CONTAINER FOR A FABRIC STAIN TREATMENT DEVICE

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ABSTRACT

A container having a layer having an interior surface and an exterior surface opposing the interior surface; and a window in the layer, the window revealing at least a portion of a fabric stain treatment device operatively related with the container, the fabric stain treatment device having a fluid pervious contact substrate, wherein at least a portion of the contact substrate is visible through the window; wherein the fabric stain treatment device comprises a backing layer having a first side opposing a second side and a pouch layer joined with the second side of the backing layer thereby forming a pouch containing a stain treatment fluid having a surfactant; wherein the fluid pervious contact substrate is joined to the first side of the backing layer.
CONTAINER FOR A FABRIC STAIN TREATMENT DEVICE

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 61/359,940 filed Jun. 30, 2010.

FIELD OF THE INVENTION


BACKGROUND OF THE INVENTION

[0003] Substrates for wiping stains from fabric are available to consumers. Typically, such substrates are contained in a pouch with a stain treatment fluid such that the substrate is wetted with the stain treatment fluid from the time the substrate is enclosed in the pouch during manufacture until use by the consumer. Stain treatment fluids sometimes contain chemical constituents that are photo reactive in that they degrade, change form, or react with other components of the stain treatment fluid and sometimes contain chemical constituents that react with the pouch itself. Hence, designers of packaging for such substrates for wiping stains typically package the wipe in a package comprising one or more foil layers or metalized films to prevent photo degradation and provide for a substantially inert material to contain the stain treatment fluid. The package typically employed is opaque such that the consumer cannot see the substrate prior to use. The consumer only gains insight into the form of the product only after she has opened the package and removes the substrate there from.

[0004] Conceivably one could supply a substrate outside attached to the external surface of a pouch containing the stain treatment fluid, the pouch providing for suitable chemical stability of the stain treatment fluid. A problem with this approach is that the substrate is then exposed to the external environment and may get dirty. As such, a dirty substrate might be used to treat a stain in a fabric and the substrate might actually deposit dirt on the stain, making things even worse for the consumer.

[0005] With these limitations in mind, there is a continuing unaddressed need for a container for a fabric stain treatment device that allows the consumer to see the substrate that will be used to remediate her clothing prior to use of the stain treatment device. Further, there is a continuing unaddressed need for a container for a fabric stain treatment device that allows the consumer to see the substrate that will be used to remediate her clothing prior to use of the stain treatment device yet still provides for cleanliness of the substrate.

SUMMARY OF THE INVENTION

[0006] A container having a layer having an interior surface and an exterior surface opposing the interior surface; and a window in the layer, the window revealing at least a portion of a fabric stain treatment device operatively related with the container, the fabric stain treatment device having a fluid pervious contact substrate, wherein at least a portion of the contact substrate is visible through the window; wherein the fabric stain treatment device comprises a backing layer having a first side opposing a second side and a pouch layer joined with the second side of the backing layer thereby forming a pouch containing a stain treatment fluid having a surfactant; wherein the fluid pervious contact substrate is joined to the first side of the backing layer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a schematic of a container for a stain treatment device.
[0008] FIG. 2 is a schematic of a stain treatment device.
[0009] FIG. 3 is a schematic of stain treatment device mounted on a base layer.
[0010] FIG. 4 is a schematic of a cross section of a stain treatment device mounted on a base layer.
[0011] FIG. 5 is a schematic of a layer that can be wrapped around a stain treatment device, the location of the cross section indicated in FIG. 4.
[0012] FIG. 6 is a schematic of the back of a container in which the layer is wrapped around a stain treatment device.

DETAILED DESCRIPTION OF THE INVENTION

[0013] As used herein the term “joined” refers to the condition where a first member is attached, or connected, to a second member either directly, or indirectly, where the first member is attached, or connected, to an intermediate member which in turn is attached, or connected, to the second member either directly; or indirectly.

