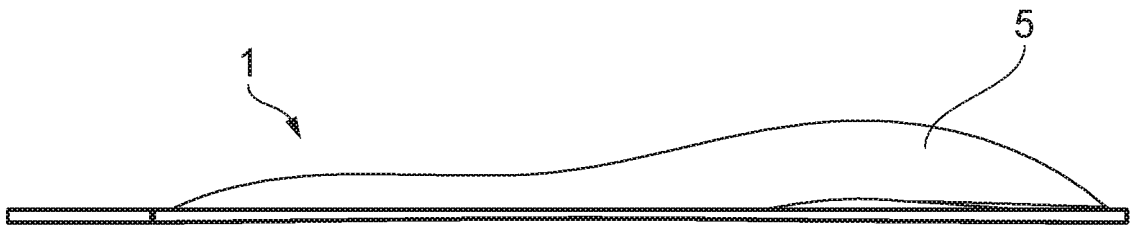


FIG. 3

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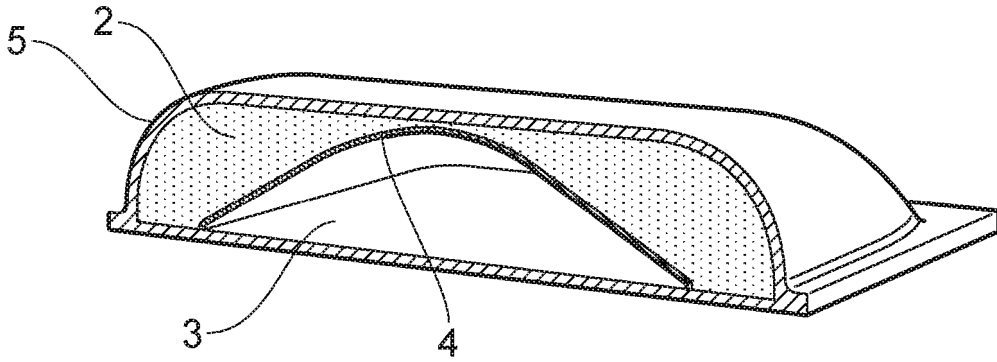


