[54] METHOD FOR SCENTING TAMpons AND PRODUCT OBTAINED THEREBY

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[57] ABSTRACT

A method for incorporating small but effective amounts of a volatile odor-counteracting scent or fragrance into a compressed absorbent tampon of the type which has an inserter stick removably seated in a preformed axial cavity in the base of the tampon. The method consists of introducing a minute quantity of an alcohol solution of the selected scent into the preformed cavity, placing the inserter stick in position in the cavity, and sealing the tampon and stick combination in a vapor impermeable pouch. The scent may be introduced by micro-spraying the solution directly into the cavity, or by applying the solution onto the leading end of the insertion stick before positioning the stick in the cavity. A preferred product is also defined.

12 Claims, 4 Drawing Figures
METHOD FOR SCENTING TAMPHNS AND PRODUCT OBTAINED THEREBY

BACKGROUND OF THE INVENTION

In one class of deodorant tampons now on the market, the deodorizing effect is provided by incorporating an odor-counteracting scent into the tampon body in some manner. The most common method used is to spray volatile solutions of the scent onto an absorbent component of the tampon before or during assembly. For example, the scent may be sprayed onto the surface of an absorbent tissue or a carded web, which is then layered up with untreated tissues or webs to form a batt. The batt is then cut into suitably sized pledgets and formed into a tampon which may be compressed or uncompressed. However, this method poses a serious manufacturing control problem in that large amounts of the volatile material are easily lost to the air to cause air pollution and an accompanying strong scent in the mill and its environs. Continued exposure to such a condition is undesirable.

Another method is to apply the scent to the carton, wrapper, or instruction sheet whereby the tampon is scented by slow adsorption of the aromatic vapor by the fibers in the tampon as the scent volatilizes. However, in this method there is a danger that a high concentration of the oil which is applied to the carton or wrapper to provide the scent may rub off onto the surface of the tampon and become the cause of an undesirable allergic reaction to a user. The high concentrations of oil also tend to leave undesirable stains of discolorations on the carton or wrapper which are unsightly and unesthetic when they penetrate to the surface. In addition, if the tampons are individually wrapped, carton-applied fragrance may not permeate to the tampon in a sufficient amount to be effective. In any event, relatively large amounts of the scenting material are required in each instance.

This invention provides an improved method for applying scent to the individual tampons without significant loss to the surrounding atmosphere and in a manner which reduces the amount of scenting material required while insuring that each tampon is fully scented. Further, the invention avoids the danger of leaving any concentrated scented oil on the surface of the tampon where it might inadvertently contact the user and cause allergic or other undesirable reactions.

SUMMARY OF THE INVENTION

The invention described herein is directed to the incorporation of small but effective amounts of a volatile scent into a compressed absorbent tampon of the type which has an inserter stick removably seated in a preformed axial cavity in the base of the tampon. In the described method a minute quantity of an alcohol solution of perfume oil, or the like, is introduced into the preformed cavity and the inserter stick seated in position in the cavity. The tampon and stick combination is then sealed in a vapor-impermeable pouch. The alcohol solution of the scent may be sprayed directly into the cavity by a micro-syringe, or the solution may be applied directly to the leading end of the inserter stick before the stick is positioned in the cavity. Direct injection of the solution into the cavity is preferred, because when such method is used, little if any of the volatile material is lost to the air and it is possible to exert better control over the amount of scent used.

The above features and other advantages of the invention will become apparent by reference to the following description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a longitudinal section of a compressed tampon having an axial cavity in its base and showing schematically, the injection of a scent into the cavity by a micro-syringe.

FIG. 2 is a longitudinal section similar to FIG. 1, but showing the inserter stick for the tampon in place after the scent has been applied to the tampon cavity.

FIG. 3 is a plan view of the inserter stick-tampon combination of FIG. 2 sealed in an impermeable pouch wrapper.

