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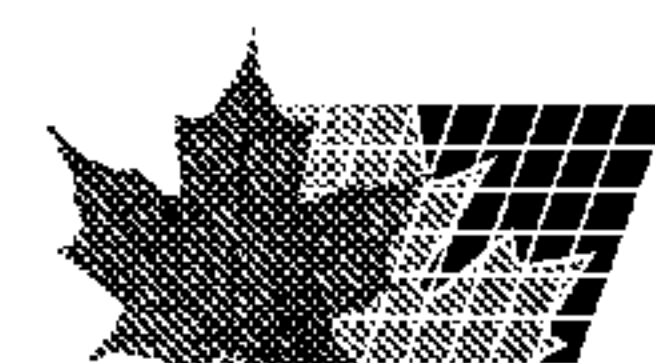
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(54) Titre : COMPOSITIONS A BASE DE POLYDEXTROSE, FACILEMENT DISPERSABLES

(54) Title: RAPIDLY DISPERSABLE COMPOSITIONS CONTAINING POLYDEXTROSE

(57) **Abrégé/Abstract:**

Novel pharmaceutical and/or cosmetic compositions are disclosed containing a matrix prepared by melt-spinning polydextrose with one or more medicaments and/or cosmetic ingredients. Methods of preparing such compositions as well as treating various maladies are also disclosed.



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ABSTRACT

Novel pharmaceutical and/or cosmetic compositions are disclosed containing a matrix prepared by melt-spinning polydextrose with one or more medicaments and/or cosmetic ingredients. Methods of preparing such compositions as well as treating various maladies are also disclosed.

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BACKGROUND OF THE INVENTION

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The present invention relates to novel polydextrose-containing materials and to methods for preparing the same. In particular, the invention relates to readily dispersable polydextrose-containing medicaments or cosmetics.

10

In commonly-assigned U.S. Patent Nos. 4,855,326 and 4,873,085, various active agents having pharmacological and/or cosmetic properties were combined with readily water-soluble melt-spinnable materials such as sugars or cellulosic substances. The active agents spun with these materials demonstrate enhanced solubility.

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Commonly-assigned U.S. Patent Nos. 5,011,532 and 5,096,492 contain examples of oleaginous substances that are mixed with sugar and melt-spun. The spun products disperse readily in water, forming colloidal or pseudo-colloidal dispersions. The '532 patent explains how oleaginous substances such as vegetable oil, mineral oil, baby oil, margarine, lanolin, cocoa butter and the like, which characteristically have little or no affinity for water, can have this characteristic altered by mixing the oleaginous substance with sugar and melt-spinning the mixture in a cotton candy spinning machine or equivalent.

30

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Other disclosures dealing with spinning substances with one or more sugars will be found in commonly-assigned U.S. Patent Nos. 4,873,085; 4,997,856; 5,028,632 and 5,034,421. Generally, each of these disclosures are directed to melt-spinning sugar by introducing sugar and various ingredients into a cotton candy spinning machine. Such equipment is normally operated at a temperature of around 200°C and at speeds of about 3,500 r.p.m. Melt-spinning in such equipment

1 relies upon certain characteristics of sucrose, such as high
crystallinity and high physical and chemical lability. The
spun products disclosed in these patents are described as
taking the form of a floss or mass of spun fibers.

5

Although the products discussed above are rapidly
dispersable and even compactable, it has been desired to
provide spun products in alternative forms which would
facilitate handling of the spun product. In particular, it
10 has been desired to provide the spun products in a form which
is easier to work with, pour, and mix with other solids, etc.
Such alternatives would provide higher efficiency for
subsequent processing when the matrix is included in various
goods or finished products.

15

Some efforts to alter the morphology of melt-spun
products have centered around finding alternatives for
sucrose. Attempts to spin non-sucrose or low-sucrose-
containing saccharides have been, for the most part,
20 unsuccessful. Feedstock having little or no sucrose as a
carrier component were found to char during melt-spinning and
were generally non-processable, especially on a commercial
scale. It has been the belief of the artisan that sucrose is
an important ingredient in feedstocks for melt-spinning
25 processes.

Polydextrose is a non-sucrose, essentially non-nutritive
carbohydrate substitute. Polydextrose can be prepared through
polymerization of glucose in the presence of polycarboxylic
30 acid catalysts and polyols. Generally, polydextrose is known
to be commercially available in three forms: polydextrose A
and polydextrose K, which are powdered solids, and
polydextrose N supplied as a 70% solution. Each of these
products also contain some low molecular weight components,
35 such as glucose, sorbitol and certain oligomers.

