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INDIVIDUALLY PACKAGED SANITARY NAPKIN

This invention relates to an individually packaged sanitary napkin for absorbing and containing menstrual discharge.

It is well known to form on a lower side of a sanitary napkin with adhesive zones by means of which the sanitary napkin is fixed to shorts worn by a user. A release sheet protectively covering these adhesive zones is inseparably fastened to a packaging sheet such as a plastic film in some of the well known examples. The release sheet is separated together with the packaging sheet from the sanitary napkin as the packaging sheet is unwrapped.

Japanese Laid-Open Patent Application No. Hei8-224269 discloses such an individually packaged sanitary napkin of which a main body thereof is provided on transversely opposite sides of a rear section thereof with a pair of wings. These wings are folded back on an inner surface of the sanitary napkin and adhesive zones formed on an outer surfaces of the respective wings are protectively covered with a single release sheet extending over these wings. The sanitary napkin is longitudinally folded in three layers with the inner surface lying inside. Specifically, a front

section of the sanitary napkin is folded back onto an intermediate section thereof and then a rear section thereof having the wings is folded back onto the front section. The release sheet protecting the adhesive zones of the wings has an effective surface separably fastened to the adhesive zones and an ineffective surface thereof inseparably fastened to an outer surface of the packaging film. The release sheet protecting the adhesive zones of the wings are separated together with the packaging sheet from the adhesive zones and the adhesive zones are exposed as the package is unwrapped and the rear section is unfolded.

With the individually packaged sanitary napkin of well known art, the adhesive zones of the wings are first exposed and then the adhesive zones of the main body of the sanitary napkin are exposed as the package is unwrapped. However, some of the sanitary napkin wearers fasten the main body to the shorts and thereafter the folded wings are unfolded to fasten these wings to the shorts. Such procedure is convenient so far as the adhesive zones of the wings are covered with the release sheet until immediately before the wings are fastened to the shorts and there is any apprehension that these adhesive zones might be fastened to inappropriate objects during fastening of the main body to

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the shorts and make wearing of the sanitary napkin difficult. For such procedure, therefore, it is undesirable that the adhesive zones of the wings are first exposed as in the individually packaged sanitary napkin of well known art.

In view of the problem as has been described above, it is a principal object of the invention to provide an individually packaged sanitary napkin improved so that the adhesive zones formed on the wings extending outward from the transversely opposite side edges of the rear section of the sanitary napkin can remain covered with the release sheet until immediately before the wings are fastened to the shorts.

The object set forth above is achieved, according to the invention, by an individually packaged sanitary napkin comprising a main body of the sanitary napkin comprising a liquid-permeable topsheet, a liquid-impermeable backsheet and a liquid-absorbent core disposed between these two sheets, the main body longitudinally being composed of a front section, a rear section and an intermediate section extending between the front and rear sections, a pair of wings extending outward from transversely opposite side edges of said rear section, the main body and the wings being provided

on their surfaces intended to come in contact with shorts worn by a user with first and second adhesive zones protectively covered with release sheets, respectively, and a packaging sheet wrapping the main body of the sanitary napkin together with the wings, the individually packaged sanitary napkin being characterized in that: a first release sheet has an inner surface thereof separably fastened to the first adhesive zones of the main body and an outer surface thereof inseparably fastened to an inner surface of the packaging sheet covering a surface of the main body intended to come in contact with the shorts; the respective wings are folded back along the transversely opposite side edges of the main body onto an upper surface of the topsheet and an inner surface of a second release sheet having inner and outer surfaces serving to cover the pair of wings is separably fastened to the respective second adhesive zones of the wings; the front section of the main body is folded back together with the first release paper sheet onto the intermediate section with the topsheet lying inside and a portion of the packaging sheet extending outward beyond a longitudinal end of the front section has an inner surface inseparably fastened to the outer surface of said second release sheet; the rear section of the main body is folded

back onto the front section having previously folded with interposition of the packaging sheet covering a surface of the front section intended to come in contact with the shorts; and transversely opposite side margins of the packaging sheet extending outward beyond the transversely opposite side edges of the main body are put flat together and sealed so as to wrap therein the front and rear sections folded back one upon another.

