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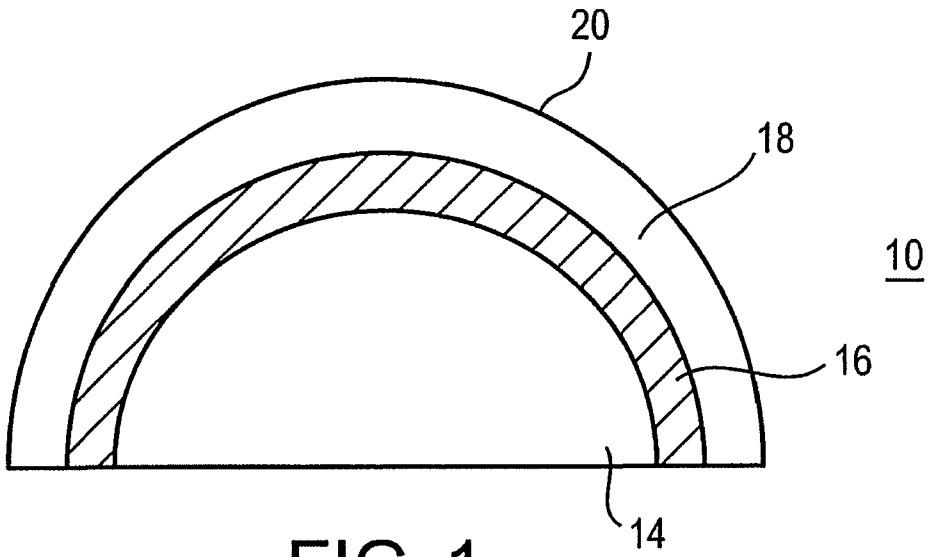


FIG. 1

(57) Abstract: An oral pouch product (10) having a soft edge includes an inner filling material (12) enclosed inwardly of at least one seam (16) between opposed layers of porous pouch wrapper (14). The at least one seam (16) is separated from the periphery (20) of the porous pouch wrapper (14) by an unbonded area of the opposed layers so as to form a soft edge (18) of the pouch wrapper (14).

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ORAL POUCH PRODUCT HAVING SOFT EDGE AND METHOD OF MAKING

SUMMARY

An oral pouch product includes a paper, plastic or fabric pouch wrapper having a soft edge. The pouch encloses tobacco fibers, botanical fibers, capsules, beads, powders, granules, extracts and/or other food grade materials. The enclosed material provides flavor as the user sucks, chews, and/or manipulates the pouch, saliva mixes with the enclosed materials, and the flavors leach out of the pouch through pores. The enclosed material is contained within the pouch wrapper by a seam such as a heat or adhesive seal located inwardly of the outer periphery of the pouch to provide a soft edge.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an illustration of an oral pouch product having soft edges;

FIG. 2 is a cross-sectional view of the oral pouch product of FIG. 1;

FIG. 3 is an illustration of an oral pouch product having two soft edges; and

FIG. 4 shows a D-shaped pouch having a seam around the entire periphery thereof.

DETAILED DESCRIPTION

As described herein, an oral pouch product 10, shown in FIG. 1, can include a filling which provides an engaging, flavorful, aromatic, energizing, and/or soothing experience by delivering ingredients to a user in a consumable unit. Preferably, the oral pouch product 10 can be sucked, chewed and/or orally manipulated when placed in a user's mouth to release flavorants contained therein.

In a preferred embodiment, the oral pouch product 10 includes a porous pouch wrapper 14 enclosing an inner filling material 12 (shown in FIG. 2), and sized to fit comfortably in the mouth. At least one seam 16 closes an opening of the pouch, which contains inner filling material 12 within the porous pouch wrapper 14. Preferably, the seam 16 does not extend to the free edges 20 of the porous pouch wrapper 14 so as to leave a soft, unbonded area 18, which increases comfort of sensitive mouth tissue.

As best seen in FIGs. 1 and 2, the oral pouch product 10 includes an inner filling material 12 contained in a porous pouch wrapper 14 that has a seam 16 along an edge of the porous pouch wrapper 14. The at least one seam 16 does not extend to the free edges 20 of the porous pouch wrapper 14 so that a soft edge 18 remains for comfort of the user.

Referring now to FIG. 3, in an embodiment, the oral pouch product 10 includes multiple seams 16 for retaining the inner filling material in the porous pouch wrapper 14.

In a preferred embodiment, the at least one seam 16 can be formed by heat sealing. Alternatively, the seam 16 can be formed using a food grade adhesive. Preferably, the seam 16 is about 1.0 mm to about 4.0 mm in width.

