

CONTACT LENS PACKAGE

Field of the Invention

The present invention relates to a contact lens package and, more particularly, to a contact lens package adapted for improved accessibility to the contents thereof and for retail display.

Background of the Invention

Contact lenses, particularly disposable contact lenses, have been conventionally packaged in "blister packs." In general, a blister pack comprises a rigid plastic (e.g., polypropylene), concave-shaped receptacle for receiving a contact lens and a flexible cover, typically made from a laminate material (such as metal foil), which is removably attached to the receptacle for enclosing the lens therein. Within each blister pack are a single contact lens and a sufficient amount of contact lens solution to prevent drying of the contact lens and to maintain the contact lens readily available for use.

Conventional blister packs are also not adapted to be displayed on conventional display units, such as peg-hook-type or wire-hook-type displays. Likewise, a blister pack for a single contact lens is not adequate to be displayed on retail shelves. Accordingly, there is a need for a contact lens package that is adapted for display on conventional display units.

Brief Description of the Drawings

For a more complete understanding of the present invention, reference is made to the following detailed description of an exemplary embodiment considered in conjunction with the accompanying drawings, in which:

5 **FIG. 1** is a top perspective view of a contact lens package constructed in accordance with an exemplary embodiment of the present invention;

FIG. 2 is a side elevational view of the contact lens package of **FIG. 1**;

FIG. 3 is a cross-sectional view, taken along section line 3-3 and looking in the direction of the arrows, of the contact lens package shown in **FIG. 1**;

10 **FIG. 4** is a top perspective view of the contact lens package shown in **FIG. 1**

showing one shell member employed by the package that is partially separated from another shell member employed by the package;

FIG. 5 is a side elevational view of a plurality of contact lens packages shown in **FIG. 1** situated in a free standing position on a horizontal planar surface; and

FIG. 6 is a front perspective view of a plurality of contact lens packages shown in **FIG. 1** hanging from a display rack.

20 **Detailed Description of the Inventions**

The invention includes a contact lens package, comprising, consisting essentially of, or consisting of a first shell member having a first end and a second end; a second shell member having a first end and a second end, said first and second shell members being removably attached to each other such that said first ends of said first and second shell members are juxtaposed with

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one another and said second ends of said first and second shell members are juxtaposed with one another, said first ends of said first and second shell members forming a gusset that is sized and shaped for enabling the package to be situated in a standing position; and a receptacle interposed between said
5 first and second shell members, said receptacle being adapted to receive and house a contact lens and an amount of contact lens solution.

Further the invention includes a contact lens package, comprising a first shell member having a first end and a second end opposite said first end thereof; a second shell member having a first end and a second end, said first
10 and second shell members being removably attached to each other, said first ends of said first and second shell members being juxtaposed with one another and said second ends of said first and second shell members being juxtaposed with one another; a hanging means for hanging the package from a display rack; and a receptacle interposed between said first and second shell
15 members, said receptacle being adapted to receive and house a contact lens and an amount of contact lens solution.

The present invention overcomes the disadvantages and shortcomings of the prior art discussed above by providing a new and improved contact lens package which includes first and second shell members removably attached to
20 each other. Each of such shell members have a first end and a second end. Each such first and second end of a single shell member are preferably in opposite positions on the shell member, but can be located in other positions on that shell member. In one embodiment the first ends of the first and second shell members form a gusset that is sized and shaped for positioning the
25 package in a free standing position, such as on display shelf. One of the shell

members (for instance, the second shell member) contains a window that visually exposes the contact lens to enable a user to visually inspect the contact lens (e.g., for damage) before opening the package. Preferably a sponge member that holds solution is interposed between the first and second
5 shell members for housing a contact lens. The sponge member holds an amount of the contact lens solution sufficient to keep the contact lens saturated, thereby allowing the contact lens to retain its intended shape and softness. The amount of solution is between about 500 μ L and about 1,500 μ L, more preferably between about 900 μ L to about 1,000 μ L. The preferred
10 contact lens solution is saline solution or packaging solution, but other solution are contemplated by this invention including solutions containing ocular medicaments. Preferably the sponge member includes a recess for housing the contact lens.