Fig. 1 is a perspective view showing an individually packaged sanitary napkin according to the invention as partially broken away;

Fig. 2 is a sectional view taken along a line II - II in Fig. 1; and

Fig. 3 is a plan view showing the individually packaged sanitary napkin in an unfolded state thereof as partially broken away.

Details of an individually packaged sanitary napkin according to the invention will be more fully understood from the description given hereunder with reference to the accompanying drawings.

Figs. 1 and 2 are respectively a perspective view

showing an individually packaged sanitary napkin 1 as partially broken away and a sectional view thereof taken along a line II - II in Fig. 1. The individually packaged sanitary napkin 1 comprises a longitudinally larger sanitary napkin 2 and a packaging sheet 3 made of a plastic film being larger than the sanitary napkin 2 both in length and width. The sanitary napkin 2 is folded in three layers with an inner surface thereof intended to come in contact with a wearer's skin lying inside. The packaging sheet 3 wrapping the sanitary napkin 2 therein has portions thereof extending outward beyond transversely opposite side edges of the sanitary napkin 2. Along these portions, the packaging sheet 3 is put flat together and sealed by sealing lines 25 extending longitudinally of the packaging sheet 3. An externally exposed end 26 of the packaging sheet 3 is provided at a middle thereof as viewed transversely of the sanitary napkin 2 with a fastening tape 27 so as to extend outward from the externally exposed end 26. Specifically, the fastening tape 27 has an proximal end fastened to the externally exposed end 26 of the packaging sheet 3 by means of an adhesive agent 27A applied to a lower surface thereof and a portion thereof extending outward beyond the externally exposed end 26 separably fastened to a region of the

packaging sheet 3 underlying the portion. The fastening tape 27 has the distal end folded back onto an lower surface of the fastening tape 27 so that the distal end can be easily held by the wearer's fingers.

Fig. 3 is a plan view as partially broken away, showing the individually packaged sanitary napkin 2 with the packaging sheet 3 has been unsealed along the respective sealing lines 25 to unwrap the package and the sanitary napkin 2 as well as the packaging sheet 3 have been longitudinally unfolded. The sanitary napkin 2 comprises a main body 9 and a pair of wings 10 laterally extending from both sides of the main body 9. The main body 9 comprises, in turn, a liquid-permeable topsheet 6 intended to come in contact with a wearer's skin, a liquid-impermeable backsheet 7 intended to come in contact with shorts worn by the wearer and a liquid-absorbent core 8 disposed between these two sheets 6, 7. As viewed in a longitudinal direction of the sanitary napkin, the main body 9 is composed of a front section 11 adapted to be placed on a front section of the shorts, a rear section 12 adapted to be placed on a rear section of the shorts and an intermediate section 13 extending between these front and rear sections 11, 12. The main body 9 is substantially oval as a whole. These front,

rear and intermediate sections 11, 12, 13 are shown in Fig. 3 as defined by border lines corresponding to first and second fold lines X - X, Y - Y which will be described later in more detail. In the rear section 12, the pair of wings 10 extend outward from transversely opposite side edges 2A of the main body 9. In Fig. 3, the wings 10 thus extending outward are shown by imaginary lines and the same wings 10 folded along the side edges 2A back onto a topsheet of the main body 6 are shown by solid lines. Depending on the particular embodiment, respective outlines of the wings 10 may partially extend into the intermediate section 13. The main body 9 contains therein the absorbent core 8 which has an oval shape slightly smaller than the main body 9. Portions of the topsheet 6 and the backsheet 7 extending outward beyond a peripheral edge of the absorbent core 8 are put flat and bonded together so as to form a peripheral flap 16 of the main body 9 and the wings 10 in the rear section 12.