In a preferred embodiment, the seam 16 does not extend to the edges 20 of the pouch wrapper 14 so that a soft edge 18 remains at the edge of the pouch wrapper 14. In a preferred embodiment, the soft edge 18 is formed by an unbonded area extending about 0.1 mm to about 1.5 mm in width. In one embodiment, the soft edge 18 can extend around the entire perimeter of the oral pouch product 10, as shown in FIG. 4. In another embodiment, the soft edge 18 extends partially around the perimeter of the oral pouch product, *e.g.*, the seam can extend along free edges of a folded over piece of wrapper material. When the oral pouch product 10 is placed in the mouth, the soft edge 18 is comfortable to the user.

FIG. 4 shows a D-shaped pouch 10 having rounded corners and a seam 16 around the entire periphery thereof. The dimensions of the pouch are about 0.65 cm in thickness, about 1.9 cm in length and about 1.3 cm in width (about 0.25 inch in thickness, about 0.75 inch in length and about 0.5 inch in width) with the inner filling located inwardly of the inner periphery of seam 16. The inner periphery of seam 16 is separated from the outer edge of the pouch by an unbonded area 18, which extends about 0.25 cm (about 0.1 inch) inside the outer periphery of the pouch.

In a preferred embodiment, the inner filling material 12 includes botanical fibers, powders, extracts, capsules, microcapsules, beads, granules, liquids, semi-liquids, gels, and other food grade materials. The inner filling material 12 can form a matrix that is held together as a pliable mass by a binder. Preferably, the inner filling material 12 is a tobacco containing or tobacco-free filling which includes sweeteners, flavorants, coloring agents, functional ingredients, and the like. The inner filling material 12 can be loose or solid.

As used herein, the term "functional ingredient" describes any ingredient that provides a sensory, nutritional, physiological, pharmacological or other effect to the user. Functional ingredients include, but are not limited to: chemesthesis agents, such as mint, menthol, cinnamon, pepper, jambu and the like; antioxidants, such as glutathione, ascorbic acid, tocopherol, flavonoids, carotenoids, and the like; vitamins, such as vitamin B6, vitamin B12, and the like; soothing agents, such as theanine, chamomile, lavender, jasmine, and the like: energizing agents, such as caffeine, taurine, guarana, vitamin B6, vitamin B12 and the like; effervescents, such as baking soda, citric acid, and the like; and combinations thereof.

In a preferred embodiment, the binder is a food grade adhesive, gum or other binder. Suitable binders include, without limitation, sodium alginate, sugar, agar, guar gum, and the like. In a preferred embodiment, the binder is added in an effective amount such as about 10 percent by weight to about 60 percent by weight of the oral product.

In a preferred embodiment, capsules, microcapsules, and/or beads of various sizes can be included in the oral pouch product 10. Also preferably, about 2 to about 40 capsules, microcapsules, and/or beads are included in the oral pouch product 10, depending on the size of the final product and the size of the capsules, microcapsules, and/or beads. Preferably, the capsules, microcapsules, and/or beads range in size from about 0.1 mm to about 8 mm depending on the ingredients contained therein.

In an embodiment, the capsules, microcapsules, and/or beads have shells of varying thickness. Varying the thickness of the shells of the capsules, microcapsules, and/or beads included in the oral pouch product 10 allows for the ingredients contained in each capsules, microcapsules, and/or beads to be released at varying rates so as to prolong the flavor and/or functional experience. Preferably, the shells range in thickness from about 0.1 mm to about 7 mm, depending on the size of the capsules, microcapsules, and/or beads and the preferred dissolution rate. Preferably, the capsules, microcapsules, and/or beads having the thinnest shells dissolve first to release the enclosed flavors and functional ingredients. Capsules, microcapsules, and/or beads having thicker shells dissolve at a slower rate to provide continued flavor and functional ingredients.

In a preferred embodiment, the ingredients of the capsules, microcapsules, and/or beads are released by mastication, sucking, moisture, pH change, and the like. Each of the capsules, microcapsules, and/or beads included in the oral pouch product 10 may have the same or a different release mechanism to aid in varying the release rate of the capsules, microcapsules, and/or beads.

In a preferred embodiment, the inner filling material can include functional ingredients such as, without limitation, chemesthesis agents, antioxidants, vitamins, soothing agents, energizing agents and the like. In a preferred embodiment, the soothing agents include, without limitation, chamomile, lavender, jasmine, and the like. Preferably, the energizing ingredients or vitamins include, without limitation, caffeine, taurine, guarana, vitamin B6, vitamin B12, and the like. Suitable chemesthesis ingredients provide, without limitation, hot, spicy, or cooling flavors such as mint, menthol, cinnamon, pepper, and the like.