[0014] A container 10 made from a layer 20 is shown in FIG. 1. Layer 20 has an interior surface 30 and an exterior surface 40. Layer 20 can be folded and secured together. The container can have a length 12, a width 14, and a height 16, each of which have a respective dimension. The container can have a front face 50 and in some embodiments an opposing rear face. The container can have a top face 52 and can have an opposing bottom face. The container can have opposing side faces 54. The container can be any shape known in the art, including a polyhedron. The polyhedron can define a polyhedral enclosure. The layer 20 can define an interior space 32 and the stain treatment device 70 can be contained within the interior space 32.

[0015] The layer 20 can be comprised of a material, composite material, and/or laminate material comprised of cardboard, corrugated cardboard, paper stock, polymeric film, or other such material. The layer 20 can comprise polyethylene, metalloocene, ethylene vinyl acetate, SURLYN, polyethylene terephthalate, polypropylene, and/or nylon.

[0016] The layer 20 can have a window 60. The window 60 can be defined by a portion of the layer 20 continuously surrounding the window 60 such that the window 60 is an opening in the layer 20. The window 60 can reveal at least a portion of a fabric stain treatment device 70. The window 60 can provide for a visual pathway for an observer observing the exterior surface 40 of the container 10 to see the stain treatment device 70 disposed behind the layer 20.

[0017] The fabric stain treatment device 70 can be operatively related with the container 10 such that the fabric stain treatment device remains bound to the container from the time the fabric stain treatment device 70 is placed with the container 10 and the time the consumer separates the stain treatment device 70 from the container 10. The stain treatment device 70 may be operatively related to the container 10 with a releasable adhesive, a staple, a pin, a flap of layer 20, or any other such structure that having the capability to maintain the spatial relationship between the stain treatment device 70 and the container 10. The stain treatment device 70 can be contained within the container.
[0018] The stain treatment device 70 can comprise a contact substrate 80. The contact substrate 80 can be a nonwoven fibrous web including polymeric and cellulose webs. The contact substrate 80 can be a woven web, a woven fibrous web, a porous foam, or any other such material. The contact substrate 80 can be selected from the group consisting of a nonwoven comprising microfibers, a woven comprising microfibers, a looped woven comprising microfibers, and combinations thereof. The contact substrate 80 provides for delivery of a stain treatment fluid 90, a surface for scrubbing a stain on a fabric, and potentially for lifting of stains from a fabric being treated with the stain treatment device 70. The contact substrate 80 can be visible through the window 60 so that a consumer is able to observe the contact substrate 80 even when the stain treatment device 70 is operatively related with the container 10. In one embodiment, the contact substrate 80 can be a polypropylene/polyethylene 70/30 hollow 16 segmented pie microfiber from ES Fibervisions/Chisso, referred to as code 020 having a fiber diameter of 2.2 denier, fiber length of 51 mm, and a basis weight of 60 g/m². In one embodiment, the contact substrate can be selected from the group consisting of a foam, a fibrous material, a film, a brush, and combinations thereof. Without being bound by theory, it is thought that a contact substrate 80 that presents a rough surface to the fabric being treated can improve stain treatment because the rough surface can aid with dislodging the stain from the fabric.

[0019] The fabric stain treatment device 70 can comprise a backing layer 100 having a first side 102 opposing the second side 104, as shown in FIG. 2. The fabric stain treatment device 70 can have a pouch layer 110 joined with the second side 104 of the backing layer 100 thereby forming a pouch 112 containing a stain treatment fluid 90. The pouch layer 110 can be joined to the backing layer 100 using any known approach for attaching two materials including, but not limited to, adhesive, glue, ultrasonic bonding, chemical bonding, thermal bonding, and fusion bonding.