In accordance with another aspect of the present invention, one end of
15 each of the first and second shell members, opposite the end of the gusset, contains a pull tab, the tabs being juxtaposed with one another when the first and second shell members are attached to each other. The package is opened by pulling apart the juxtaposed tabs and separating the first and second shell members from each other, thereby allowing access to the contact lens. A
20 plurality of bumps protrudes from an exposed surface of each of the tabs, the bumps being sized, shaped and positioned to enable a user to better grip the tabs when pulling them apart. The tabs have aligned apertures for hanging the package on a peg hook or a wire hook of a retail display rack.

Specifically, the present invention has been adapted for use in housing a
25 single contact lens and an amount of contact lens solution. However, the

present invention can be utilized to house a plurality of contact lenses and an amount of contact lens solution therefor. Further features and advantages of the invention will appear more clearly on a reading of the detailed description of an exemplary embodiment of the invention, which is given below by way of
5 example only with reference to the accompanying drawings.

Referring to **FIGS. 1, 2 and 3**, a contact lens package **10** includes a first shell member **12**, a second shell member **14**, an elliptical-shaped base **16**, and a semi-elliptical-shaped sponge member **18**. The functions of the shell members **12, 14**, the base **16** and the sponge member **18** shall be described
10 hereinafter. The shell member **12** includes a semi-elliptical-shaped body **20** and a semi-elliptical-shaped tab **22** that radially extends from the body **20**, thereby forming a bowling pin shape. Similarly, the shell member **14** includes a semi-elliptical-shaped body **24** and a semi-elliptical-shaped tab **26** that radially extends from the body **24**, thereby forming a bowling pin shape. Preferably,
15 the shell members **12, 14** are identical in size and shape to each other. The tabs **22, 26** are juxtaposed with one another when the shell members **12, 14** are attached to each other, which will be described in more detail hereinafter. Also, the functions of the tabs **22, 26** shall be described hereinafter.

Referring now to **FIG. 3**, the body **20** of the shell member **12** includes a
20 semi-elliptical-shaped, concave cavity **28** and an annular flange **30** that extends around the periphery of the body **20**. Similarly, the body **24** of the shell member **14** includes a semi-elliptical-shaped, concave cavity **32** and an annular flange **34** that extends around the periphery of the cavity **32**. The shell members **12, 14** are removably attached to each other at the flanges **30, 34**,
25 preferably by heat sealing. Alternatively, other attachment means, such as

adhesives, induction sealing or sonic welding, may be utilized to attach the shell members **12, 14** to each other at their flanges **30, 34**. An impermeable seal (not shown in the Figures) is formed between the flanges **30, 34** in order to prevent the loss or evaporation of the contact lens solution from the package
5 **10** and to prevent contamination of the contents thereof from foreign objects such as debris and dirt particles.

Referring now to **FIGS. 1** and **3**, the body **24** of the shell members **12** further includes a transparent circular-shaped window **36**, whose function shall be described hereinafter. Alternatively, the package **10** need not include the
10 window **36**.

Referring to **FIGS. 1, 2** and **4**, the tab **22** of the shell member **12** includes a circular-shaped hole **38** and a plurality of circular-shaped bumps **40** that encircle the hole **38**. Each of the bumps **40** protrudes from an outer surface **42** of the tab **22**. Similarly, the tab **26** of the shell member **14** includes
15 a circular-shaped hole **44** and a plurality of circular-shaped bumps **46** that encircle the hole **44**. Each of the bumps **46** protrudes from an outer surface **48** of the tab **26**. Preferably, the holes **38, 44** are congruent when the tabs **22, 26** are juxtaposed with one another. Similarly, the pattern of the bumps **40** is, preferably, congruent with the pattern of the bumps **46** when the tabs **22, 26**
20 are juxtaposed with one another. The functions of the holes **38, 44** and the bumps **40, 46** shall be described hereinafter. Alternatively, the package need not include the holes **38, 44** and/or the bumps **40, 46**.

