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(54) **FILLER FOR A BEVERAGE CONTAINER****Publication Classification**(76) Inventors: **Ralf Jager**, Freising (DE); **Martin Purpura**, Bonn (DE); **Reinhard Kroner**, Freilassing (DE)(51) **Int. Cl.**
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FULBRIGHT & JAWORSKI, LLP
666 FIFTH AVE
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The present invention comprises a filler material for a container having at least one compartment, which container is situated in a pressurized beverage container and, immediately after the beverage container is opened, is suitable for mixing the filling into the drinks liquid surrounding the container. The filling itself is in granule form of defined particle diameter and is composed, in particular, of the main component a) in the form of a food supplement and an effervescent component b). The component a) which should be present in the filling in amounts of between 35 and 98% by weight can also be pharmaceutical active ingredients, vitamins, creatine derivatives, phospholipids, probiotics, minerals, unsaturated fatty acids and any desired mixtures thereof. The fillings can be introduced into drinks liquids of varying pH, since, because of its solubility and due to the targeted selection of suitable effervescent and disintegrant components, can be rapidly and completely dissolved or suspended in the drinks liquid.

FILLER FOR A BEVERAGE CONTAINER

[0001] This application is a continuation-in-part of Ser. No. 11/131,921, filed May 18, 2005, which claims priority from DE 10 2005 022 969.7 filed May 19, 2005, and also from DE 10 2005 061 765.4 filed Dec. 23, 2005, each of which are incorporated herein by reference in their entireties.

BACKGROUND AND SUMMARY OF THE INVENTION

[0002] The present invention relates to a filler material for a beverage container. The filling material itself is situated in a container having at least one compartment, which container is situated in a pressurized beverage container, the container being able to mix the filler material, immediately after the drinks container is opened, into the beverage liquid surrounding it.

[0003] Such combinations consisting of a compartment container and a beverage container surrounding it are adequately known from the prior art. The compartment containers are usually called two ("twin compartment wide-gel") or multicompartment containers and serve for introducing special additives into generally carbonated drinks.

[0004] European Patent EP 1 073 593 B1 discloses a typical two compartment container which is used for introducing additives into beverages. These additives are characterized in more detail as flavours, the main purpose of use mentioned being the flavouring of beer.

[0005] Published Application US 2002/0155199 also describes a typical two compartment container which is able to float freely in the beverages liquid surrounding it, it being suitable in particular for receiving liquids, pasty material, powders and solids. These fillings are flavorings, colorings and other agents, such as sugar and milk, which in this case are to be introduced into coffee-containing drinks.

[0006] European Application EP 0 747 298 A1 also claims a capsule container for beverages tins, the capsule container described there, however, being contemplated exclusively for introducing what are termed gas-jetting capsules into beers.

[0007] The two-component container disclosed by International Application WO 96/24542 serves for introducing hydrolysis-sensitive medicaments into liquids.

[0008] Two-compartment containers and their filler materials are thus very well known from the prior art; however, the fillings in most cases develop no physiological activity, but are only to be used for imparting certain colour or flavour properties to drinks or beverage liquids. Only in exceptional cases do two-compartment containers contain hydrolysis-sensitive substances which are then, however, solely medicaments.

[0009] Granules having physiological activity are known quite generally from the prior art. The combination of nutritionally active granules in beverage containers is also previously described. Thus, for example, US 2004/0,071, 825 teaches a high-protein food supplement in granule form. This food supplement is agglomerated and granulated in such a manner that it is present as oral administration form and is either absorbed immediately after contact with the tongue or dissolves rapidly in an aqueous solution. The

granulation described in this context provides, in a first step, moistening the supplement which is subsequently dried into smaller agglomerated granules and is finally sprayed with aromatizing compounds or effervescent compositions. The granules should be obtained in this manner in particle sizes which are sufficiently small to be absorbed rapidly in granule form via the tongue, or to be dissolved in aqueous liquids.

[0010] A vitamin- and mineral-rich effervescent formulation in granule form is described by U.S. Pat. No. 4,725,427. To produce such granules, the starting powder is first moistened with defined amounts of ethanol and subsequently sieved and dried. Finally the dried granules are again sieved in order to break up unwanted caking and agglomeration. It is also contemplated to package the resultant granules moisture-tightly in film pouches which subsequently serve as dosage units. Should these granules be packaged in larger units such as cans or bottles, they absolutely need to be protected from atmospheric humidity, in order to avoid interactions between the constituents and premature outgassing of the effervescent component.