Preferably, the porous pouch includes one or more flavorants. The flavorants can be added in the form of a liner or coating applied to the pouch wrapper. Suitable flavorants include berry flavors such as, without limitation, pomegranate, acai, raspberry, blueberry, strawberry, and/or cranberry. Other suitable flavors include, without limitation, any natural or synthetic flavor or aroma, such as menthol, peppermint, spearmint, bourbon, scotch, whiskey, cognac, hydrangea, lavender, chocolate, licorice, citrus and other fruit flavors, such as apple, peach, pear, cherry, plum, orange and grapefruit, gamma octalactone, vanillin, ethyl vanillin, breath

freshener flavors, spice flavors such as cinnamon, clove, nutmeg, sage, anise, and fennel, methyl salicylate, linalool, jasmine, coffee, bergamot oil, geranium oil, lemon oil, and ginger oil.

In a preferred embodiment, the inner filling material 12 can also include non-tobacco botanical components such as tea and tea extracts, coffee, coffee extracts, vegetables, vegetable extracts, and/or herbs and herb extracts.

In a preferred embodiment, the inner filling material 12 can include a powdered component to provide an additional layer of texture and/or flavor. Preferably, the powdered component is selected from, without limitation, dry sour cream, powdered sugar, powdered cocoa, powdered spices, and/or powdered herbs and other botanicals such as tea and/or tea extracts.

In another embodiment, the inner filling material 12 can include a viscous substance. In a preferred embodiment, the viscous substance is selected from substances such as honey, molasses, syrups, and the like.

In an embodiment wherein the inner filling material 12 includes natural or artificial sweeteners, preferred sweeteners include, without limitation, water soluble sweeteners such as monosaccharides, disaccharides, and polysaccharides such as xylose, ribose, sucrose, maltose, fructose, glucose, and mannose. In an embodiment, sugar alcohols such as xylitol, mannitol, sorbitol and malitol can be included. Non-nutritive artificial sweeteners, such as sucralose can also be used.

In a preferred embodiment, the inner filling material 12 completely fills the interior of the pouch wrapper 14. In another embodiment, the inner filling material 12 partially fills the interior of the pouch wrapper 14.

Preferably, the oral pouch product 10 is sized and configured to fit comfortably in a user's mouth. Preferably, the oral pouch product 10 delivers a plurality of flavor and/or functional ingredients to the user for a period of about one minute to about 1 hour. Preferably, the pouch 10 is discarded after a single use.

In an embodiment, the oral pouch product 10 has maximum dimensions of 0.25 cm to about 5 cm (about 0.1 inches to about 2.0 inches). In an embodiment, the oral pouch product 10 weighs between about 0.2 g and 5.0 g. The weight is predominately based on the weight of the enclosed inner filling material 12.

Preferred pouch shapes include, without limitation, a half moon, D-shape, sphere, rectangle, square, oval, pouch-shape, crescent, rod-shape, oblong, cylindrical, tea leaf, tear drop, or hourglass shapes. In an embodiment, the pouch-shape is similar to a ravioli or pillow shape. Other shapes may be utilized so long as the shapes are comfortable and fit discreetly in a user's mouth. In an embodiment, the shape of the pouch is indicative of the flavor. Thus, the

pouch may be shaped as fruits, vegetables, or other objects. For instance, the pouch could be in the shape of a banana to indicate a banana flavor.

In a preferred embodiment, the wrapper 14 of the oral pouch product 10 is made of a porous material optionally including a flavored or non-flavored dissolvable coating. The coating can provide an initial flavor burst upon placement of the pouch in an oral cavity. In addition, the coating can include functional or salivation inducing ingredients. Preferably, the porous material allows the flavors and functional ingredients contained in the inner filling material 12 to diffuse out of the pouch wrapper 14 and into the user's mouth. Preferred porous materials include, but are not limited to, films, gelatin, food casings, carrageenan, biopolymers, fabric and/or paper such as filter paper, papers used to construct tea bags, coffee filters, and the like. Preferably, the pouch wrapper 12 is of the type suitable for contact with food, such as materials used for packaging and/or handling foods.

Also provided is a method of making an oral pouch product having a soft edge. The method includes forming a wrapper into an open pouch using a vertical or horizontal fill machine and filling the open pouch with an inner filling material. The pouch is then sealed to contain the inner filling material and form an oral pouch product. Preferably, a series of pouches are formed with a space between seals of adjacent pouches and then cut apart to form individual pouch products. For instance, the pouch product may be cut with a die at a location between adjacent seals so as to form a soft edge on each pouch product. In an alternative embodiment, the seal can be formed at a distance from the edge of the wrapper material when the wrapper material being used is previously cut to size.