Referring now to **FIG. 4**, the tab **22** includes a pair of arc-shaped, convex bands **50, 52** each of which transversely extends across an inner
25 surface **54** of the tab **22**. The tab **26** includes a pair of arc-shaped, concave

grooves **56, 58** each of which transversely extends across an inner surface **60** of the tab **26**. The functions of the bands **50, 52** and the grooves **56, 58** shall be described hereinafter. The band **50** and the groove **56** are sized, shaped and positioned to interlock with one another when the tabs **20, 26** are juxtaposed with one another. Similarly, the band **52** and the groove **58** are sized, shaped and positioned to interlock with one another when the tabs **20, 26** are juxtaposed with one another. Preferably, the band **50** and the groove **56** are maintained in an interlocking configuration by heat sealing. Similarly, the band **52** and the groove **58** are maintained in an interlocking configuration by heat sealing. Alternatively, other attachment means, such as adhesives, induction sealing or sonic welding, may be utilized. Preferably, the tab **22** includes the two bands **50, 52**, but it may include a greater or lesser number than two. Similarly, the tab **26**, preferably, includes the two grooves **56, 58**, but it may include a greater or lesser number than two. Alternatively, the package **10** need not include the bands **50, 52** and the grooves **56, 58**.

Referring now to **FIG. 1**, the base **16** is positioned between the cavities **28, 32** proximate to a lower end **62** of the body **20** and a lower end **64** of the body **24**. The base **16** is attached to the lower end **62** of the body **20** and the lower end **64** of body **24**, preferably by heat sealing. Alternatively, other attachment means, such as adhesives, induction sealing or sonic welding, may be utilized to attach the base **16** to the body **20** and the body **24**. An impermeable seal (not shown in the Figures) is formed between the base **16** and the body **20** and the body **24** in order to prevent the loss or evaporation of contact lens solution from the package **10** and to prevent contamination of the contents thereof from foreign material. The bodies **20, 24** and the base **16** form

a gusset **66**, whose function shall be described hereinafter. Alternatively, the package **10** need not include the base **16**, whereby the lower end **62** of the body **20** is attached to the lower end **64** of the body **24**.

Referring to **FIGS. 3** and **4**, the sponge member **18** is positioned
5 between the cavities **28**, **32** when the shell members **12**, **14** are attached to each other. Preferably, the size and shape of the sponge member **18** are substantially similar to the size and shape of each of the cavities **28**, **32** in order to allow the sponge member **18** to firmly fit therebetween. It is also noted that the size and shape of the sponge member **18** maintains the shape of the
10 package **10**, specifically the size and shape of the body **20** of the shell member **12** and the size and shape of the body **24** of the shell member **14**. One surface **68** of the sponge member **18** is attached to an inner surface **70** of the cavity **28**, preferably by an adhesive known in the art (see **FIG. 3**). Alternatively, the surface **68** of the sponge member **18** need not be attached to the inner surface
15 **70** of the cavity **28**. The sponge member **18** includes a circular-shaped recess **72** formed in an exposed surface **74** thereof. The recess **72** receives and houses a contact lens **76**. It is noteworthy that the absorbent member **18**, preferably, includes a single recess **72** for housing one contact lens **76**. Alternatively, the sponge member **18** can include a plurality of recesses **72** for
20 housing a plurality of contact lenses **76**. The sponge member **18** is saturated with contact lens solution (not shown in the Figures), which can be any known solution useful for storing contact lenses, such as saline solution, water or buffered aqueous solutions, thereby keeping the contact lens **76** saturated. The recess **72** may be partially or fully filled with contact lens solution (not
25 shown in the Figures). It is noted that the preferred interior volume of the

recess **72** is one that is sufficient to house the contact lens **76** and enough contact lens solution to retain the intended shape and softness of the contact lens **76** (i.e., a convex-shape). Preferably, the window **36** of the shell member **14** is congruent with the recess **72** when the shell members **12**, **14** are attached to each other, thereby visually exposing the contact lens **76** to a user.