[0011] According to WO 2003/097478 A1, to enrich packaged beverage liquids, a special enrichment system for minerals is claimed. In this system, the mineral-containing powder is first accommodated in a small container which is situated on the tip of the drinks bottle. Simultaneously with the opening of the drinks bottle, the pouch containing the mineral-containing powder is opened by mechanical forces, so that it mixes into the drinks liquid. Opening the pouch is performed with the aid of a penetration operation, a screw or else a flap motion, in which case, in addition, small cutting devices can support the opening of the pouch. A similar system for fresh preparation of a drink is described in the Japanese Abstract for JP 2002/114259. In this case, drinking water is enriched with an aromatizing material which can be present in granule form. In this case also, the enriching material is first situated separated off from the drinks liquid, in a separate container in the lid region. By turning the closure, the granule container is opened so that the aroma can mix into the drinking water at the time of opening the drinks bottle.

[0012] Starting from this prior art, the object of the present invention was to provide filling materials for a container having at least one compartment which, owing to their physical state, after their release from the compartment container into the beverage liquid surrounding it are rapidly and completely dissolved or suspended in the respective drink and thus give the drink an additional nutritional or health benefit. The filler material should be suitable for a container having at least one compartment, which container is situated in a pressurized beverage container and which is suitable, immediately after opening the beverage container, for mixing the filler material into the beverage liquid surrounding the beverage container.

[0013] This object was achieved by a corresponding filler material which is in granule form and has an average particle diameter of 1.0 to 7.0 mm.

DETAILED DESCRIPTION

[0014] Surprisingly, it has been found that the granule form which is selected and is essentially known gives the claimed filling properties which permit facilitated introduction of the active substances into the drinks liquid, benefi-

cially influence the suspension and solubility behaviour of the filling components and, in addition, ensure the complete and homogeneous mixing of the components of the filler material into the respective beverage liquid within a short time. In addition, the specific filler material possible according to the invention the introduction of food supplements or pharmaceutical active ingredients which customarily, in powder or granule form, experience only poor acceptance by consumers, since they either cause an unpleasant swallowing feeling, have a poor inherent taste, cause an unpleasant aftertaste, or else exhibit an only inadequate solubility in aqueous solutions. The said advantages were unexpected in the embodiment described.

[0015] There is as yet no legally binding delimitation for the term "food supplement". However, recognized proposals for the definition are available which clearly characterize food supplements as such: in 1998 food supplements were determined by the German Federal Institute for Consumer Health Protection and Veterinary Medicine (BgVV) as foods which contain one or more nutrients in concentrated form and have a form (tablets, capsules etc.) atypical of foods.

[0016] In Germany, the working group of expert food chemists of the Länder ("Federal States") defined food supplements in 1998 and 1999 in such a form that they relate to foods of general consumption (provided they do not serve dietetic purposes). They are customarily offered in food-atypical form, e.g. as capsules, granules, powders, drink ampoules and drops. In addition, food supplements serve to supplement the customary diet with defined nutrients, but not the energy supply. They are, in addition, to ensure the supply with nutritionally necessary substances when these cannot be fed in sufficient quantity, e.g. due to an unbalanced diet. The type and amount of these nutrients must be safe to health in the amount recommended for consumption.

[0017] Food supplements are thus generally administration forms which contain nutritionally important substances, such as vitamins, minerals, amino acids, fatty acids and other substances which, in contrast to drugs, do not need authorization at the German Federal Office for Drugs and Medical Devices and, in addition, are to be classified with foods.

[0018] The present invention thus defines the term "food supplements" as foods which contain at least one nutritionally important nutrient in a concentrated amount, are present in a food-atypical form, serve overall to supplement the customary diet and ensure the supply with nutritionally necessary substances and are safe to health in the type and amount administered. In addition, these food supplements do not require authorization, i.e. they are not subject to official authorization. In certain cases, they can serve a dietetic purpose, taking into consideration the abovementioned conditions.

[0019] A feature essential to the invention of the inventive filler material is its granule form. Surprisingly, granules suitable as filling are not restricted to a defined form and a narrow particle size spectrum. The individual particles can rather also be of relatively large diameter, without thereby exhibiting a poor or delayed dissolution or suspension behaviour in the drinks liquid. The present invention therefore also takes into account preferred granules having an average particle diameter between 1.5 and 6.0 mm, particle diameters between 2.0 and 5.0 mm being particularly pre-

ferred. Diameters between 3.0 and 4.0 mm are to be considered as very particularly preferred.

[0020] According to the present invention, the granules should preferably be present in geometric form, and in particular in spherical, flake, rod or polygonal form, or else in unsymmetrical form, in amorphous form, or else in any desired mixture of forms thereof.

[0021] The particle size distribution within the filling is also not subject to any limitation. Depending on the drinks liquid and the associated restrictions for the dissolution or suspension behaviour of the filling, the granules can either in the main have a small particle diameter up to 5.0 mm, or else be predominantly larger particles having an individual diameter of at least 2.5 mm. The number of granules in the filling is also freely selectable and only limited by the filler material and the shape and size of the compartment container.