FIG. 4

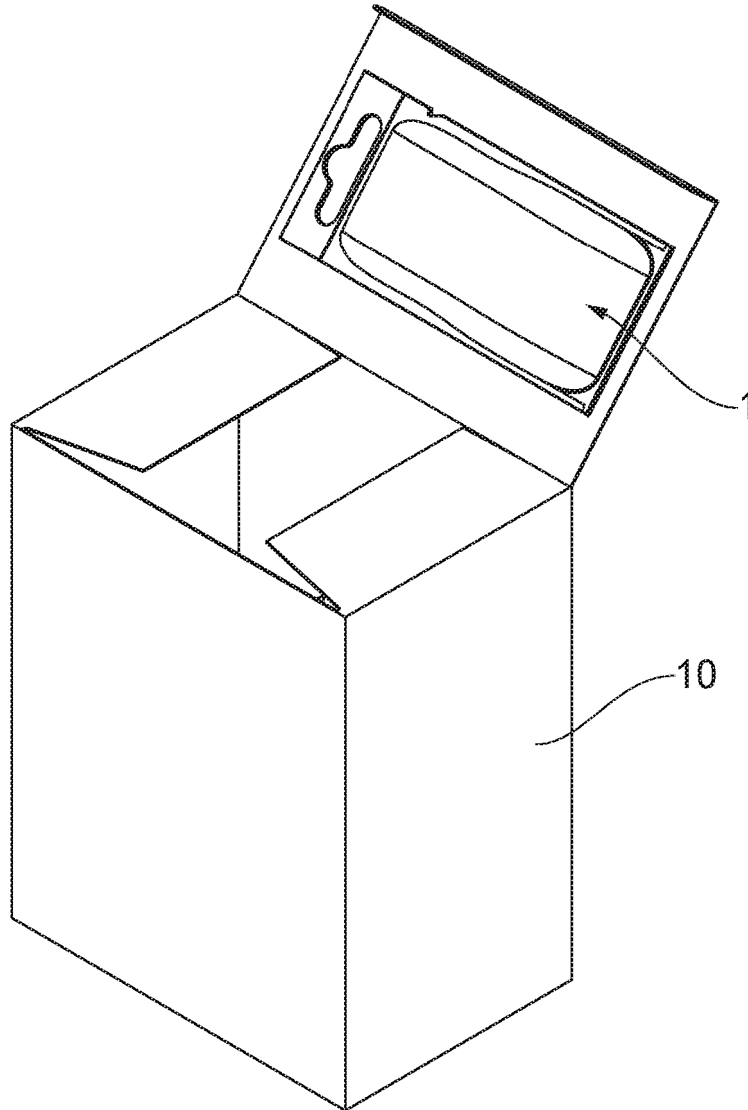


FIG. 5

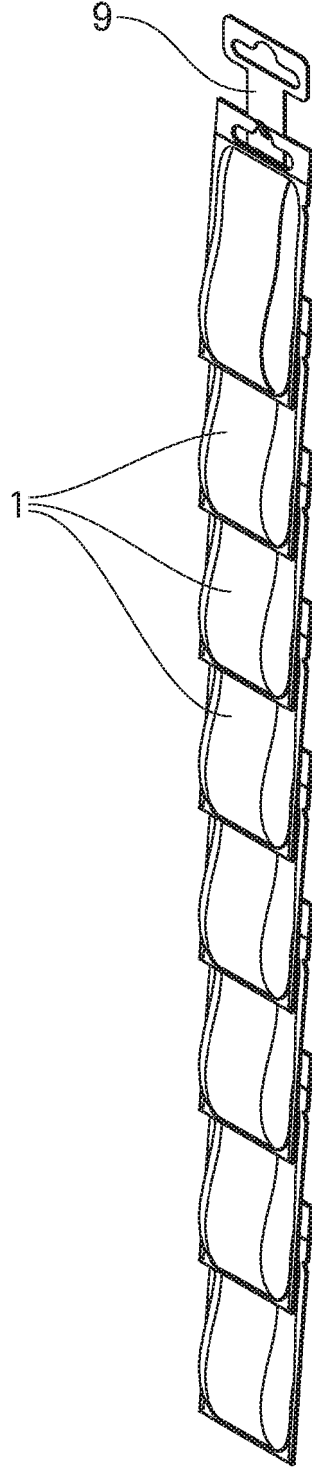


FIG. 6

A container suitable for hair colourant

Field of the Invention

5 The present invention relates to a container such as suitable for hair colourant, which
may contain sufficient colourant and developer for test use for a patch test only
and/or on a strand of hair. The present invention further relates to a display and
storage apparatus for holding test-use containers for hair colourant, and the test use
containers stored thereon. The present invention further relates to mixing containers
10 generally.

Background

There is a large current market for hair dye, for both professional colouring carried
15 out at hair salons, and for individuals colouring their hair at home. Permanent hair
dye, containing para-phenylenediamine (PPD), usually consists of two elements that
are mixed immediately prior to use: a colourant, and a developer. The hair colouring
process can be potentially dangerous causing contact dermatitis, anaphylactic shock
and in extreme cases death. This is due to the chemicals commonly used in the
20 colourants, developers, or when both are combined. This can be exacerbated by the
lack of experience and training of the users handling the products. Most
manufacturers recommend that their products are tested on the individual on which
they are to be used, 48 hours before the product is used every time the product is
used. Testing helps to indicate whether the user will or will not have an adverse
25 reaction to the product. Testing every time is recommended as a user's tolerance to
the chemicals can change due to the use of drugs (pharmaceutical or recreational),
diet, age, tattoos, black henna tattoos, the use of sunscreen and other personal
circumstances. Manufacturers are constantly adjusting the product for marketing,
competitive and technical purposes. Test guidelines generally specify that the test
30 should be carried out with the colourant only or a small amount of colourant and
developer (depending on which country a user is in and brand used). Semi-
permanent hair dyes also require a 48hr test as some may contain a diluted para-
dye, nitro-dye or azo-dye within the colourant. Colourant with bleaching booster
powders and the developer also recommend a 48hr test due to the presence of
35 ammonia, hydrogen peroxide and possibly small percentage of the PPD or its
derivative.