1 In the past, most of the interest in polydextrose has
centered around its use in various edible compositions. For
example, polydextrose has stimulated interest in the food arts
as a low-calorie bulking agent or as a part of many low-
5 calorie or light foods since it has only about one-quarter of
the calories of sucrose. Non-food related uses for the
material have largely been ignored.

10 Unfortunately, the ability to disperse polydextrose and
use it in different products has been limited by certain
physical and chemical phenomena. Unlike most saccharide
products, it is relatively unreactive and physically resistive
to mixing and dispersing. While artisans have been able to
process sugar to enhance its utility in food and other
15 products, polydextrose heretofore did not appear to be as
versatile.

20 The technical and processing difficulties alluded to
above have therefore hampered the artisan's use of
polydextrose and polydextrose-containing materials. If these
difficulties could be overcome, especially in the areas of
dispersability and solubility, the artisan would gain a useful
non-sucrose alternative.

25 It is therefore an object of the invention to provide
polydextrose-containing products having improved
dispersability in liquids.

30 Other and further objects of the present invention are
set forth in the following description, and its scope will be
pointed out in the appended claims.

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SUMMARY OF THE INVENTION

5 The present invention includes polydextrose-containing products prepared by melt-spinning a polydextrose feedstock containing one or more adjunct materials such as medicaments and/or cosmetics to provide a matrix. The polydextrose matrices of this invention are readily dispersable in solids and liquids. Readily dispersable means that the polydextrose matrix can be mixed with reduced mechanical mixing force when
10 compared to polydextrose-containing feedstock which has not been melt-spun.

Numerous materials can be melt-spun with polydextrose conferring improved dispersion and solubility properties on
15 the total product. These products have a wide variety of uses including pharmaceutical products, cosmetics and a variety of other products.

The present invention also includes novel processes for
20 preparing a wide variety of melt-spun polydextrose-containing products. The products are prepared by admixing polydextrose and adjuvant materials to form a feedstock, melt-spinning the feedstock and recovering the product. Further processes include incorporating the melt-spun matrix with additional
25 ingredients to produce pharmaceuticals, medicaments, cosmetics or the like. Moreover, methods of treatment are also included wherein the matrix is affixed to a site of treatment.

As a result of the present invention, a useful non-
30 sucrose-containing matrix is provided. This alternative form allows bulking and dispersing properties beyond what sucrose-based matrices alone, usually in the form of floss and/or fibers, could provide. Thus, the versatile matrix can be readily used alone or in combination with other ingredients to
35 form cosmetic or medicinal preparations, or, in other aspects,

1 easily included as part of a topical lotion, ingestible
liquid, tablet, capsule or the like.

5 The applications for these polydextrose-containing
materials are vast. Consequently, pharmaceutical and cosmetic
artisans have been equipped with a new tool which can be used
to significantly enhance medicinal, cosmetic or even
industrial systems especially when enhanced dispersability of
a particular material in a useable medium is needed.

10

DETAILED DESCRIPTION OF THE INVENTION

The present invention is a composition and method
utilizing polydextrose and one or more adjuvant materials to
15 provide novel products. In particular, melt-spinning allows
alteration of various physical, and in some cases, apparent
chemical properties. Thus, polydextrose and products
containing it can be altered with respect to solubility,
wetability, and/or dispersability in aqueous and non-aqueous
20 media. Moreover, the hydrophobic and/or lipophobic
characteristics of polydextrose can be modified to provide the
new products described herein, such as medicaments and/or
cosmetics. In some aspects, the products of this invention
can be used in lieu of freeze-dried materials.

25

The solid forms of polydextrose are in a form which is
somewhat like powdered milk. As such, it can be difficult to
disperse or dissolve. Vigorous stirring is required to
incorporate it into water or aqueous liquids and it can lump
30 or form difficult-to-disperse clumps of material, i.e., the
"fish-eye" phenomenon. In contrast thereto, the melt-spun
polydextrose-containing products of the present invention
enter into a dispersion in aqueous liquids with little or no
mechanical agitation. Thus, the melt-spun polydextrose of the
35 invention overcomes certain processing difficulties such as

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1 clumping and inability to flow in a dry state. Further, the
novel polydextrose-containing compositions of this invention,
in addition to enhanced dispersion properties, can be used to
hold one or more ingredients combined in the matrix and
5 release it over time.

