Pouch for packaging liquids for artificially inseminating animals

The present invention concerns a pouch for packaging liquids for artificially inseminating animals, in particular pigs and horses.

This type of pouch, generally called a single dose pouch, is well known in the art and is the subject matter of FR-B-2 667 504 and EP-A-718 191 in particular.

In the above pouches, the same orifice is used to fill and to empty the pouch. The pouch is filled using a filter nozzle that is gripped in the filler passage when the nozzle penetrates the pouch. It slightly deforms the insertion passage of the filler passage. The same passage is designed to receive the body of the insemination probe. Because the passage has already been stressed by the filler nozzle, the probe is sometimes held imperfectly in the passage.

The present invention overcomes this problem and provides a pouch for packaging liquids for artificially inseminating animals comprising two thermoplastics material films welded together by a weld delimiting a pouch along a closed path of generally rectangular shape defining two shorter sides and two longer sides when the pouch is empty and one of which shorter sides is interrupted, the weld defining from said interruption a filler passage defining a filler part in said thermoplastics material films, characterized in that the other shorter side is interrupted, the weld defining from said interruption a drain passage defining a drain part in said thermoplastics material films.

In the pouch of the invention, after the pouch has been filled with its contents, the filler passage is welded to close it and seal it permanently. The drain passage on the other side adapted to receive the insemination probe is welded closed.

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However, problems are frequently encountered with opening these pouches when they are used and it is often necessary to employ a tool or an object to open them.

To overcome these problems, the Applicant has developed a "peelable pouch" described in FR 2 750 399 that is reliable and simple to open without using any form of tool or object. This pouch is particularly suitable for containing animal semen.

The peelable pouch described in FR 2 750 399 has a single neck with two functions:

- filling the pouch with liquid via a needle, and
- draining the liquid using an insemination probe after opening the peelable weld.

A pouch of the above kind is extremely practical but has one slight drawback in that the liquid is drawn by capillary action onto the walls of the neck when the filler needle is removed after injection. This soiling, the amount of which varies, degrades the peelable weld.

To overcome this drawback, the Applicant has considered making the "peelable" weld of the drain passage in the factory and welding the filler passage on a packaging machine. The latter weld is much easier to carry out because it is in the blank film rather than the peelable material.

In a particularly advantageous second embodiment, the invention proposes a pouch for packaging liquids for artificially inseminating animals comprising two thermoplastics material films welded together by a weld delimiting a pouch along a closed path of generally rectangular shape defining two shorter sides and two longer sides when the pouch is empty and one of which shorter sides is interrupted, the weld defining from said interruption a filler passage, wherein the other shorter side is interrupted, the weld defining from said interruption a drain passage defining a drain part in said

thermoplastics material films, said pouch being characterized in that at least one of said two thermoplastics material films has a peelable area in the drain part.

According to one feature of the invention, said peelable area comprises a sealing and peelable material, for example a wax.

The drain passage can be extended by a flare.

According to one advantageous feature of the embodiment of the pouch in accordance with the present invention having the peelable drain weld, the two thermoplastics material films are offset relative to each other in said drain part, for example by approximately 2 to 3 mm.

In accordance with another feature of the embodiment of the pouch in accordance with the invention with the peelable drain weld, in which it contains a liquid, said pouch is sealed in a sealing area within said peelable area, in the vicinity of the drain part of the drain passage, substantially transversely to the axis thereof.

The sealing area can then have a triangular or inverted V-shape in cross section.

With the pouches used until now, there have been problems identifying the doses that they contain. In the case of doses of semen, for example, the dose is identified by a colored label stuck to the pouch containing the semen or by adding a coloring agent to the semen. These identification methods have had their drawbacks, in particular the risk of the label coming unstuck or of the coloring agent degrading the semen, for example.

The present invention proposes a pouch overcoming the above identification problems, characterized in that part of the thermoplastics films is colored. Said colored part of the films defines a colored part of the pouch. The

colored part may include an identifier.

If the pouch contains pig semen (sperm), a color is attributed to each breed or each genetic type of pig and the colored part is that color. In this case, the color of the colored part identifies the breed or genetic type of pig concerned.

A marking area can also be provided on part of the thermoplastics films, possibly separate from the colored part. The marking area can carry an identification marking, for example a drawing.

In accordance with the invention, the identification marking is preferably seen through the film, which is transparent.

If the pouch contains pig semen (sperm), the marking area can include an identification marking for the breed and/or genetic type of pig concerned.

In the pouch of the invention, at least one of the two thermoplastics material films can have a peelable area in its drain part.

In one particularly advantageous embodiment of the invention the liquid for artificial insemination is animal semen, a medium or a diluting agent.

The invention then provides a pouch characterized in that it contains a biologic liquid usable for artificial insemination.

The liquid usable for artificial insemination is selected from animal semen, in particular pig sperm, media and diluting agents, for example.

The invention will now be described in more detail and other advantages of the invention will become more clearly apparent in the following description given by way of example only and with reference to the accompanying drawings, in which:

- Figure 1 is a view in cross section of a pouch in accordance with the invention, not yet sealed and extracted

from a strip of pouches,

- Figure 2 is a view in cross section of a "peelable" variant of the pouch in accordance with the invention, not yet sealed and extracted from a strip of pouches,

- Figure 3 is a view in cross section of the pouch from Figure 2 with its drain passage sealed, and

- Figure 4 is a view in cross section of the pouch from Figure 2 with its drain passage sealed by a different shaped sealing area.