Allergy UK also recommends a 48hr patch test as 'Cross-reactivity will occur in a moderate number of patients who have become sensitised to one of these chemicals' and 'Note that if it is a 2 bottle product, you will need to mix a small amount of solution from each bottle & use this mixed solution for the test'.

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Prior Art

Accordingly a number of patent applications have been filed in an attempt to resolve the problem or similar, including the following:

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US4534509 describes and shows a plastic packing device for the storage and the delivery of active materials consisting of multiple compartments destined to accommodate liquid, solid or gel materials, the compartments being formed by the joining of two flexible polymeric sheets and comprising at least a sealed storage compartment impervious to the active materials and a sealed receiving compartment. At least one of the seams of the storage compartment is constituted by a system consisting of an internal layer of foam type plastic sheet which adheres on both its outer surfaces to leak-tight resilient polymeric sheets. External pressure on one of the compartments provokes internal rupture of the foam layer without rupture of outer polymeric sheets thus enabling emptying of storage compartment into receiving compartment without exposure of the active substance to the surrounding environment. The plastic packing is specially useful for ready premix of different components of useful active mixtures immediately before use. Utility is also apparent as easy-to-handle devices for the delivery of insecticides, malodor-counteractants or air-fresheners.

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US7252091 describes and shows a hair colorant device capable of separately housing two volatile hair colorant solutions. The hair colorant device has two compartments used to store, introduce and mix the hair colorant solutions. When combined the two hair colorant solutions may be applied to a person's hair.

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WO200391127 describes and shows an apparatus for testing hair products. A multichamber sachet is provided with each chamber containing a mutually reactive agent of the hair product. A low strength seal between the chambers permits easy breakage and combining of contents. The sachet contents can then be used to provide a patch test for allergies, a compatibility test and/or a colour test for

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colourants, dyes and bleach hair products. The sachet provides quick and convenient testing prior to full use of the hair product.

5 There is therefore a need for a test-use container for hair colourant that is easy and accurate to use and which contains a sample of product suitable for patch testing, and for testing on a hair sample. The present invention seeks to address one or more of these needs.

Summary of the Invention

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According to the present invention in a first aspect there is provided a container suitable for hair colourant, in which the container comprises separate and sealed first and second chambers, in which the first chamber is configured to receive a first solution such as colourant, and in which the second chamber is configured to receive
15 a second solution such as developing solution.

Typically the first and second chambers are sized to receive solution amounts sufficient for a patch test and/or a hair strand test only.

20 The second chamber is ideally capable of rupture.

This allows a user to test the hair colourant without having to purchase and open a full-size container.

25 In an embodiment, the container comprises film layers configured to form a single two-chamber container. This is a convenient, discrete and easy to form arrangement.

30 In an embodiment, the film layers are formed from a polyester film. This material is inexpensive, easy-to-source and strong.

In an embodiment, the polyester film is formed from BoPET. This material is inexpensive, easy-to-source and strong.

In an embodiment, the container further comprises a weakened section configured to allow the sachet to be easily opened, for example torn or pierced, via the weakened section. This aids a user with opening and dispensing the sachet contents.

- 5 In an embodiment, the weakened section is a notch formed in one side of the container. This is a simple and reliable way to provide a weakened section.

In an embodiment, the test-use container for hair colourant further comprises a slot configured for hanging the container on a hook or similar. This allows the container
10 to be stored easily and in a convenient location.

In an embodiment, the container is configured with a common dividing wall between the first and second chamber that can be broken to allow the colourant solution and developing solution to mix before the package is opened. This allows a user to keep
15 the contents separated but to mix the contents before dispensing, which helps to reduce the potential for spillage or mess.