Alternatively, a first strip of pouch wrapper material can be advanced along a feed path, filling material in matrix form can be placed on the strip, a second strip can be placed over the first strip, a sealing die can be used to press the strips together and form a seam such as a heat seal or adhesive seal around the filling, and a cutting die can be used to cut the first and second strips outwardly of the seam to form the soft edge.

While the foregoing has been described in detail with reference to specific embodiments thereof, it will be apparent to one skilled in the art that various changes and modifications may be made, and equivalents thereof employed, without departing from the scope of the claims.

CLAIMS:

1. An oral pouch product having a soft edge comprising:
a porous pouch wrapper;
an inner filling material enclosed within opposed layers of the pouch wrapper;
at least one seam between opposed layers of said porous pouch wrapper; and
a soft edge outward of the at least one seam, the soft edge comprising an unbonded area between the opposed layers.

2. An oral pouch product according to claim 1, wherein the at least one seam is about 1.5 mm to about 4.0 mm in width.

3. An oral pouch product according to claim 1, wherein the soft edge is about 0.1 mm to about 1.5 mm in width.

4. An oral pouch product according to claim 1, wherein the at least one seam is at last one of rigid and semi-rigid.

5. An oral pouch product according to claim 1, wherein the at least one seam is a heat seal.

6. An oral pouch product according to claim 1, wherein the at least one seam is an adhesive seal.

7. A method of making an oral pouch product having a soft edge comprising:
forming a porous wrapper into an open pouch;
filling said open pouch with an inner filling material; and
forming at least one seam by bonding opposed layers of the wrapper such than an unbonded area is formed between the at least one seam and free edges of the opposed layers.

8. A method according to claim 7, wherein said wrapper includes a first layer of wrapper material and a second layer of wrapper material joined together by at least one seam around an entire periphery of the wrapper to enclose the inner filling material.

9. A method according to claim 7, wherein said wrapper includes a single sheet of a wrapper material folded over and sealed around overlapping portions of the sheet.

10. A method of making an oral pouch product having soft edges comprising:
folding a wrapper material into an open pouch;
filling said open pouch with an inner filling material;
forming at least one seam by bonding opposed layers of the pouch such than an unbonded area is formed between the at least one seam and free edges of the opposed layers.

11. A method according to claim 10, further comprising cutting said unsealed area of the wrapper material at a distance from the at least one seal to form a soft edge around the perimeter of said oral pouch product.