As noted above, the products of this invention are prepared by a melt-spinning operation. One of the preferred methods for melt-spinning is through the use of apparatus such
10 as those adapted to the production of cotton candy, or floss, from sugar. Illustrative of such machines is the Econo*Floss Machine Model 3017 manufactured by Gold Medal Products Company of Cincinnati, Ohio. It will be appreciated by those skilled in the art from the present description that any apparatus or
15 physical process which provides similar shear forces and time/temperature gradient conditions can also be used. For simplicity in disclosing and describing this invention, the term "melt-spinning" will be understood to mean a flash flow process which includes a combination of temperature, shear,
20 flow, flow rate, mechanical forces and thermal gradients of the type used in a cotton candy-type machine. The apparatus is operated at a temperature and speed which permits flash flow but does not deteriorate the material undergoing the processing.

25

The flash flow process (or conditions comparable thereto) provides sufficient internal flow to permit transition in structure of the carrier material, herein polydextrose, without degradation of the carrier or any adjuvant material.
30 Internal flow occurs when the infrastructure of the material breaks down sufficiently to permit movement of material at a subparticle level, and probably at a molecular level. At a molecular level, internal flow contemplates the movement of molecules relative to each other.

*Trade-mark

Internal flow of material is generally associated with the melting point or glass transition point. In this situation, however, it is contemplated that the combined application of heat and external force is sufficient to produce the flow at temperatures below the melting or glass transition point for most compositions.

An important benefit obtained by including polydextrose in the inventive matrix is that mixtures containing polydextrose can be spun at temperatures well below that of many other materials. For example, polydextrose has been successfully spun at temperatures of about 140°C, compared to temperatures of around 200°C for sucrose. Polydextrose, therefore, provides the additional benefit of allowing lower processing temperatures in addition to short dwell times to allow a matrix to be formed before any degradation occurs.

An additional benefit associated with including polydextrose is that the resulting matrix can be in the form of a particle, flake, spicule or the like, conferring substantial advantages over sucrose-based forms such as a floss or spun fibers. These alternative morphologies allow subsequent processing and mixing to be more readily undertaken.

In one aspect of the invention, the adjuvant materials included with the polydextrose are medicament-related materials. Suitable categories of such ingredients may vary widely. Illustrative categories and specific examples include:

- (a) Antitussives, such as dextromethorphan, and chlorphedianol hydrochloride;
- (b) Antihistamines, such as chlorpheniramine maleate and terfenadine;
- (c) Decongestants, such as phenylephrine, phenylpropanolamine, pseudoephedrine and ephedrine;

- 1 (d) Various alkaloids, such as codeine and morphine;
(e) Mineral supplements such as potassium chloride;
(f) Laxative, vitamins and antacids;
(g) Ion-exchange resins such as cholestyramine;
5 (h) Anti-cholesterolemic and anti-lipid agents;
(i) Antiarrhythmics such as N-acetyl-procainamide;
(j) Antipyretics and analgesics such as acetaminophen,
aspirin and ibuprofen;
(k) Appetite suppressants such as phenylpropanolamine
10 hydrochloride or caffeine;
(l) Expectorants such as guaifenesin;
(m) Anti-anxiety agents such as diazepam; and
(n) Anti-ulcer agents such as sucralfate.

15 A non-limiting list of other active ingredients includes
anti-inflammatory substances, coronary dilators, cerebral
dilators, peripheral vasodilators, anti-infectives,
psychotropics, antimanics, stimulants, gastrointestinal
agents, sedatives, antidiarrheal preparations, anti-anginal
20 drugs, vasodilators, anti-hypertensive drugs,
vasoconstrictors, migraine treatments, antibiotics,
tranquilizers, antipsychotics, antitumor drugs,
anticoagulants, antithrombotic drugs, hypnotics, anti-emetics,
anti-nauseants, anticonvulsants, neuromuscular drugs, hyper-
25 and hypoglycemic agents, thyroid and antithyroid preparations,
diuretics antispasmodics, uterine relaxants, mineral and
nutritional additives, antiobesity drugs, anabolic drugs,
erythropoietic drugs, antiasthmatics, cough suppressants,
mucolytics, anti-uricemic drugs, and mixtures thereof.

30

The medicaments contemplated herein are particularly
well-suited for use when it is desired to disperse the agent
in aqueous liquids and/or mask cover the undesirable tastes of
actives. Generally, the medicament is mixed with polydextrose
35 and melt-spun to obtain the medicament product. The flavor of

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unpleasant medicaments can also be masked or altered if desired by adding a flavoring agent and/or a sweetening agent to the pre-spun mixture.