In an embodiment, the first chamber further comprises a window section configured to allow a user to view the contents. This allows a user to assess that the contents
20 have been mixed correctly.

In an embodiment, the test-use container for hair colourant further comprises a third chamber configured to hold bleaching agent booster powder, and configured so that the bleaching agent booster powder will mix with the colourant solution and
25 developing solution only as and when the package is opened to empty out the solutions. This allows the container to contain a bleach booster if required.

In an embodiment, the test-use container for hair colourant further comprises a mixing nozzle configured so that the colourant solution and developing solution will
30 pass through the nozzle as the container is emptied, and will blend as they pass through the nozzle. This assists with dispensing and mixing the contents.

In an embodiment, the nozzle further comprises a comb. This assists a user with application of the test sample to a hair sample, without needing a separate comb
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According to the present invention in a second aspect there is provided a package of hair treatment product configured to contain sufficient hair treatment product for colouring a user's hair, and further comprising a container for hair colourant as described herein. This allows a user to purchase a hair treatment product, but to test
5 the product before use without comprising the integrity of the main hair treatment container.

According to the present invention in a third aspect, there is provided a display and storage apparatus for receiving one or more test-use containers for hair colourant, in
10 which the apparatus comprises an elongate member comprising a plurality of hooks spaced along the elongate member, and one or more test-use containers for hair colourant as described herein. Preferably, the apparatus is arranged to receive a plurality of test-use containers. For example, the elongate member may comprise a plurality of hooks. This allows a vendor or similar to display and store a number of
15 containers in a convenient location.

According to the present invention in a fourth aspect there is provided a method of forming a plurality of test-use container for hair colourant comprising the steps of;

- overlying a first polyester film sheet onto a second polyester film sheet;
- 20 heat-sealing the opposed edges of the first and second sheets;
- feeding colourant in between the layers;
- heat-sealing the colourant into pockets between the layers;
- applying a third polyester film sheet over the first polyester film sheet;
- feeding developing solution in between the first and third polyester film sheets;
- 25 and
- heat sealing the developing solution into pockets between the layers so that the colourant pockets and developing solution pockets are co-incident.

According to a fifth aspect of the present invention there is provided a dual
30 compartment container wherein a first solution or substance may be provided in a first chamber and a second solution or substance provided in a second chamber, wherein the first chamber is maintained within the second chamber.

Such container can be used for dual substances such as epoxy glue or eyelash
35 colouring.

Brief Description of Figures

Figure 1 shows a perspective view from above and to one side of a test-use container for hair colourant according to an embodiment of the invention, showing detail of an outer polyester film that forms part of the container, a notch formed in one side of the container to provide a weakened section so that the container can be easily torn open, and a slot at one end for hanging the container on a hook or similar.

Figure 2 shows a view from above of the test-use container of figure 1.

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Figure 3 shows a side view of the test-use container of figures 1 and 2.

Figure 4 shows a cutaway cross-sectional view of the test-use container of figures 1 to 3, showing internal detail of first and second pockets separated by a common internal wall.

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Figure 5 shows a package of hair treatment product that contains sufficient hair treatment product for colouring a user's hair, and which also contains a separate test-use container as shown in any one of figures 1 to 4.

20

Figure 6 shows a display and storage apparatus for holding test-use containers for hair colourant, a plurality of hooks spaced along the member, and a plurality of test-use containers for hair colourant as shown in any one of figures 1 to 4 hanging on the hooks.

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Detailed Description of Figures

An embodiment of the test-use container for hair colourant of the present invention will now be described with reference to the figures.

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The test-use container 1 is formed so that the container has separate and sealed first and second chambers 2, 3 internally, surrounded by an outer polyester film that forms an outer for the pockets 2, 3, the pockets 2, 3 divided internally by a common internal wall 4. The pockets 2, 3 are configured to hold a colourant solution and a developing solution respectively. The pockets have an overall size such that the first

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and second chambers only hold solution amounts just sufficient for a patch test only and/or a strand test - they are too small to hold sufficient quantities of liquid for colouring a full head of hair.

