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(54) Title: CHEWABLE POUCH FOR FLAVORED PRODUCT DELIVERY

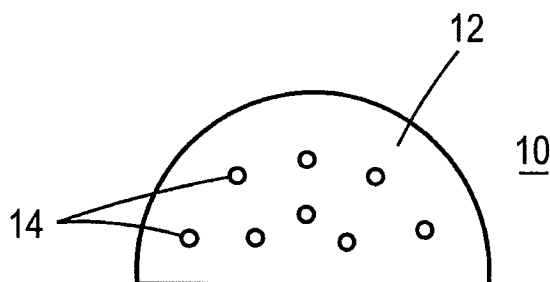


FIG. 1

(57) Abstract: Provided is a disintegrable or non-disintegrable a chewable pouch product (10). The chewable pouch product (10) includes a disintegrable or non-disintegrable chewable pouch (12) with a plurality of perforations (14). The chewable pouch (12) encloses a non-tobacco flavor product (16) that can be in a gel, semi-liquid, and/or liquid form. A user chews, sucks, and/or manipulates the chewable pouch (12) to cause the enclosed non-tobacco flavor product (16) to leach out of the perforations (14) into the user's mouth.



WO 2009/004486 A2

CHEWABLE POUCH FOR FLAVORED PRODUCT DELIVERY**SUMMARY**

Provided herein is chewable pouch product. In a preferred embodiment, the chewable
5 pouch product includes a chewable pouch having a plurality of perforations. Preferably, the
chewable pouch is filled with a non-tobacco, flavor product. In an embodiment, the chewable
pouch provides functional ingredients.

In a preferred embodiment, the chewable pouch product is placed in the mouth between
the cheek and teeth. A user orally manipulates the chewable pouch by chewing and sucking to
10 release the flavor product through the perforations in the chewable pouch to the user.

In an embodiment, the chewable pouch is a molded shape selected from the group
consisting of: square, rectangle, oval, circle, half moon, crescent, star, trapezoidal, elliptical, and
combinations thereof.

In an embodiment, the chewable pouch is a disintegrable and/or dissolvable chewable
15 pouch. Preferably, if the chewable pouch is disintegrable and/or dissolvable, the chewable
pouch has multiple layers, each having the same and/or different flavor and/or dissolution rate.
Preferably, the disintegrable and/or dissolvable chewable pouch includes at least two layers
sealed together. The at least two layers may have the same thickness. Alternatively, the at
least two layers may have different thicknesses. Preferably, the disintegrable and/or dissolvable
20 chewable pouch is made of gelatin and/or carrageenan. After the enclosed non-tobacco flavor
product has been consumed, the chewable pouch is digested.

In another embodiment, the chewable pouch is a non-disintegrable and/or non-
dissolvable chewable pouch. Preferably, the pouch is made of latex, silicone, plastic, rubber,
and combinations thereof. After the enclosed non-tobacco, flavor product has been consumed;
25 the chewable pouch is removed from the mouth and discarded.

Preferably, the chewable pouch material includes flavorants. In a preferred embodiment,
the chewable pouch material is also impregnated with coffee and other botanical material such
as teas, spices, and/or herbs.

Preferably, the non-tobacco flavor product is a liquid, a semi-liquid or a gel material. In
30 an embodiment, the non-tobacco flavor product includes active ingredients selected from the
group consisting of vitamins, nutrients, medicines, functional ingredients and combinations
thereof.

Also provided is a method of forming a chewable pouch product comprising: forming a
chewable pouch; filling said chewable pouch with a non-tobacco, flavor product; and sealing
35 said chewable pouch to form a chewable pouch product.

In an embodiment, the chewable pouch is formed by folding a layer of perforated elastic
material.

- 2 -

In an embodiment, the chewable pouch is formed of an elastomeric material and the chewable pouch is sealed by a method selected from the group consisting of heat sealing, application of a food grade adhesive, and combinations thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an illustration of a chewable pouch including a plurality of perforations;

Figure 2 is a cross-sectional view of an embodiment of a chewable pouch product;

Figure 3 is a cross-sectional view of an embodiment of a chewable pouch product including a chewable pouch impregnated with flavorants; and

Figure 4 is a cross-sectional view of an embodiment of a dissolvable and/or disintegrable a chewable pouch product including a chewable pouch with a plurality of layers.