[0022] As a preferred variant, the present invention recommends a filling which contains fines in the form of a particle fraction having an average diameter of <1.0 mm in an amount of at most 20% by weight, based on the total amount of the filling, and preferably of at most 15% by weight, and in particular at most 10% by weight.

[0023] As indicated above, the filler material can have different composition, but it should preferably consist of an active component a) and an auxiliary component b). The physiologically active component a) of the claimed filling can be a food supplement which is selected from a relatively broad spectrum. As sole condition, it must meet the conditions according to the abovementioned definition underlying a typical food supplement. Preferably, the filling is in addition selected from the group of in particular non-prescription pharmaceutical active ingredients, vitamins, phospholipids, probiotics, minerals and unsaturated fatty acids; but also amino acids, phytosterols, polysaccharides and in particular cellulose, and also creatine, soluble and insoluble dietary fibres and α -lipoic acid are of course likewise suitable. It is also possible to use here all suitable salts and derivatives of the said representatives and any desired mixtures thereof. With respect to the vitamins which come into consideration, reference is made in particular to the listing in "Vademecum for Vitamin Formulations" (V. Bühler; Wiss. Verlagsgesellschaft mbH, Stuttgart; 2001), the contents of which disclosure are to be considered as a substantial component of the present invention.

[0024] As particularly suitable pharmaceutically active component a), acetylsalicylic acid and derivatives thereof may be mentioned. However, representatives of vitamins A, B, C, D, E and K, riboflavin and folic acid also represent typical and very suitable representatives of the claimed filling. In addition, creatine monohydrate, creatine pyruvate and all possible creatine/citric acid compounds, especially creatine citrate, come into consideration. Of the group of phospholipids, phosphatidylserine, phosphatidylcholine, phosphatidylethanolamine and phosphatidylinositol have been found to be particularly suitable. As particularly preferred unsaturated fatty acids in the context of the present invention, mention may be made of docosahexaenoic acid (DHA), eicosapentaenoic acid (EPA), conjugated linoleic acid (CLA) and arachidonic acid (ARA). Finally, glucosamine and chondroitin are likewise to be mentioned as preferred representatives.

[0025] Particularly suitable minerals are zinc, manganese, calcium and magnesium. Of course, as component a), use can be made of any extracts which have bioactive constituents.

[0026] In the case of the second possible component of the claimed filling, that is the auxiliary component b), the present invention provides in particular effervescent components, with in principle all carbon dioxide-releasing compounds being suitable, and in particular carbonate and hydrogen carbonate salts coming into consideration. Depending on the respective pH range of the beverage liquid, however, organic acids are also suitable and, in particular, citric acid, phosphoric acid, malic acid and tartaric acid, which either alone or in combination with carbonate salts ensure the effervescent effect supporting the dissolution of the active components in the drinks liquid.

[0027] The component b) can, however, according to the invention also be a disintegrant. In this context, the present invention recommends substances which swell rapidly in solution, and in particular in aqueous solution. However, suitable compounds are also compounds known as crosslinkers, and especially mixtures thereof, with the typical crosslinkers sodium carboxymethylcellulose (which is also known as sodium croscarmellose), alginic acid, low-substituted hydroxypropylcellulose and starch glycolates, and also crosslinked N-vinyl-2-pyrrolidones (crospovidones) coming into consideration.

[0028] A particularly advantageous filling is present according to the invention when it contains the active component a) in amounts of 35 to 98% by weight and the auxiliary component b) in amounts of 2 to 65% by weight.

[0029] The auxiliary component b) should preferably be an aid for dissolving or suspending the active component a) in the drinks liquid. It is likewise provided that the filling contains the auxiliary component b) in the form of a disintegrant, preferably in amounts $\leq 10\%$ by weight.

[0030] Reference has already been made to the fact that the filling can consist of an active component a) and an auxiliary component b). However, the present invention also comprises a further alternative in which the granules contain the active component a) and/or the auxiliary component b), in which case, in principle, the composition of the granules can be freely selected in the inventive limits. For instance, the claimed filling can consist of granules which are homogeneously or heterogeneously composed with respect to the constituents. This means that the individual granule particles have either only one of the defined components, or a plurality. However, mixtures of these variants are also possible. For instance, for example, granule particles can be present which contain only one physiologically active component and, in addition, granule particles which have solely (formulation) aids, such as, for example, an effervescent component and/or a disintegrant. Active component(s) and auxiliary component(s) however, can also be present in one granule particle.

[0031] It is to be considered particularly preferred that the claimed filler material contains the granules in core-shell form, in particular the active component a) forming the core and the auxiliary component b) forming the shell.