In an alternative aspect of the invention, the
5 adjuvant materials included with the polydextrose are cosmetic-related ingredients. Cosmetic ingredients are those materials which have a skin beautifying and/or complexion-related activity. Such products can be used externally on hair, skin or both. A non-limiting list of
10 ingredients which have appearance-improving cosmetic activity includes dimethyl siloxanes, mucopolysaccharides, methyl and propyl parabens, biotin, lanolin, aloe, glycerin, mineral oil, nicotinamide compounds, sun screens, such as para-aminobenzoic acid, hair conditioners, moisturizers,
15 moisturizing creams, astringents, powders such as talcs and combinations thereof.

In the compositions, the medicaments or cosmetic ingredients are contained preferably in amounts of 9.5 to 80% by weight and polydextrose is contained preferably in
20 amounts of 15 to 90% by weight.

In each of the above melt-spun aspects, the medicament or cosmetic ingredients can be included (1) within the matrix, (2) in addition to the matrix, or (3) both inside and outside the matrix.

25 It will be understood by those skilled in the art from the present description that additional materials can be included with the polydextrose and principle active ingredients. Thus, flavors, sweeteners, colors, dyes, pigments, antioxidants, preservatives and similar
30 ingredients can be added in both the matrix and product in which the matrix is included. Such materials serve to improve the appearance, aroma, shelf-life or other

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properties of the products prepared and described herein. Moreover, the final products can also contain those adjuvant materials which are particularly suited for particular end uses.

5 The nature and amount of all materials included in the matrix will vary greatly. For example, it should be understood that polydextrose is spinnable by itself. Therefore, in general, the limit of polydextrose that can be included in any given composition has more to do with the
10 desired morphology and nature of host matrix-carrier and guest activity. The amount of active material included in the matrix and/or product containing the matrix will depend upon the active and the amount required to achieve a desired therapeutic cosmetic effect. The exact amounts of the
15 materials which make up the matrix and final products in which the matrix is included will therefore be within the level of ordinary skill of those in the art.

 In certain embodiments of the invention, the matrix may further contain an oleaginous substance, such as
20 vegetable oil, corn oil, sunflower oil, olive oil, canola oil and a mixture thereof, preferably in an amount from about 2 to about 20%, more preferably from about 5 to about 15%, by weight of the matrix.

 In further aspects of the invention, supplemental
25 materials such as bioadhesives, dispersants, surfactants and the like can be included in the matrix, products containing the matrix, or both. For example, bioadhesive-type materials (i.e., adhesion promoters) such as hydrogels or synthetic materials such as polyvinyl-pyrrolidone are
30 useful. Preferred hydrogels include those of xanthan gum, guar gum, carrageenan gum, gum tragacanth, alginates such as sodium alginate, gum karaya, locust bean gum, gum acacia and

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mixtures thereof. Dispersants such as polyacrylates and alginates are also useful.

A non-limiting list of surfactants which are useful in combination with the matrix of the invention include as follows: anionic surfactants such as alkyl carboxylates, alkyl sulfates, ethoxylated alkyl sulfates, sulfosuccinate esters, isothionates, sarcosinates, sodium lauryl sulfoacetates, fatty acid-polypeptide condensates, linear alkyl arylsulfonates (LAS), alpha-olefin sulfonates (AOS), organic phosphate esters; cationic surfactants such as sodium lauryl sulfate (SLS), cetrimonium bromide and polysorbates; amphoteric surfactants such as alkylamino propionates, acyl ethylenediamines and betaines; non-ionic surfactants such as ethoxylated and propoxylated derivatives and polyol esters including sorbitan esters, polyoxyethylene ethers; alkyl

1 polyglycosides, sulfonic acid/linear alkylate sulfonates, silicon derived phosphate esters, non-oxynol surfactants, Triton™ surfactants and alkylphenols.

5 The invention also includes methods of treatment. The methods include contacting affected areas with the spun matrices containing medicaments such as described herein. The medicament-containing matrix can be placed in contact with the affected area in the as-spun form, as a compacted wafer or
10 after being dispersed in a liquid. In the situations where the matrix is affixed directly to an affected area, non-exacerbating bioadhesive-type materials can also be included.

It will be understood from the present description that
15 the dosages of any medicaments described herein can be varied depending upon the requirements of the patient, the severity of the condition being treated and similar considerations. The actual optimum dosage is within the skill of the artisan.