The pouch 1 in accordance with the invention for packaging biologic liquids is made from two thermoplastics material films welded together by a weld 2 delimiting a pouch 3 along a closed path of generally rectangular shape defining two shorter sides x and x' and two longer sides z and z' when the pouch is empty and one of which said shorter sides x is interrupted, the weld 2 defining from said interruption a filler passage 4, defining a filler part 17 in said thermoplastics material films, characterized in that the other shorter side x' is interrupted, the weld defining from said interruption a drain passage 9 defining a drain part 11 in said thermoplastics material films.

The filler passage 4 is extended by a centering insertion flare or cone 5.

Substantially equidistant holes 6 are formed near two longitudinal edges of the strip, outside the path of the weld. These holes are used to feed the thermoplastics material strip an to support it in a packaging machine.

Weld areas 7 and 8 are provided to hold the two thermoplastics material films together and prevent them separating in the feed device of the packaging machine.

The drain passage 9 is extended by a centering insertion flare or cone 10.

In accordance with the invention, after filling the

pouch with its contents, the filler passage is welded shut to seal it. The weld 16 can be either at the top or at the bottom (shown in chain-dotted line) of the filler passage 4. The liquid level must be sufficiently high in the filler passage to prevent trapping any air. The weld is formed by two welding areas. The top of the liquid column is between the two welding resistors. The bottom weld is therefore made across the column of liquid and the top weld prevents the residue of liquid escaping, the residue being trapped between the two resistors.

In an advantageous embodiment of the pouch in accordance with the invention at least one of the two thermoplastics material films has in the drain part a peelable area 12 obtained by depositing a sealing and peelable material, for example wax.

The sealing and peelable material is melted locally in the sealing area 13. The cross section of the sealing area 13 is triangular in Figure 3 and of inverted V-shape in Figure 4.

To open the pouch, the operative separates the two thermoplastics material films by hand. The pouch can therefore be opened easily in the required area, delimited by its peelable area and the shape of the welding electrode. A probe or a tube can then be inserted into the opening and guided satisfactorily.

In one embodiment of the invention part of the thermoplastics films is colored, defining a colored part 14 and a marking area 15. The marking area 15 carries a drawing (not shown) seen through the transparent film and depicting the breed concerned.

According to one feature of the invention that is not shown, at least one of the two thermoplastics material films has a peelable area in the filler part (17).

The person skilled in the art will understand that although the invention has been described and illustrated

by means of a particular embodiments, many variants are feasible within the scope of the invention as defined by the accompanying claims.

Claims

1. A pouch (1) for packaging liquids for artificially inseminating animals, comprising two thermoplastics material films welded together by a weld (2) delimiting a pouch (3) along a closed path of generally rectangular shape defining two shorter sides (x) and (x') and two longer sides (z) and (z') when the pouch is empty and one of which shorter sides (x) is interrupted, the weld defining from said interruption a filler passage (4), defining a filler part (17) in said thermoplastics material films, characterized in that the other shorter side (x') is interrupted, the weld (2) defining from said interruption a drain passage (9) defining a drain part (11) in said thermoplastics material films.

2. A pouch according to claim 1, characterized in that at least one of the two thermoplastics material films has a peelable area (12) in the drain part (11).

3. A pouch according to claim 2, characterized in that the peelable area includes a sealing and peelable material.

4. A pouch according to claim 3, characterized in that the sealing and peelable material is wax.

5. A pouch according to any one of claims 1 to 4, characterized in that the drain passage is extended by a flare (10).

6. A pouch according to any one of claims 1 to 5, characterized in that said two thermoplastics material films are offset relative to each other in the drain part.

7. A pouch according to claim 6, characterized in that the offset is approximately 2 to 3 mm.

8. A pouch according to any one of claims 1 to 7 containing a liquid, characterized in that it has been sealed in a sealing area (13) within said peelable area, in the vicinity of the drain part of the drain passage, substantially transversely to the axis thereof.

9. A pouch according to claim 8, characterized in that the sealing area has a triangular shape in cross section.

10. A pouch according to claim 8, characterized in that the sealing area has an inverted V-shape in cross section.

11. A pouch according to any one of claims 1 to 10, characterized in that part of the thermoplastics films constitutes a colored part (14).

12. A pouch according to claim 11, characterized in that the colored part includes an identifier.

13. A pouch according to any one of claims 1 to 11, characterized in that part of the thermoplastics films constitutes a marking area (15).

14. A pouch according to claim 11, characterized in that the marking area (15) includes an identification marking.

15. A pouch according to claim 14, characterized in that the identification marking is adapted to be seen through the film, which is transparent.

16. A pouch according to any one of claims 1 to 15, characterized in that at least one of the two thermoplastics material films has a peelable area in the filler part (17).

17. A pouch according to any one of claims 1 to 16 which contains a biologic liquid that can be used for artificial insemination.

18. A pouch according to claim 17, characterized in that the liquid usable for artificial insemination is chosen from animal semen, media and diluting agents.

19. A pouch according to claim 18, characterized in that the liquid is pig sperm.

20. Use of a pouch according to claims 11 and 19 in which the color identifies a breed of pig.

21. Use of a pouch according to claims 14 and 19

in which the identification marking identifies a breed of pig.