While the body **20**, the tab **22** and the cavity **28** of the shell member **12** and the body **24**, the tab **26** and the cavity **32** of the shell member **14** are each preferably semi-elliptical in shape, it should be noted that each can consist of other shapes and sizes. Similarly, the sponge member **18** is preferably semi-elliptical in shape, but it can consist of other shapes and sizes. Also, the recess **72** of the sponge member **18** and the holes **38**, **44** of the tabs **20**, **26** are each, preferably, circular in shape, but each can consist of other shapes and sizes.

The shell members **12**, **14** and the base **16** are each, preferably, manufactured from a foil/polymer laminate or coextrusion, comprising a metal layer, such as aluminum, and a polymer layer, such as polypropylene, coating the metal layer. Alternatively, the shell members **12**, **14** and/or the base **16** can be manufactured from other materials, such as a combination of polymers with various barrier and sealing characteristics formed into a laminate or coextrusion. The sponge member **18** is preferably manufactured from an receptacle sponge material, such as MEROCEL® brand polyvinyl alcohol (PVA) sponge, manufactured by Medtronic Xomed, Inc. Alternatively, the sponge member **18** can be manufactured from other materials.

Referring to **FIG. 4**, the package **10** is opened as follows. A user uses his or her finger(s) or other means to separate the tabs **22**, **26** from their

juxtaposed position. The bumps **40, 46** allow the user to attain a better grip when separating the tabs **22, 26**. Next, the user simultaneously pulls each of the tabs **22, 26** and peels apart the shell members **12, 14**, thus breaking the seals between the bands **50, 52** and the grooves **56, 58** and the seal between the flanges **30, 34**. The seals between the bands **50, 52** and the grooves **56, 58** prevent inadvertent opening of the package **10**. It is noteworthy that the shell members **12, 14** are sufficiently flexible to enable a user to easily peel them apart from one another. It is also noteworthy that the strength of the seal between the shell members **12, 14** is weak enough to allow a user to easily peel them apart from one another, but strong enough for the package **10** to retain a liquid-tight seal so as to prevent any evaporation of the contact lens solution therefrom or any contamination of the contact lens **76** and the contact lens solution from foreign materials. When the aforesaid seals are broken and the shell members **12, 14** are separated, the contact lens **76** is exposed and made accessible to the user. It is noted that the window **36** enables a user to view and inspect the contact lens **76** (e.g., for damage) before opening the package **10**.

Referring to **FIG. 5**, the gusset **66** enables the package **10** to remain in a free standing position, for instance, in a vertical position on a horizontal flat surface **78** (e.g., a retail display shelf). Referring to **FIG. 6**, the holes **38, 44** enable the package **10** to hang from a wire-hook-type display rack **80** or a peg-hook type display rack (not shown in the Figures). Alternatively, the package **10** need not include the holes **38, 44** and other known hanging means, such as a hook member, may be utilized in their stead (not shown in the Figures).

It will be understood that the embodiment described herein is merely exemplary and that a person skilled in the art may make many variations and modifications without departing from the spirit and scope of the invention. All such variations and modifications are intended to be included within the scope
5 of the invention as defined in the appended claims.

Claims

What is claimed is:

1. A contact lens package, comprising a first shell member having a first end and a second end; a second shell member having a first end and a second end, said first and second shell members being removably attached to each other such that said first ends of said first and second shell members are juxtaposed with one another and said second ends of said first and second shell members are juxtaposed with one another, said first ends of said first and second shell members forming a gusset that is sized and shaped for enabling the package to be situated in a standing position; and a receptacle interposed between said first and second shell members, said receptacle being adapted to receive and house a contact lens and an amount of contact lens solution.

2. The contact lens package of Claim 1, further comprising separating means for separating said first and second shell members from each other.

3. The contact lens package of Claim 2, wherein said separating means includes a first tab extending from said second end of said first shell member and a second tab extending from said second end of said second shell member, said first and second tabs being juxtaposed with one another.

4. The contact lens package of Claim 3, further comprising a first plurality of bumps protruding from an exposed surface of said first tab, and a second plurality of bumps protruding from an exposed surface of said second

tab, said first and second plurality of bumps being sized and shaped so as to enable manual grasping of said juxtaposed tabs.