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EXAMPLES

The following examples serve to provide further appreciation of the invention but are not meant in any way to restrict effective scope of the invention. Unless indicated otherwise, the Econo Floss machine referred to above was used to form the spun matrix. Operating temperatures were approximately 140°C - 150°C, spinning speed was approximately 3,500 r.p.m.

10

EXAMPLE 1ACETOMINOPHEN-POLYDEXTROSE MATRIX

<u>INGREDIENTS</u>	<u>WEIGHT (GRAMS)</u>	<u>%</u>
Acetaminophen	20	14.3%
Polydextrose K	80	57.1%
Vegetable Oil	40	28.6%
	140	

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In this Example, an acetaminophen-containing matrix is prepared. All of the ingredients are thoroughly mixed and spun. A white spicule-like flake was obtained.

25

A tablespoon of the resulting flakes was contacted with water at room temperature. After quickly dissolving, a colloidal suspension was formed which had a viscosity thicker than that of the water alone.

30

A similar quantity of acetaminophen, polydextrose and vegetable oil mixed together, but in non-spun condition, was placed in a container of water. The ingredients failed to disperse, leaving oil patches and clumps of dry materials.

1

EXAMPLES 2 - 3

5 The examples set forth below further exemplify the
present invention.

	<u>INGREDIENTS</u>	<u>WEIGHT (PERCENT)</u>	
		<u>EX. 2</u>	<u>EX. 3</u>
10	Acetominophen	60.0	80.0
	Polydextrose	30.0	15.0
	Corn Oil	<u>10.0</u>	<u>5.0</u>
		100.0	100.0

15

20 In Examples 2 and 3, acetaminophen melt-spun matrices
were prepared. In each case, in spite of the low amount of
polydextrose, the mixtures were melt-spun and provided light
25 airy flakes. In each case, the flakes dispersed readily in
water. The corn oil, even in amounts as low as 5%, was found
to reduce the dust blow-up which otherwise occurs during
spinning. It should be noted, however, that the presence of
a vegetable oil is not necessary and that the ingredients
30 could be spun as dry powders.

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EXAMPLE 4
ANTI-ULCER COMPOSITION

5	<u>INGREDIENTS</u>	<u>WEIGHT (GRAMS)</u>	<u>%</u>
	Sucralfate (Powder)	50.0	9.5%
	Xanthan Gum	10.0	1.9%
	Corn Oil	25	4.8%
10	Peppermint Oil	2	0.4%
	Polydextrose-K	438	83.4%
		525	

15 In this Example, a sucralfate-containing anti-ulcer composition was prepared. Initially, the carrier material was prepared by mixing the xanthan gum, sucralfate, and polydextrose until a substantially homogeneous mixture was obtained. Thereafter, the corn oil and peppermint oil flavorant were added while mixing was continued. The
20 resultant mixture was then spun at about 140°C at 3600 r.p.m. A white spicule-like flake was obtained.

A one tablespoon quantity of the resulting matrix was added to a glass of tap water at room temperature. After
25 quickly dissolving, a creamy yellow colloidal suspension was formed.

The resultant mixture was ingested by a host having distress from an ulcerated stomach. The inventive composition
30 provided dramatic relief of stomach ulcer pain instantaneously. It appears that the unique combination of ingredients subjected to the high shear and heat processing had a remarkable effect on the speed and the extent of the treatment.

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EXAMPLE 5
ANTI-ULCER COMPOSITION

5	<u>INGREDIENTS</u>	<u>WT. (GRAMS)</u>
	Sucralfate (Powder)	50
	Xanthan Gum	10
	Corn Oil	25
10	Peppermint Oil	2
	Polydextrose-K	438

15 In this Example, the medicament-containing matrix is prepared as in the Example 4. Fifteen grams of the flakes are added to a small amount of water to produce a viscous dispersion.

20 The dispersion was then placed on ulcer-bearing oral cavity tissue of an affected host. The hydrogel portion of the composition, xanthan gum, along with the medicament remain affixed to the oral cavity ulcer-bearing tissue to provide instantaneous relief from the discomfort associated with the ulcerated tissue in the oral cavity.

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EXAMPLE 6

	<u>INGREDIENTS</u>	<u>WEIGHT (GRAMS)</u>	<u>%</u>
5	Cocoa Butter	16 gr.	7.7%
	Samarkand Fragrance Oil	16 gr.	7.7%
	Gleason Lite Mineral Oil	16 gr.	7.7%
	Polydextrose-K	160 gr.	76.9%
10	Ethanol 95%	3 gr.	
		208	

15 The ingredients were mixed together with a glass rod for about 10 minutes. This mixture was spun at about 140°C at 3600 r.p.m. producing tan chips.