[0020] The pouch layer 110 can be a single layer or a laminate of multiple layers. The pouch layer 110 can comprise foil. The pouch layer 110 can be a layer of 12 µm thick sheet material, an adhesive layer, and a layer of 0.06 mm thick linear low density polyethylene. The pouch layer 110 can be white. The pouch layer 110 can be printed or otherwise labeled with a design, instruction on use, or decorative feature. The pouch layer 110 can be clear. The pouch layer 110 can be a layer of 12 µm thick metalized polyethylene teraphthalate sheet material, an adhesive layer, and a layer of linear low density polyethylene. The pouch layer 110 can be a layer of 12 µm thick silver or aluminum foil, an adhesive, a 0.0003 mm thick silver or aluminum foil, and a 0.05 mm linear low density polyethylene sheet material.

[0021] The stain treatment device 70 can be a dispensing package such as that disclosed in U.S. Pat. No. 7,506,762 B2. The stain treatment device 70 can be a dispensing package such as that disclosed in U.S. Patent Pub. No. 2009/0074502 A1.

[0022] The stain treatment fluid 90 is contained in the pouch 112 that is defined by the space between the pouch layer 110 and the second side 104 of the backing layer 100. The stain treatment fluid 90 can comprise a surfactant. The surfactant can be selected from the group consisting of non-ionic, anionic, cationic, zwitterionic surfactants, and mixtures thereof. Specific examples include ethoxylated alcohols or propoxylated, ethoxylated alcohols and sulfates of these, or alkyl phenols, alkyl carboxylates, alkyl sulfates, alkyl sulfonates, NaAES, NHAES, alkyl quats, amine oxides, and mixtures thereof. The surfactant can be present in the stain treatment fluid 90 at a level of between about 0.0001% and about 4% by weight of the stain treatment fluid 90.

[0023] The contact substrate 80 can be joined to the first side 102 of the backing layer 100. The contact substrate 80 can be joined to the backing layer 100 with tape, glue, adhesion, or other such bonding material or can bonded to the backing layer 100 by chemical bonding, fusion bonding, or other such bonding technique. The contact substrate 80 can be oriented towards the window 60 so that the consumer can observe the contact substrate 80 when the stain treatment device 70 is presented in a display in a store. This may be an improvement over substrates for wiping stains presently available to consumers because the contact substrate 80 is visible at the point of sale and prior to use of the stain treatment device 70, as opposed to a wipe packaged in an opaque foil wrapper. If the substrate 80 is oriented away from the window 60, it may be challenging for the consumer to understand the purpose and function of the stain treatment device.

[0024] The contact substrate 80 can be used by the consumer to scrub a stain. The stain treatment fluid 90 can be delivered to the contact substrate 80 by creating an opening in the backing layer 100 to conduct the stain treatment fluid 90 from the pouch 110 to the contact substrate 80. In one embodiment the backing layer 100 can have a breakable score line generally aligned with the contact substrate 80 such that when the backing layer 100 is bent about the score line directionally away from the contact substrate 80, the backing layer 100 breaks. As the backing layer 100 is bent further about the score line, the stain treatment fluid 90 can be extruded from the pouch 112 and into the contact substrate 80. The consumer can then scrub the stain on her clothing with the contact substrate 80 that is wetted with the stain treatment fluid 90 and use the backing layer 100 that is folded upon itself as a grip.

[0025] In one embodiment, the contact substrate 80 can comprise micro fibers having a diameter between about 0.1 micrometers and about 5 micrometers. In one embodiment, the contact substrate 80 can comprise microfibers having a diameter less than about 5 micrometers. The micro fibers can be notch-cut micro fibers, which have sharp fiber edges that are generated during formation of such micro fibers. The micro fibers can be staple fibers or continuous splittted fibers. The micro fibers can be split polypropylene-polyethylene micro fibers.

[0026] The stain treatment device 70 can have any generally planar shape including a rectangle, a square, a circle, an oval, a triangle, a pentagon, a hexagon, or a trapezoid, or any other ergonomically preferred shape. A planar shape of the stain treatment device 70 can provide for a stain treatment device 70 that is convenient to store and is easy to securely grip prior to and during use. The planar dimensions of the stain treatment device can be the dimensions of, or smaller than, a common wallet sized credit card or wallet sized photograph.