5 The container 1 is formed by layering layers of film 5 so that a single container with two chambers (pockets 2, 3). In this embodiment, the film layers are formed from a polyester film such as BoPET, which is known under the trade name Mylar in some territories. This material provides an inexpensive, easy-to-source and strong material that is highly flexible.

10

The internal wall 4 is formed from the same material, but is weakened before forming so that excess and directed squeezing pressure applied to the container 1 will cause the internal wall 4 to rupture, allowing the contents of the two pockets 2, 3 to mix.

15 A window section 7 is formed in pocket 2 so that a user can view the colour of the contents in use, and assess the colourant and developer has mixed.

In some embodiments a spatula or application utensil is included internal to the pocket, which application utensil may be displaced fully or partly so as to aid in application.

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A notch 6 is formed in one side of the container 1, towards one end. The notch 6 forms a weakened section that allows the sachet to be easily torn open via the weakened section. This aids a user with opening and dispensing the sachet contents.

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A slot 8 is formed in one end of the container 1 so that the container can be hung on a hook or similar for storage and/or display. A display of test-use containers is shown in figure 6, a number of containers 1 hooked onto hooks spaced along the length of an elongate display member 9. This allows a vendor or similar to display and store a number of containers in a convenient location.

30

The containers 1 as described above can be easily and quickly formed by overlaying a first polyester film sheet onto a second polyester film sheet, heat-sealing the opposed edges of the first and second sheets, feeding colourant in between the layers, and heat-sealing the colourant into pockets between the layers. A third

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polyester film sheet is then applied over the first polyester film sheet and developing solution fed in between the first and third polyester film sheets, with the developing solution then heat sealed into pockets between the layers so that the colourant pockets and developing solution pockets are co-incident.

5

If required, a third pocket or chamber can be added, for holding bleaching agent booster powder. When the pocket is ruptured internally, the bleaching agent booster powder mixes with the colourant solution and developing solution.

- 10 In variants of the embodiment described above, a mixing nozzle (not shown) can be added at the point at which the container 1 is opened so that the colourant solution and developing solution will pass through the nozzle as the container is emptied, and will blend as they pass through the nozzle. This assists with dispensing and mixing the contents. The nozzle can be formed so that the outer portion is shaped as a
- 15 comb, to assist a user with application of the test sample to a hair sample, without needing to use a separate and overly large comb.

Containers such as container 1 described above can be included as part of a package of hair treatment product that contains sufficient hair treatment product for

20 completely colouring a user's head of hair, such as a the package 10 shown in figure 5. A user can use the contents of the container 1 to patch test for allergies, and/or to test the results on a small sample of their own hair, before deciding whether to use the main contents of the package.

25 The invention has been described by way of examples only and it will be appreciated that variation may be made to the above-mentioned embodiments without departing from the scope of invention. Firstly it will be understood that any features described in relation to any particular embodiment may be featured in combinations with other embodiments.

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The sachet contents can then be used to provide a patch test for allergies, a compatibility test and/or a colour test for colourants, dyes and bleach hair products. The sachet provides quick and convenient testing prior to full use of the hair product.

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With respect to the specification therefore, it is to be realised that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent
5 relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention, with variation and implementation obvious and clear on the basis of either
10 common general knowledge or of expert knowledge in the field concerned. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as set out in the
15 accompanying claims.