The tan chips were dissolved rapidly in tepid water producing a gorgeous colloidal bath water which is very comforting to the skin.

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EXAMPLE 7

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<u>INGREDIENTS</u>	<u>WT. (GRAMS)</u>
Dimethyl Polysiloxane	10 gr.
Polydextrose-K	90 gr.

10 In this Example, the above ingredients were mixed by hand and then in a Cuisinart* for four minutes. The mixture was spun at 140°C at 3600 r.p.m. producing long silky chips.

15 The chips are then put in hot water resulting in a strong colloidal dispersion. The colloidal dispersion can be used in cosmetics to provide improved contact and adherence to the skin. Dimethyl Polysiloxane is a desired ingredient in many cosmetic and hair conditioner formulations but it is very difficult to form colloidal dispersions by conventional
20 techniques.

While there have been described what are presently believed to be the preferred embodiments of the invention, those skilled in the art will realize that changes and
25 modifications may be made thereto without departing from the spirit of the invention, and it is intended to claim all such changes and modifications as fall within the true scope of the invention.

*Trade-mark

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CLAIMS:

1. A pharmaceutical composition comprising a polydextrose-based matrix resulting from melt-spinning a medicament with polydextrose.

5 2. The pharmaceutical composition of claim 1, wherein the medicament is selected from the group consisting of antitussives, antihistamines, decongestants, alkaloids, mineral supplements, laxatives, vitamins, antacids, ion
10 exchange resins, anticholesterolemics, anti-lipid agents, antiarrhythmics, antipyretics, analgesics, appetite suppressants, expectorants, anti-anxiety agents, anti-ulcer agents, anti-inflammatory substances, coronary dilators, cerebral dilators, peripheral vasodilators, anti-infectives, psycho-tropics, antimanics, stimulants, gastrointestinal
15 agents, sedatives, antidiarrheal preparations, anti-anginal drugs, vasodialators, antihypertensive drugs, vasoconstrictors, migraine treatments, antibiotics, tranquilizers, anti-psychotics, antitumor drugs, anticoagulants, antithrombotic drugs, hypnotics, anti-
20 emetics, anti-nauseants, anti-convulsants, neuromuscular drugs, hyper- and hypoglycemic agents, thyroid and antithyroid preparations, diuretics, antispasmodics, uterine relaxants, mineral and nutritional additives, antiobesity drugs, anabolic drugs, erythropoietic drugs, antiasthmatics,
25 cough suppressants, mucolytics, anti-uricemic drugs and mixtures thereof.

3. The pharmaceutical composition of claim 1 or 2, further comprising an additional medicament.

4. The pharmaceutical composition of claim 3, wherein
30 the additional medicament is selected from the group consisting of antitussives, antihistamines, decongestants, alkaloids, mineral supplements, laxatives, vitamins,

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antacids, ion exchange resins, anti-cholesterolemics, anti-lipid agents, antiarrhythmics, antipyretics, analgesics, appetite suppressants, expectorants, anti-anxiety agents, anti-ulcer agents, anti-inflammatory substances, coronary
5 dilators, cerebral dilators, peripheral vasodilators, anti-infectives, psychotropics, antimanics, stimulants, gastrointestinal agents, sedatives, antidiarrheal preparations, anti-anginal drugs, vasodialators, anti-hypertensive drugs, vasoconstrictors, migraine treatments,
10 antibiotics, tranquilizers, antipsychotics, antitumor drugs, anticoagulants, antithrombotic drugs, hypnotics, anti-emetics, anti-nauseants, anticonvulsants, neuromuscular drugs, hyper- and hypoglycemic agents, thyroid and antithyroid preparations, diuretics, antispasmodics, uterine
15 relaxants, mineral and nutritional additives, antiobesity drugs, anabolic drugs, erythropoietic drugs, antiasthmatics, cough suppressants, mucolytics, anti-uricemic drugs and mixtures thereof.

5. The pharmaceutical composition of any one of
20 claims 1 to 4, wherein the matrix further comprises an oleaginous substance.

6. The composition of claim 5, wherein the oleaginous substance is selected from the group consisting of vegetable oil, corn oil, sunflower oil, olive oil, canola oil and
25 mixtures thereof.