[0027] The backing layer 100 can be made of any suitably stiff material including thin plastic materials such as polyethylene, polypropylene, or other polymeric material. Backing layer 100 can be sufficiently stiff to maintain the stain treatment device 70 in a substantially flat configuration during storage and transport. In some embodiments, the stain treatment device 70 is sized and dimensioned to fit conveniently in a person’s wallet, purse, diaper bag, or pocket. The
backing layer 100 can be a material selected from the group consisting of rigid styrene, foil, BAREX (available from BP Chemicals Inc., Naperville, Ill., USA), polyethylene, nylon, polypropylene, and coextants and laminates of any of the preceding substances, and combinations thereof. The thickness of the backing layer 100 can be less than about 2 mm, can possibly be less than about 1 mm, and possibly be about 0.1 mm to about 0.5 mm. The backing layer 100 can have a length between about 3 cm to about 10 cm and a width between about 2 cm to about 6 cm. A larger backing layer 100 might be employed for a package 10 designed for use at home.

[0028] The window 60 can be a translucent film 62, as shown in FIG. 3. By translucent, it is meant that the stain treatment device 70 is visible through the film 62 by a human. A translucent film 62 can alter the color perceived by a viewer of the stain treatment device 70 and any component thereof through the window 60 and/or distort the image perceived through the window 60. The window 60 can be a substantially transparent film 62. By substantially transparent, it is meant that the film 62 does not substantially alter the image of the stain treatment device 70 when viewed through the window 60. By employing a translucent film 62 or a substantially transparent film 62 as the window 60, the stain treatment device 70 can be protected from exposure to the external environment. If a film 62 is used as a window 60, material can be removed from the layer 20 (or manufactured such that material is not present at the desired location of the window) to define the window 60 and the film can be attached to the interior surface 30 of the layer 20 using an adhesive.

[0029] As shown in FIG. 4, the stain treatment device 70 can be contained in a package comprising a base layer 140 and a protective layer 130 joined thereto, forming a blister pack, such that the stain treatment device 70 is between the base layer 140 and the protective layer 130. Such an arrangement can be practical if the window 60 is defined by an opening in the layer 20 that is not obstructed because the protective layer 130 can reduce or prevent contamination of the contact substrate 80 between the time of packaging by the manufacturer and use by the consumer. The protective layer 130 can be translucent. The protective layer 130 can be transparent. The protective layer 130 can be substantially transparent. The protective layer 130 can be joined to the base layer 140 using an adhesive, glue, or any other such bonding approach suitable for joining two layers of material. The protective layer 130 can be made of high density polyethylene, polypropylene, nylon, or any other such material through which an object on one side of the protective layer 130 can be viewed from the other side of the protective layer 130. Each stain treatment device 70 can be protected by a protective layer 130 that is separated from or separable from any other protective layer 130 that is protecting a stain treatment device 70.

[0030] The base layer 140 can comprise usage instructions 150 for the stain treatment device 70. By having usage instructions 150 on the base layer 140, the consumer can familiarize herself with use of the stain treatment device prior to having to remove the stain treatment device from the protective environment provided by the base layer 140 and protective layer 130 joined thereto. Thus, if the consumer uses the stain treatment device 70 without having to give careful consideration on how the stain treatment device 70 is to be used. The usage instructions 150 and the stain treatment device 70 can be on opposing sides of the base layer 140. The usage instructions 150 can be a pictorial representation and/or text description of use of the stain treatment device 70.