DETAILED DESCRIPTION

As described herein, a chewable pouch product provides a pleasurable oral sensorial experience coupled with mouth activity and controlled release of the enclosed flavor product.

Figure 1 illustrates a chewable pouch product 10. In a preferred embodiment, the chewable pouch product 10 includes a chewable pouch 12 with at least one perforation 14 formed therein. Preferably, a non-tobacco flavor product 16 (shown in Figures 2, 3 and 4) is enclosed in the chewable pouch 12. When a user chews, sucks, and/or otherwise manipulates the pouch 12 the at least one perforation opens to release the enclosed non-tobacco flavor product.

Preferably, the chewable pouch product 10 weighs about 0.5 g to about 5.0 g. Of that weight, about 5 percent to about 50 percent is the weight of the chewable pouch 12. Preferably, about 50 percent to about 95 percent of the flavor delivery product weight is the weight of the enclosed flavor product 16 (shown in Figures 2, 3, and 4).

Also preferably, the chewable pouch product 10 is about 0.64 cm to about 5 cm (about 0.25 inches to about 2.0 inches) in width, about 0.64 cm to about 5 cm (about 0.25 inches to about 2.0 inches) in length, and about 0.64 cm to about 5 cm (about 0.25 inches to about 2.0 inches) thick. Most preferably, the chewable pouch product 10 fits completely inside the user's mouth. Preferably, the chewable pouch product 10 fits discreetly within the user's mouth, and more preferably between the cheek and teeth.

Preferably, the chewable pouch product 10 is molded or formed in a shape selected from the group consisting of any shape selected from the group consisting of polygons, squares, rectangles, circles, ovals, heart, star, half-moon, crescent, pillow, leaf shapes, and combinations thereof. In a preferred embodiment, the chosen shape does not have sharp edges that may be uncomfortable to the user. In an embodiment, the shape of the chewable

- 3 -

pouch product 10 indicates the flavor and/or functional ingredients contained therein. For example, a tea leaf shaped chewable pouch can contain teas and/or tea extracts.

In an embodiment, the chewable pouch 12 is made of a non-dissolvable and/or non-disintegrable pouch material. Once the enclosed flavor product 16 is consumed the pouch is discarded. Preferably, the non-dissolvable and/or non-disintegrable pouch is made of a food grade material selected from silicone, latex, rubber, plastic, and combinations thereof. Preferably, the chewable pouch 12 is an elastomeric material that is capable of deforming and reverting to its original configuration.

Preferably, the non-dissolvable and/or non-disintegrable chewable pouch 12 includes at least one perforation 14 through which the non-tobacco flavor product 16 exits the chewable pouch product 10 when in use. Preferably, the chewable pouch 12 is designed to selectively release the enclosed non-tobacco flavor product 16. The at least one perforation 14 does not open or allow the non-tobacco flavor product 16 to exit the chewable pouch 12 unless the chewable pouch 12 is deformed by chewing, sucking, or otherwise manipulating the pouch 12, causing the perforations to flex and open. Once the user has stopped chewing, sucking, and/or manipulating the elastomeric chewable pouch 12, the at least one perforation 14 closes by contracting to prevent the non-tobacco flavor product 16 from escaping the chewable pouch 12 via the at least one perforation 14.

In a preferred embodiment, the non-dissolvable and/or non-disintegrable pouch includes flavorants so that the pouch and the flavor product both provide flavor to the user.

In another embodiment, the chewable pouch 12 is a dissolvable and/or disintegrable pouch that can be chewed and swallowed after the inner flavor product 16 is consumed. Preferably, the dissolvable and/or disintegrable pouch is made of a material selected from the group consisting of gelatin, carrageenan, alginate, starch, food grade casings, such as meat casings, and combinations thereof.

Preferably, the perforations of both the dissolvable and non-dissolvable pouches are formed so that the enclosed flavor product is only released when the pouch is chewed or manipulated orally so that the perforations flex to allow the product to exit. Preferably there are about 1 to about 10,000 perforations in each chewable pouch. The size and amount of the perforations can be altered to control the rate of release of the enclosed flavor product. The perforations can be molded therein or the perforations can be formed by a pin wheel during the manufacturing process.