7. The composition of claim 5 or 6, wherein the oleaginous substance is present in an amount of from 2 to 20% by weight of the matrix.

8. The composition of claim 5 or 6, wherein the
30 oleaginous substance is present in an amount of from 5 to 15% by weight of the matrix.

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9. The composition of any one of claims 1 to 8, wherein the matrix further comprises a member of the group consisting of surfactants, dispersants, adhesion promoters, flavors, sweeteners, dyes, preservatives and mixtures thereof.
10. The composition of claim 9, wherein the surfactants are selected from the group consisting of anionic surfactants, cationic surfactants, nonionic surfactants and amphoteric surfactants.
- 10 11. The composition of claim 9, wherein the surfactants are selected from the group consisting of alkyl polyglycerides, sulfonic acid/linear alkylate sulfonates, silicon derived phosphate esters, nonoxynol surfactants, Triton™ surfactants, alkylphenols and mixtures thereof.
- 15 12. The composition of claim 9, wherein the dispersants are selected from the group consisting of polyacrylates and alginates.
13. The composition of claim 9, wherein the adhesion promoter is a hydrogel.
- 20 14. The composition of claim 12, wherein the hydrogel is selected from the group consisting of xanthan gum, guar gum, carrageenan gum, gum tragacanth, alginates such as sodium alginate, gum karaya, locust bean gum, gum acacia and mixtures thereof.
- 25 15. The composition of claim 9, wherein the adhesion promoter is polyvinylpyrrolidone.
16. The composition of claim 1, further comprising a member of the group consisting of surfactants, dispersants, adhesion promoters, flavors, sweeteners, preservatives, dyes and mixtures thereof.
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17. A method of producing a pharmaceutical composition, comprising:

i. admixing a medicament and polydextrose to obtain a mixture of the medicament and polydextrose;

5 ii. melt-spinning the resultant mixture to produce a pharmaceutical composition comprising a polydextrose-based matrix containing the medicament.

18. The method of claim 17, wherein the medicament is selected from the group consisting of antitussives,
10 antihistamines, decongestants, alkaloids, mineral supplements, laxatives, vitamins, antacids, ion exchange resins, anti-cholesterolemics, anti-lipid agents, antiarrhythmics, antipyretics, analgesics, appetite suppressants, expectorants, anti-anxiety agents, anti-ulcer
15 agents, anti-inflammatory substances, coronary dilators, cerebral dilators, peripheral vasodilators, anti-infectives, psychotropics, antimanics, stimulants, gastrointestinal agents, sedatives, antidiarrheal preparations, anti-anginal drugs, vasodialators, anti-hypertensive drugs,
20 vasoconstrictors, migraine treatments, antibiotics, tranquilizers, antipsychotics, antitumor drugs, anticoagulants, antithrombotic drugs, hypnotics, anti-emetics anti-nauseants, anticonvulsants, neuromuscular drugs, hyper- and hypoglycemic agents, thyroid and
25 antithyroid preparations, diuretics, antispasmodics, uterine relaxants, mineral and nutritional additives, antiobesity drugs, anabolic drugs, erythropoietic drugs, antiasthmatics, cough suppressants, mucolytics, anti-uricemic drugs, and mixtures thereof.

30 19. The method of claim 17 or 18, wherein an additional medicament is mixed with polydextrose.

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20. The method of claim 19, wherein the additional medicament is selected from the group consisting of antitussives, antihistamines, decongestants, alkaloids, mineral supplements, laxatives, vitamins, antacids, ion
5 exchange resins, anti-cholesterolemics, anti-lipid agents, antiarrhythmics, antipyretics, analgesics, appetite suppressants, expectorants, anti-anxiety agents, anti-ulcer agents, anti-inflammatory substances, coronary dilators, cerebral dilators, peripheral vasodilators, anti-infectives,
10 psychotropics, antimanics, stimulants, gastrointestinal agents, sedatives, antidiarrheal preparations, anti-anginal drugs, vasodialators, anti-hypertensive drugs, vasoconstrictors, migraine treatments, antibiotics, tranquilizers, antipsychotics, antitumor drugs, anti-
15 coagulants, antithrombotic drugs, hypnotics, anti-emetics, anti-nauseants, anticonvulsants, neuromuscular drugs, hyper- and hypoglycemic agents, thyroid and antithyroid preparations, diuretics, antispasmodics, uterine relaxants, mineral and nutritional additives, antiobesity drugs,
20 anabolic drugs, erythropoietic drugs, antiasthmatics, cough suppressants, mucolytics, antiuricemic drugs, and mixtures thereof.