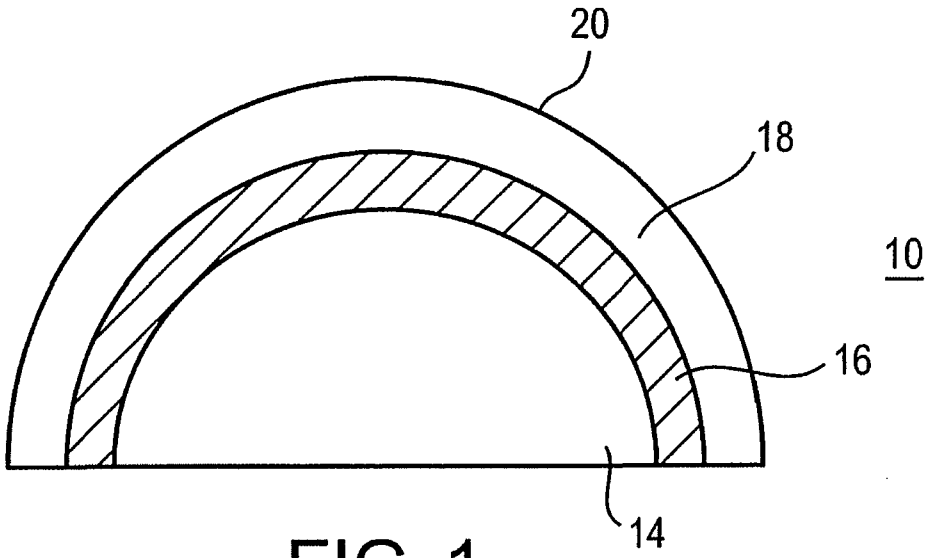


FIG. 1

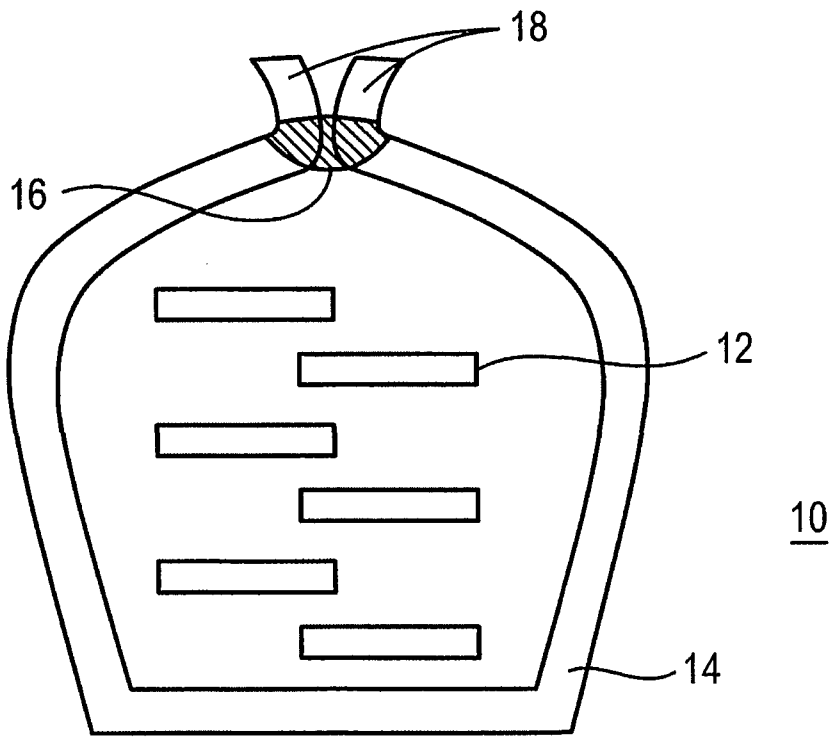


FIG. 2

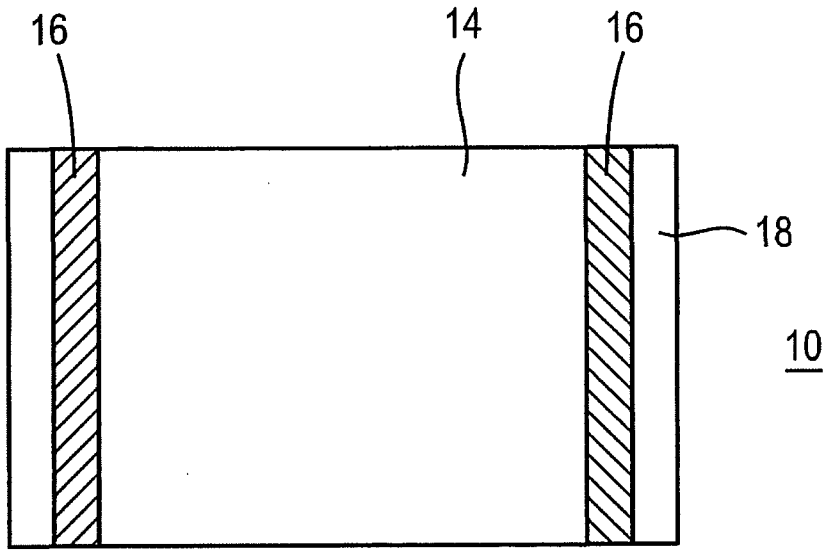


FIG. 3

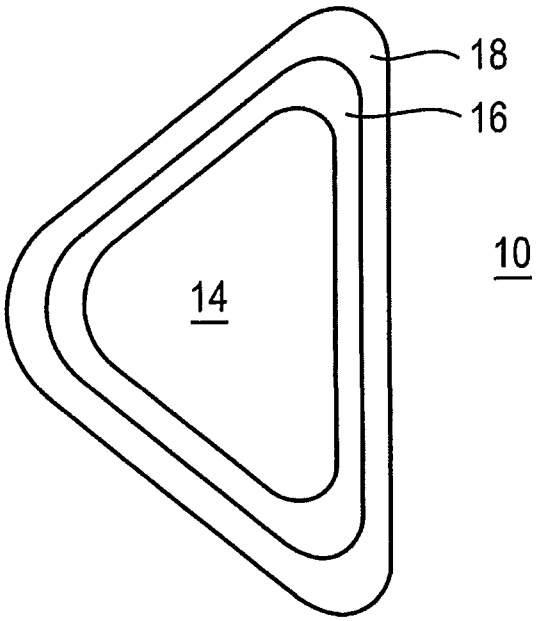


FIG. 4