The main body 9 and the wings 10 have adhesive zones 18 of the main body 9 and adhesive zones 19 of the wing 10, respectively. These adhesive zones 18, 19 may be separably fastened to an inner surface of the shorts worn by the wearer to fix the sanitary napkin 2. As will be apparent from Fig.

3, two strips of the adhesive zones 18 are protectively covered with a first release sheet 21 common to these two adhesive zones 18 and the adhesive zones 19 are protectively covered with a second release sheet 22 common to these two adhesive zones 19. An outer surface of the first release sheet 21 is inseparably bonded to an inner surface of the packaging sheet 3 covering the main body 9 by means of hot melt adhesive 23 (See Fig. 2). With the sanitary napkin 2 having the wings 10 folded back as shown by Fig. 3, the packaging sheet 3 presents the form of a rectangular sheet extending outward beyond the transversely opposite side edges 2A as well as beyond longitudinally opposite ends 2B.

The sanitary napkin 2 and the packaging sheet 3 combined with each other as shown by Fig. 3 may be folded along the first and second fold lines X - X and Y - Y dividing the sanitary napkin 2 longitudinal three sections with the topsheet 6 lying inside to obtain a configuration as shown by Figs. 1 and 2. The sanitary napkin 2 and the packaging sheet 3 are configured and dimensioned so that they may be folded along the first fold line X - X to put a first bonding zone 36 indicated provided on the inner surface of the packaging sheet 3 at a front section thereof (i.e., lower section as viewed in Fig. 3) as indicated by a chain line

exactly upon a second bonding zone 37 provided on an outer surface of the second release sheet 22 adjacent a front end thereof as indicated by a chain line. These zones 36, 37 are inseparably bonded together by means of hot melt adhesive 28 (See Fig. 2). The rear section 12 is folded along the second fold line Y - Y back onto the front section 11. Then, the layers of the packaging sheet 3 put flat together along portions thereof extending outward beyond the transversely opposite side edges 2A of the sanitary napkin 2 are subjected to heat-sealing treatment to form the respective sealing lines 25. Finally, the fastening tape 27 extending outward from the rear section (upper section as viewed in Fig. 3) 26 is fastened to the outer surface of the packaging sheet at the region underlying the fastening tape 27.

The individually packaged sanitary napkin 1 can be unwrapped according to the steps of procedure as indicated by imaginary lines in Fig. 2. First, the fastening tape strip 27 held by the wearer's one hand may be pulled in a direction as indicated by an arrow P_1 while a portion of the packaged sanitary napkin 1 adjacent the fastening tape 27 being held by the wearer's other hand to break or tear the packaging sheet 3 along the sealing lines 25. In this way, the packaged sanitary napkin 1 is unwrapped. Then, with the rear

section 12 of the sanitary napkin 2 held by the wearer's one hand and the rear section of the packaging sheet 3 held by the wearer's other hand, the packaging sheet 3 may be pulled together with the first release sheet 21 in a direction as indicated by an arrow P_2 to further unseal the sealing lines 25. Thus separation of the first release sheet 21 from the sanitary napkin 2 occurs toward the front section 11 of the sanitary napkin 2. Even after the first release sheet 21 has been completely separated from the sanitary napkin 2 and the adhesive zones 18 of the main body 9 have been exposed, the packaging sheet 3 still remains bonded to the second release sheet 22 which covers the adhesive zones 19 of the wings 10. In this state of the sanitary napkin 2, the main body 9 is fastened to a crotch region of the shorts by means of the adhesive zones 18 of the main body. After the second release sheet 22 has been peeled off from the adhesive zones 19 of the wings 10, the wings 10 are unfolded outward and fastened to the shorts. In this manner, the main body 9 can be smoothly fastened to the shorts without any apprehension that the adhesive zones 19 of the wings 10 might be fastened to inappropriate objects and make fastening of the main body 9 difficult.