[0031] A cross section, as marked in FIG. 4, is illustrated in FIG. 5. As shown in FIG. 5, the protective layer 130 and base layer 140 can be joined such that together they can define a pocket 133 that can enclose the stain treatment device 70. One or more stain treatment devices 70 can be enclosed in a pocket 133. The pocket layer 110 can be joined to the base layer 130 by an adhesive, a releasable adhesive, a glue, or any other known material or technique for joining two materials. The base layer 140 can have one or more lines of weakness such that individual pockets, each containing a stain treatment device 70 between a portion of base layer 140 and protective layer 130, are releasably separable from one another. The lines of weakness can be structures, including but not limited to, score lines, perforation, fragile lines, etc.

[0032] The layer 20 can be sized and dimensioned to wrap around one or more stain treatment devices 70, as shown in FIG. 6, the arrow indicating the direction of the fold or folds. The wrap around flap 160 can be wrapped around the stain treatment device 70 and contain the stain treatment device 70 in such a way that the stain treatment device remains operatively related to the layer 20 from the time of manufacture to the time of use by the consumer. The wrap around flap 160 can be wrapped around the stain treatment device 70 about one or more fold lines 162. The wrap around flap 160 can be wrapped around the base layer 140 and protective layer 130 or protective layers. Once the wrap around flap 160 is wrapped around the stain treatment device 70 or base layer 140 and protective layer 130 protecting the stain treatment device 70, the interior surface 30 of the layer 20 can be attached upon itself to maintain the structure of the container 10.

[0033] More than one stain treatment device 70 can be visible through the window 60. Such an arrangement may provide a visual cue as to the quantity of stain treatment devices 70 that might be contained in the container 10.

[0034] All percentages and ratios used herein are by weight of the total composition and all measurements made are at 25°C, unless otherwise designated. An angular degree is a planar unit of angular measure equal in magnitude to 1/360 of a complete revolution.

[0035] While particular embodiments of the present invention have been illustrated and described, it would be obvious to those skilled in the art that various other changes and modifications can be made without departing from the spirit and scope of the invention. It is therefore intended to cover in the appended claims all such changes and modifications that are within the scope of this invention.

[0036] All documents cited are, in relevant part, incorporated herein by reference; the citation of any document is not to be construed as an admission that it is prior art with respect to the present invention.

What is claimed is:

1. A container comprising:
   a layer having an interior surface and an exterior surface opposing said interior surface; and
   a window in said layer, said window revealing at least a portion of a fabric stain treatment device operatively related with said window, said fabric stain treatment device comprising a fluid pervious contact substrate, wherein at least a portion of said contact substrate is visible through said window;
wherein said fabric stain treatment device comprises a backing layer having a first side opposing a second side and a pouch layer joined with said second side of said backing layer thereby forming a pouch containing a stain treatment fluid comprising a surfactant; wherein said fluid pervious contact substrate is joined to said first side of said backing layer.

2. The container of claim 1, wherein said window is an opening in said layer.

3. The container of claim 1, wherein said window is a translucent film.

4. The container of claim 3, wherein said translucent film is substantially transparent.

5. The container of claim 1, wherein said fabric stain treatment device is contained in a package comprising a base layer and a translucent protective layer joined thereto.

6. The container of claim 5, wherein said translucent protective layer is substantially transparent.

7. The container of claim 1, wherein a plurality of said fabric stain treatment devices are visible through said window.

8. The container of claim 1, wherein said layer defines an interior space and said stain treatment device is contained within said interior space.

9. The container of claim 5, wherein said base layer comprises usage instruction for said stain treatment device.

10. The container of claim 9, wherein said usage instruction and said fabric stain treatment are on opposing sides of said base layer.

11. The container of claim 1, wherein said layer is wrapped around said fabric stain treatment device.

12. The container of claim 1, wherein said surfactant is present at a level of between about 0.0001% and about 4% by weight of said stain treatment fluid.

13. The container of claim 1, wherein said stain treatment fluid is delivered to said contact substrate by creating an opening in said backing layer to conduct said stain treatment fluid from said pouch to said contact substrate.

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