The perforations can be formed in any shape including circles, squares, rectangles, ovals and the like. In an embodiment, the perforations can be piercings, such as pin holes or slits in the chewable pouch material.

- 4 -

In a preferred embodiment, the chewable pouch 10, as illustrated in Figure 2, encloses a non-tobacco, flavor product 16.

Preferably, the non-tobacco flavor product 16 can include liquids, gels, semi-liquids, beads, capsules, and/or microcapsules. Preferably, the liquids, gels, and/or semi-liquids are at least somewhat viscous. It is preferred that the non-tobacco flavor product 16 is not so watery as to leak out of the perforations, and not so hard as to be difficult to squeeze out of the perforations when the chewable pouch 12 is being chewed or sucked.

The non-tobacco flavor product 16 can include berry flavorants such as, without limitation, pomegranate, acai, raspberry, blueberry, strawberry, and/or cranberry. Other suitable flavorants 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 an embodiment, the non-tobacco flavor product 16 also includes sweeteners. Preferred sweeteners include, without limitation, water soluble sweeteners such as monosaccharides, disaccharides, and polysaccharides. For example, sweeteners such as xylose, ribose, sucrose, maltose, fructose, glucose, sucralose and mannose can be included.

In an embodiment, the non-tobacco flavor product 16 includes beads, capsules and/or microcapsules that are designed to contain liquid, semi-liquid, and/or gel additives that are released when the beads, capsules, and/or microcapsules rupture due to mechanical action or pH change. The non-tobacco flavor product 16 can also include powders and/or solids in addition to a gel, liquid and/or semi-liquid. In an embodiment, the user can control the release of the additives by choosing when to bite down on the beads, capsules, and/or microcapsules.

Preferably, the additives contained within the beads, capsules, and/or microcapsules can include flavorants, chemesthesis agents, antioxidants, vitamins, sweeteners, nutrients, and/or functional ingredients.

In a preferred embodiment, the functional ingredients include soothing agents and/or energizing agents. Suitable 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.

- 5 -

Preferably, each pouch contains non-tobacco flavor product, which delivers flavor for about 2 minutes to about 30 minutes. More preferably, the non-tobacco flavor delivery of each pouch lasts about 5 minutes to about 20 minutes.

As illustrated in Figure 3, in an embodiment, the chewable pouch product 10 includes a
5 chewable pouch 12 impregnated with embedded flavor materials 18. Also preferably, the chewable pouch material is also impregnated with coffee and other botanical material such as teas, spices, and/or herbs. In a preferred embodiment, the flavor of the non-tobacco flavor product 16 contained in the chewable pouch 12 is the same flavor as the embedded flavor materials 18 of the chewable pouch 12. In another embodiment, the non-tobacco flavor product
10 16 has a different flavor than the embedded flavor materials 18.

In a preferred embodiment, as shown in Figure 4, when the chewable pouch is disintegrable and/or dissolvable, the chewable pouch 12 can include at least two layers 20, 22. Preferably, each layer includes perforations 14 that release the enclosed flavor product 16 when the pouch 10 is chewed. In an embodiment, each layer 20, 22 is impregnated with embedded
15 flavor materials 18. Preferably, the flavor materials 18 are different in each layer 20, 22 to provide additional layers of flavor to the user.

Each layer can be made of a different dissolvable and/or disintegrable material so as to provide different characteristics in each layer. Preferably, the layers are of varying thickness so that each dissolves at different rates in the user's mouth. Also preferably, each layer is about
20 0.25 mm to about 3.0 mm thick or about 0.1 mm to about 4.0 mm thick.