FIG. 4 is another embodiment of the invention illustrating a longitudinal section of a tampon with a cavity in its base and a schematic representation of scent being spray-applied to the leading end of an inserter stick before the latter is positioned in the cavity.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

As indicated above, this invention is directed to an improved method for incorporating small but effective amounts of a volatile scent into a compressed absorbent tampon of the type which has an inserter stick removably seated in a preformed axial cavity in the tampon base. In FIG. 1, a longitudinal sectional view of the absorbent body of such a tampon is shown at 12. The tampon 12 is shown in its precompressed self-sustaining shape. Tampon body 12 has the usual withdrawal string 14 attached to the rear end thereof, and is provided with a small-bore axial cavity 16 in the base thereof.

In carrying out the preferred method of this invention, a micro-syringe 18 is employed to spray a minute amount of an alcohol solution of a selected scent into cavity 16 as shown at 20.

The next step is to place an inserter stick 22 into cavity 16 as shown in FIG. 2. When in position, inserter stick 22 helps to confine the sprayed scent in the cavity and keep it from escaping to the surrounding atmosphere while permitting it to permeate through the fibrous structure of the tampon by vapor interchange.

The inserter stick-tampon combination is suitably sealed at both ends as at 26 and 28.

By sealing the stick-tampon combination in a substantially vapor impermeable pouch, essentially no scent will escape the pouch, while the volatile scent builds up sufficient vapor pressure within the pouch to permeate the tampon and enable the scent to be quickly adsorbed by the fibers of the tampon. While the pouch remains sealed no noticeable scent is apparent outside the wrapper. When the pouch is opened, a strong scent immediately is noted. Close examination of the tampon also finds that no scenting oil in liquid form has permeated to the surface which is free of stain.

A preferred material for the pouch is a saran-coated or nitrocellulose-coated cellophane which is heat-sealable and commonly used in the fabrication of vapor-impermeable pouch packages. Plastic films such as
polypropylene, polyethylene and the like, coated with vapor-impermeable materials may also be used. A suitable scenting compound for use in this invention comprises a solution of 80 percent of isopropyl alcohol and 20 percent perfume oil. In a preferred example, about 15 milligrams of the solution per tampon or about 3 milligrams of perfume oil per tampon was used. However, it was found that as little as 0.5 milligram of oil per tampon could be used and still be somewhat effective. As much as 6 milligrams per tampon were used without being overpowering. A preferred range is 2–4 milligrams of perfume oil per tampon. Since a regular size tampon weighs in the neighborhood of about 3 grams, and a super size tampon about 4 grams, the amount of perfume oil in the 3 milligram example described was in the neighborhood of about 0.1 percent or less of the fiber weight.

In the preferred example, isopropyl alcohol has been mentioned as the carrier for the volatile perfume oil. Other suitable carriers or solvents may be used such as ethyl alcohol, propylene glycol and the like.

While the preferred method of carrying out the invention is shown in FIGS. 1–3 and described above, an alternate method is schematically shown in FIG. 4. In the latter method, a micro-syringe 48 is used to spray a tiny amount of the scent solution 50 onto the leading end of inserter stick 52 and the sprayed stick is then inserted into cavity 46 of tampon body 42. The tampon 42 in this figure is also shown with the usual withdrawal string 44.

The tampon-inserter stick combination with the scent applied in this manner is also placed in a pouch and sealed as in FIG. 3.

In this latter method other means besides spray may be used to apply the scent to the stick. For example, the tip may be dipped into, or coated with, a solution of the scent before the stick is inserted into the cavity.

In making up the solution for scenting the tampon, any available non-toxic commerical perfume oil may be used, including natural or synthetic compounds. Other scented oils often employed in “medically” oriented products may also be used, such as menthol, camphor, wintergreen, peppermint and the like.