While the zone 37 of the second release sheet 22 bonded

to the packaging sheet 3 is illustrated in Fig. 3 as lying to the front section 11 of the sanitary napkin 2 with respect to the adhesive zones 19, it is also possible to arrange the zone 37 to the rear section 12 with respect to the adhesive zones 19. However, it is rather preferred to arrange the zone 37 to the front section 11 as shown in Fig. 3. More specifically, when the packaging sheet 3 is unfolded counterclockwise as indicated by the arrows P_1 , P_2 in Fig. 2 to unwrap the individually packaged sanitary napkin 1 and to peel the first and second release sheets 21, 22 off, the zone lying to the front section 11 with respect to the adhesive zones 19 of the wings 10 enables the second release sheet 22 to be peeled off from the adhesive zones of the wings 10 by continuously unfolding the packaging sheet 3 counterclockwise.

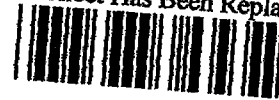
To implement the invention, a nonwoven fabric or porous plastic film may be employed as the topsheet 6 and a plastic film may be employed as the backsheet 7. The absorbent core 8 may be formed by fluff pulp or a mixture particles of fluff pulp and polymer particle of high water absorptivity.

It is possible to form the wings 10 by a sheet material prepared separately of the topsheet 6 and/or the backsheet 7. The manner in which the components of the individually

packaged napkin 1 is not limited to the specific embodiment illustrated and the other various manners may be also adopted, for example, bonding by use of glue or adhesive such as hot melt adhesive, or by use of heat-sealing technique if the components are of heat-sealable nature.

The individually packaged sanitary napkin constructed as has been described above allows the second adhesive zones of the wings to remain covered with the second release sheet even after the first release sheet has been peeled off together with the packaging sheet from the rear section toward the front section of the main body of the sanitary napkin and thereby the first adhesive zones of the main body have been exposed. In this state, the main body can be smoothly fastened to the shorts without any apprehension that the second adhesive zones of the wings might be fastened to inappropriate objects and make wearing of the sanitary napkin difficult.

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WHAT IS CLAIMED IS:

1. An individually packaged sanitary napkin comprising a main body of the sanitary napkin comprising a liquid-permeable topsheet, a liquid-impermeable backsheet and a liquid-absorbent core disposed between these two sheets, the main body longitudinally being composed of a front section, a rear section and an intermediate section extending between the front and rear sections, a pair of wings extending outward from transversely opposite side edges of the rear section, the main body and the wings being provided on their surfaces destined to come in contact with shorts worn by a user with first and second adhesive zones protectively covered with release sheets, respectively, and a packaging sheet wrapping the main body of the sanitary napkin together with the wings, the individually packaged sanitary napkin being characterized in that:

a first release sheet has an inner surface thereof separably fastened to the first adhesive zones of the main body and an outer surface thereof inseparably fastened to an inner surface of the packaging sheet covering a surface of the main body intended to come in contact with the shorts;

the respective wings are folded back along transversely



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opposite side edges of the main body onto an upper surface of the topsheet and an inner surface of a second release sheet having inner and outer surfaces serving to cover the pair of wings is separably fastened to the respective second adhesive zones of the wings;

the front section of the main body is folded back together with the first release sheet onto the intermediate section with topsheet lying inside and a portion of the packaging sheet extending outward beyond a longitudinal end of the front section has an inner surface thereof inseparably fastened to the outer surface of said second release sheet;

the rear section of the main body is folded back onto the front section having previously folded back with interposition of the packaging sheet covering a surface of the front section destined to come in contact with the shorts; and

transversely opposite side margins of the packaging sheet extending outward beyond the transversely opposite side edges of the main body are put flat together and sealed so as to wrap therein the front and rear sections folded back one upon another.

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