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. A chewable pouch product comprising:
a chewable pouch having at least one perforation therein; and
5 a non-tobacco, flavor product,
wherein said chewable pouch encloses said non-tobacco flavor product and is orally manipulated to selectively release said non-tobacco flavor product through said at least one perforation in said chewable pouch.
- 10 2. A chewable pouch product according to claim 1, wherein said chewable pouch is a disintegrable and/or dissolvable chewable pouch.
3. A chewable pouch product according to claim 2, wherein said disintegrable and/or dissolvable chewable pouch is made of a material selected from the group consisting of gelatin,
15 carrageenan, starch, alginate, food grade casings including meat casings, and combinations thereof.
4. A chewable pouch product according to claim 2, wherein said disintegrable and/or dissolvable chewable pouch includes at least two layers sealed together.
- 20 5. A chewable pouch product according to claim 4, wherein said at least two layers include different flavorants and/or different embedded flavor materials.
6. A chewable pouch product according to claim 4, wherein said at least two layers are
25 made of different materials.
7. A chewable pouch product according to claim 1, wherein said non-tobacco, flavor product is gel based, semi-liquid, and/or liquid.
- 30 8. A chewable pouch product according to claim 1, wherein said chewable pouch is a non-disintegrable and/or non-dissolvable chewable pouch.
9. A chewable pouch product according to claim 8, wherein said non-disintegrable and/or non-dissolvable chewable pouch is a food grade, elastomeric material selected from the group
35 consisting of silicone, plastic, rubber, latex, and combinations thereof.

- 7 -

10. A chewable pouch product according to claim 9, wherein said chewable pouch includes embedded flavor materials.

11. A method of forming a chewable pouch product according to claim 1 comprising:
5 forming a chewable pouch;
filling said chewable pouch with a non-tobacco, flavor product; and
sealing said chewable pouch to form a chewable pouch product.

12. A method according to claim 11, further including perforating material forming said
10 chewable pouch prior to the forming step.

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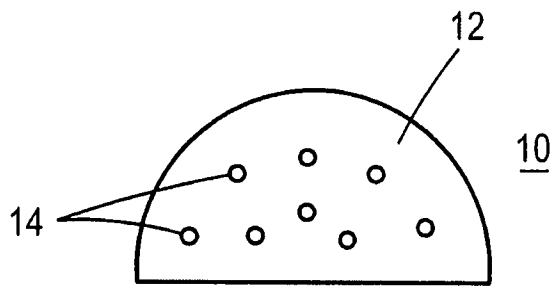


FIG. 1

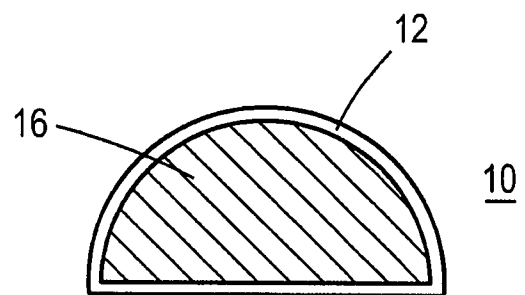


FIG. 2

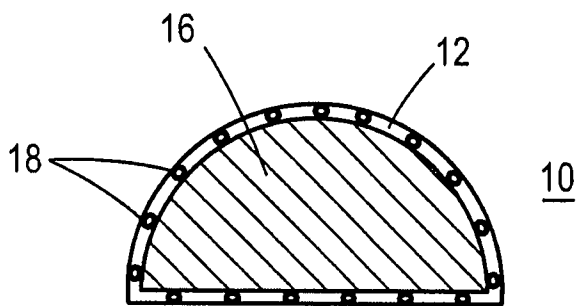


FIG. 3

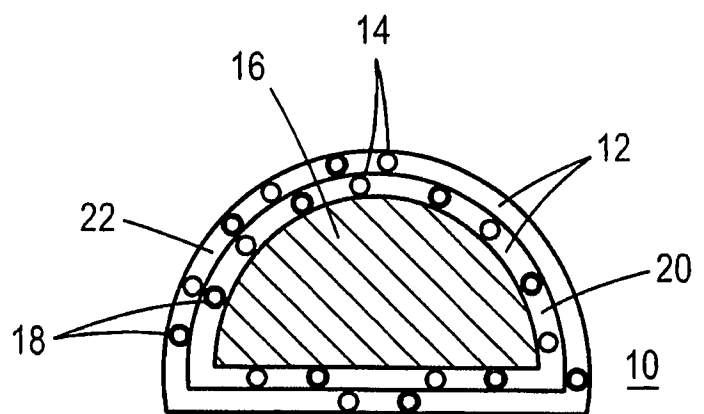


FIG. 4