5 5. The contact lens package of Claim 1, further comprising hanging means for hanging the package from a display rack.

6. The contact lens package of Claim 3, further comprising a hanging means, wherein said hanging means includes a first aperture formed through said first tab and a second aperture formed through said second tab
10 and aligned with said first aperture, each of said apertures being sized and shaped to fit over a peg of a display rack.

7. The contact lens package of Claim 6, wherein said receptacle includes an inner surface and a recess formed in said inner surface, said
15 recess being sized and shaped to house and receive a contact lens and an amount of contact lens solution.

8. The contact lens package of Claim 7, further comprising viewing means for viewing a contact lens housed in said recess of said receptacle.

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9. The contact lens package of Claim 7, further comprising a sponge member, wherein said sponge member is housed in said receptacle.

9. The contact lens package of Claim 8 wherein said sponge member is shaped to house and receive a contact lens and an amount of contact lens solution.

5 10. The contact lens package of Claim 8 wherein said sponge member comprises an amount of contact lens solution sufficient to saturate a contact lens and a recess shaped to receive a contact lens.

10 11. The contact lens package of Claim 10, further comprising a viewing means for viewing a contact lens housed in said recess of said sponge member.

15 12. The contact lens package of claim 11, wherein said viewing means includes a window formed in an exposed surface of said second shell member, said window being sized, shaped and positioned for enabling said contact lens to be visually exposed.

20 13. A contact lens package, comprising a first shell member having a first end and a second end opposite said first end thereof; a second shell member having a first end and a second end, said first and second shell members being removably attached to each other, said first ends of said first and second shell members being juxtaposed with one another and said second ends of said first and second shell members being juxtaposed with one another; a hanging means for hanging the package from a display rack; and a
25 receptacle interposed between said first and second shell members, said

receptacle being adapted to receive and house a contact lens and an amount of contact lens solution.

14. The contact lens package of Claim 13, further comprising
5 separating means for separating said attached first and second shell members from each other.

15. The contact lens package of Claim 14, wherein said separating
means includes a first tab extending from said second end of said first shell
10 member and a second tab extending from said second end of said second shell member, said first and second tabs being juxtaposed with one another.

16. The contact lens package of Claim 15, further comprising a first
plurality of bumps protruding from an exposed surface of said first tab, and a
15 second plurality of bumps protruding from an exposed surface of said second tab, said first plurality of bumps and said second plurality of bumps being sized and shaped so as to enable manual grasping of said juxtaposed tabs.

17. The contact lens package of Claim 15, wherein said hanging
20 means includes a first aperture formed through said first tab and a second aperture formed through said second tab and aligned with said first aperture, each of said first and second apertures being sized and shaped to fit over a peg of a display rack.

18. The contact lens package of Claim 17, wherein said receptacle includes an inner surface and a recess formed in said inner surface, said recess being sized and shaped to house and receive a contact lens and an amount of contact lens solution.

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19. The contact lens package of Claim 18, further comprising viewing means for viewing a contact lens housed in said recess of said receptacle.

20. The contact lens package of Claim 19, further comprising a
10 sponge member housed in said receptacle, said sponge member is shaped to receive a contact lens and an amount of contact lens solution sufficient to saturate a contact lens.

21. The contact lens package of Claim 20, further comprising a
15 viewing means.

22. The contact lens package of Claim 21, wherein said viewing means includes a window formed in an exposed surface of said second shell member, said window being sized, shaped and positioned for enabling said
20 contact lens to be visually exposed.

23. A contact lens package, comprising a first shell member having a first end and a second end; a second shell member having a first end and a second end, said first and second shell members being removably attached to
25 each other such that said first ends of said first and second shell members are

juxtaposed with one another and said second ends of said first and second shell members are juxtaposed with one another, said first ends of said first and second shell members forming a gusset that is sized and shaped for enabling the package to be situated in a free standing position; a receptacle interposed
5 between said first and second shell members, said receptacle being adapted to receive and house a contact lens and an amount of contact lens solution; and viewing means for viewing said contact lens housed in said receptacle.