This discussion would not be complete without noting that in the prior art, U.S. Pat. No. 706,778 to E. M. Pond which issued Aug. 12, 1902, shows a medicated tampon having a deep axial cavity, and that as taught in that patent, this cavity is used to receive a medical substance in sufficient amount to saturate the tampon body and eventually reach the surface where it can effectively be applied to a diseased part of the body. This patent superficially resembles the invention described herein in that it does show an absorbent tampon body having an axial cavity into which a medicated treating substance is introduced.

However, it should be noted that the Pond teaching requires saturation and eventual surface penetration where the medication can physically contact and treat a diseased member. In the present invention physical contact of the scent with any part of the body is contraindicated. In fact, the amount of solution used is deliberately made so small that no visible staining is found even on the interior of the tampon if it is cut open for examination. No perfume oil can possibly penetrate to the surface for body contact as Pond requires.

Another difference is that Pond does not teach the use of a temporary sealing member in the form of the insertion stick to inhibit volatilization of treating material from the cavity. The use of a vapor impermeable pouch is also absent.

By the invention described herein, an improved scented tampon is provided with the attendant advantages over the prior art as earlier described.

What is claimed is:

1. A method for incorporating a scent into an absorbent tampon compressed to self-sustaining form and having a preformed axial cavity in the tampon base in which there is disposed a removable inserter stick, said method comprising the steps of providing said compressed self-sustaining tampon with a small bore axial cavity in the base thereof, introducing a small but effective amount of volatile scenting oil solution into said cavity in an amount insufficient to migrate to the outer surface of said tampon, seating one end of a removable inserter stick in said cavity and sealing said stick-tampon combination in a substantially vapor-impermeable pouch.

2. The method of claim 1 wherein said scenting oil solution is introduced into said cavity by microspraying said solution therein.

3. The method of claim 1 wherein said scenting oil solution is introduced into said cavity by first coating said one end of said inserter stick therewith and then inserting said stick in said cavity.

4. The method of claim 1 wherein said tampon comprises an absorbent fiber body having a weight of from about 3 to about 4 grams, said scenting solution comprises 20 percent by weight of a scenting oil and 80 percent by weight of a suitable solvent, and said solution is introduced into said cavity in an amount sufficient to deposit about 0.5 to 0.6 milligrams of scenting oil per tampon.

5. The method of claim 1 wherein said tampon comprises an absorbent fiber body having a weight of from about 3 to about 4 grams, said scenting solution comprises 20 percent by weight of a scenting oil in 80 percent by weight of a suitable solvent, and said solution is introduced into said cavity in an amount sufficient to deposit about 2.0 to 4.0 milligrams of scenting oil per tampon.

6. The method of claim 4 wherein said solvent is selected from the group consisting of isopropyl alcohol, ethyl alcohol and propylene glycol.

7. The method of claim 4 wherein said solvent is isopropyl alcohol.

8. The method of claim 5 wherein said solvent is selected from the group consisting of isopropyl alcohol, ethyl alcohol and propylene glycol.

9. The method of claim 5 wherein said solvent is isopropyl alcohol.

10. A scented tampon of the type comprising a body of absorbent fibers compressed to self-sustaining form sized for easy insertion into a body orifice and having an axial cavity in the base of said body of said absorbent fibers in which an insertion stick is removably disposed, and means for providing an adequate scent to counteract body odors without affecting the surface of said body of absorbent fibers including a small but effective quantity of a volatile scenting oil disposed within said cavity and in contact with a portion of the stick in said cavity, said scenting oil being present in an amount insufficient to migrate to the outer surface of said body of absorbent fibers wherein the outer surface of said body of absorbent fibers is thereby free of liquid.
scenting oil, and wherein the scent-containing tampon and stick are disposed within a sealed vapor-impermeable pouch.

11. The tampon of claim 10 wherein said tampon body has a fiber weight of from about 3 to about 4 grams and said scenting oil is present in the amount of about 0.5 to 6.0 milligrams.

12. The tampon of claim 10 wherein said tampon body has a fiber weight of from about 3 to about 4 grams and said scenting oil is present in the amount of about 2.0 to 4.0 milligrams.

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