Claims

1. A container suitable for hair colourant, in which the container comprises separate and sealed first and second chambers, in which the first chamber is configured to receive a first solution such as colourant, and in which the second chamber is configured to receive a second solution such as developing solution.
2. A container according to claim 1 for a patch test or a hair strand test only.
3. A container for hair colourant as claimed in claim 1 or 2 wherein the container comprises film layers configured to form a single two-chamber container.
4. A container for hair colourant as claimed in claim 4 wherein the film layers are formed from a polyester film.
5. A container for hair colourant as claimed in claim 5 wherein the polyester film is formed from BoPET.
6. A container for hair colourant as claimed in claim 3 or claim 4 wherein the container further comprises a weakened section configured to allow the sachet to be easily torn open via the weakened section.
7. A container for hair colourant as claimed in claim 6 wherein the weakened section is a notch formed in one side of the container.
8. A container for hair colourant as claimed in any one of claims 1 to 7 further comprising a slot configured for hanging the container on a hook or similar.
9. A container for hair colourant as claimed in any one of claims 1 to 8 wherein the container is configured with a common dividing wall between the first and second chamber that can be broken to allow the colourant solution and developing solution to mix before the package is opened.
10. A container for hair colourant as claimed in any one of claims 1 to 8 wherein the first chamber further comprises a window section configured to allow a user to view the contents.
11. A container for hair colourant as claimed in any one of claims 1 to 9 further comprising a third chamber configured to hold bleaching agent booster powder, and configured so that the bleaching agent booster powder will mix with the colourant solution and developing solution only as and when the package is opened to empty out the solutions.
12. A container for hair colourant as claimed in any one of claims 1 to 10 further comprising a mixing nozzle configured so that the colourant solution and

- developing solution will pass through the nozzle as the container is emptied, and will blend as they pass through the nozzle.
13. A container for hair colourant as claimed in claim 12 wherein the nozzle further comprises a comb.
- 5 14. A display and storage apparatus for receiving one or more test-use containers for hair colourant, in which the apparatus comprises an elongate member comprising a plurality of hooks spaced along the elongate member, and one or more test-use containers for hair colourant as claimed in any one of claims 1 to 12
- 10 15. A package of hair treatment product configured to contain sufficient hair treatment product for colouring a user's hair, comprising a container for hair colourant as claimed in any one of claims 1 to 13.
16. A method of forming a plurality of test-use container for hair colourant comprising the steps of;
- 15 overlying a first polyester film sheet onto a second polyester film sheet;
 heat-sealing the opposed edges of the first and second sheets;
 feeding colourant in between the layers;
 heat-sealing the colourant into pockets between the layers;
 applying a third polyester film sheet over the first polyester film sheet;
- 20 feeding developing solution in between the first and third polyester film sheets; and
 heat sealing the developing solution into pockets between the layers so that the colourant pockets and developing solution pockets are co-incident.
17. A dual compartment container wherein a first solution or substance may be provided in a first chamber and a second solution or substance provided in a second chamber, wherein the second chamber is maintained within the first chamber.
- 25 18. A container according to claim 17 wherein the second chamber is rupturable.
19. A container according to claim 17 or 18 for epoxy glue.
- 30 20. A test-use container for hair colourant substantially as herein described with reference to the figures.
21. A test-use container for hair colourant, in which the container comprises separate and sealed first and second chambers, in which the first chamber is configured to receive a colourant solution, and in which the second chamber is configured to receive a developing solution, wherein the first and second
- 35

chambers sized to receive solution amounts sufficient a patch test only and/or a hair strand test.



Application No: GB1417846.1

Examiner: Mr Darren Williams

Claims searched: 1-21

Date of search: 19 March 2015

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-7, 9, 10, 15-19, 21	EP0612673 A1 (STUPAR) see whole document
X	1-8, 10, 15, 17-19, 21	US2009/142006 A1 (WINE) see whole document
X	1-7, 9-11, 15-19, 21	EP0688726 A1 (STUPAR) see whole document
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X	1-7, 9, 10, 15-19, 21	FR2876356 A1 (WINCKELS) see whole document
X	1-5, 8, 17-19, 21	WO2013/087466 A1 (SCHLARP) see whole document
X	1-7, 9, 10, 12, 13, 15-19, 21	GB2482212 A (ROBINSON) see whole document

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

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Worldwide search of patent documents classified in the following areas of the IPC

B65D

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

International Classification:

Subclass	Subgroup	Valid From
B65D	0081/32	01/01/2006