21. The method of any one of claims 17 to 20, wherein an oleaginous material is further mixed with the medicament
25 and polydextrose.

22. The method of any one of claims 17 to 21, wherein a member of the group consisting of surfactants, dispersants, adhesion promoters, flavors, dyes, sweeteners, preservatives and mixtures thereof is further mixed with the
30 medicament and polydextrose.

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23. A cosmetic composition comprising a polydextrose-based matrix resulting from melt-spinning a cosmetic ingredient with polydextrose.

24. The cosmetic composition of claim 23, wherein the
5 cosmetic ingredient is selected from the group consisting of dimethyl siloxanes, mucopolysaccharides, methyl and propyl parabens, biotin, lanolin, aloe, glycerin, mineral oil, nicotinamide compounds, sun screens, hair conditioners, moisturizers, moisturizing creams, astringents, powders and
10 mixtures thereof.

25. The cosmetic composition of claim 23 or 24, further comprising an additional cosmetic ingredient.

26. The cosmetic composition of claim 25, wherein the additional cosmetic ingredient is selected from the group
15 consisting of dimethyl siloxanes, mucopolysaccharides, methyl and propyl parabens, biotin, lanolin, aloe, glycerin, mineral oil, nicotinamide compounds, sun screens, hair conditioners, moisturizers, moisturizing creams, astringents, powders and mixtures thereof.

20 27. The cosmetic composition of any one of claims 23 to 26, which further comprises an oleaginous substance.

28. The cosmetic composition of claim 27, wherein the oleaginous substance is selected from the group consisting of vegetable oil, corn oil, sunflower oil, olive oil, canola
25 oil and mixtures thereof.

29. The cosmetic composition of any one of claims 23 to 28, wherein which further comprises a member selected from the group consisting of surfactants, dispersing aids, adhesion promoters, flavors, sweeteners, dyes,
30 preservatives, and mixtures thereof.

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30. The cosmetic composition of claim 23, which comprises dimethyl siloxane as the cosmetic ingredient.

31. A method of producing a cosmetic composition, comprising:

5 i. admixing a cosmetic ingredient and polydextrose to obtain a mixture of the cosmetic ingredient and polydextrose; and

ii. melt-spinning the resultant mixture to produce a cosmetic composition comprised of a polydextrose-based
10 matrix containing the cosmetic ingredient.

32. The method of claim 31, wherein the cosmetic ingredient is selected from the group consisting of dimethyl siloxanes, mucopolysaccharides, methyl and propyl parabens, biotin, lanolin, aloe, glycerin, mineral oil, nicotinamide
15 compounds, sun screens, hair conditioners, moisturizers, moisturizing creams, astringents, powders and mixtures thereof.

33. The method of claim 31 or 32, wherein an additional cosmetic ingredient is mixed with polydextrose.

20 34. The method of claim 33, wherein the additional cosmetic ingredient is selected from the group consisting of mucopolysaccharides, methyl and propyl parabens, biotin, lanolin, aloe, glycerin, mineral oil, nicotinamide compounds, sun screens, hair conditioners, moisturizers,
25 moisturizing creams, astringents, powders and mixtures thereof.

35. The method of any one of claims 31 to 34, wherein an oleaginous material is further mixed with polydextrose.

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36. The method of any one of claims 31 to 34, wherein polydextrose is mixed further comprising combining a member selected from the group consisting of surfactants, dispersants, adhesion promoters, flavors, dyes, sweeteners, 5 preservatives and mixtures thereof.

37. The method of any one of claims 17 to 22, wherein the melt-spinning is conducted at a temperature of 140°C to 150°C by using a cotton candy-type machine.

38. The method of any one of claims 31 to 36, wherein 10 the melt-spinning is conducted at a temperature of 140°C to 150°C by using a cotton candy-type machine.

39. The pharmaceutical composition of any one of claims 1 to 16, wherein the medicament and polydextrose are contained in amounts of 9.5 to 80% and 15 to 90% by weight, 15 respectively, based on the pharmaceutical composition.

40. The cosmetic composition of any one of claims 23 to 30, wherein the cosmetic ingredient and polydextrose are contained in amounts of 9.5 to 80% and 15 to 90% by weight, respectively, based on the cosmetic composition.

20 41. The pharmaceutical composition of any one of claims 1 to 16 or claim 39, which is in a flake form.

42. The cosmetic composition of any one of claims 23 to 30 or claim 40, which is in a chip form.

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