[0032] In particular, the present invention provides that the filling is suitable for introducing into drinks liquids which

have a $\text{pH} < 7.0$ and, in particular, between 2.0 and 5.0, a pH range between 2.5 and 4.5 being considered as particularly preferred in this context.

[0033] Alternatively, however, the claimed filling can also be suitable for introduction into beverage liquids which have a $\text{pH} \geq 7.0$. Here, a pH is particularly preferred which is between 8.0 and 11.0.

[0034] The present invention also comprises a special filling which, at drink or ambient temperatures of 4 to 20° C., has a suspension time in the drinks liquid of 10 to 300 seconds; a suspension time is to be considered as particularly preferred which ranges from 30 to 120 seconds.

[0035] As described above, the inventive filling can consist of granules which have the most varied shapes and compositions. Such granules can be produced by mechanical and/or chemical grain enlargement measures, in particular compression pelleting and pelletizing operations being considered to be preferred in the context of the present invention. Inter alia, in this manner a filling can also be obtained, the granules of which are instant forms, which is likewise comprised by the present invention. In particular, the active component a) should in this case also, for obvious reasons, preferably be present in instant form.

[0036] For production of the inventive filling in granule form, a roller compactor of the Macro-Pactor® type from Gerteis Maschinen+Processengineering AG (Jona, Switzerland) has been found to be very suitable. In this type of instrument, powder metering and material guidance, compacting and comminution of the compacts are combined in one instrument. The combination of the choice of material of all product-contact materials, the design principle of the different process units and their control by means of a stored-programmable controller (SPS) via an operator panel permits their use in accordance with international GMP guidelines and, in addition, simple handling of the machine operation.

[0037] The metering unit consists of the feed hopper, the metering screw and the stuffing screw. A loosener within the feed hopper ensures first continuous destruction of the resulting bridges within the starting powder: the material falls continuously into the intake region of the metering screw. It is subsequently driven by the metering screw to the stuffing screw which takes over the material. The displaced air, as a consequence of these slight compressions, escapes via the hopper for small quantities or the incorporated sinter metal filter. The compacting unit consists essentially of the two compacting rolls. The pressure roll (slave roll) is movably mounted and transmits the entire force of the hydraulically acting and controllable press unit to the material in the gap between the two rolls (slave and master roll). Its roll width is between 50 and 100 mm. The compacting region between the two rolls is delimited at the sides by the collar seal. This ensures that the starting material does not flow out of the intake region or the actual compacting region uncompressed. A star rotor having cross-toothed rotor rods ensures comminution of flakes. "Flakes" are produced by compression moulding and pressing agglomeration of pulverulent products between two horizontal rolls and are subsequently comminuted to the desired particle size by flake crushers. The inserted granulator screen can be used in different sizes. For screening the corresponding granules, a tumbling screening machine is advisable. Overall a stored-

programmable controller (SPS) ensures that all essential settings with respect to preset and actual values are continuously compared and also displayed. The fully automated control combines gap, speed and torque control of the feed screws (metering and stuffing screw). The gap control ensures that the transport rate of the stuffing screw is always kept high enough so that a constant gap width with constant compacting force and constant compacting rate results. This necessitates an SPS-controlled interaction between metering screw and stuffing screw. The following parameters have been found to be very suitable: roll width 50 to 100 mm, roll diameter 100 to 250 mm, throughput performance 50 to 400 kg/h, specific pressing force 1-20 kN/cm, scab thickness 1-4 mm, granulator screen 3-7 mm, tumbling screen 1-3 mm.

[0038] With respect to the beverage liquids surrounding the compartment container, refreshment drinks are considered by the present invention to be particularly preferred, variants coming into consideration, in particular which are carbonated and especially are alcoholic. Typical refreshment drinks in the context of the present invention are considered to be soft drinks, fruit-juice-containing drinks, milk-based drinks, which can also be fermented, beers (full beers, reduced-alcohol and alcohol-free beers), alcoholic mixed drinks, that is those termed alcopops, and in particular those of the spritzer type, and functional food drinks are particularly preferred.

[0039] Since the release of the filling from the compartment container which is generally a two-compartment container (one compartment for the filling, one gas compartment for the pressure equilibration) into the drinks liquid surrounding it is technically generally only possible when the drinks container itself is under pressure, the present invention takes into account a variant in which the filling is suitable for use in drinks tins whose drinks liquid is at an overpressure relative to the compartment container. This overpressure is not subject to a minimum limit, but it must only suffice to release the filling completely at the moment of opening the drinks container (that is generally the drinks tin) from the compartment container into the drinks liquid. Generally, an overpressure is sufficient which is ≥ 0.3 bar. Beverage containers to be considered are especially typical drinks tins made of metal or plastic which are made ready to use by pushing in or pulling opening tabs. However, other drinks container variants also come into consideration, such as, e.g. those made of plastic/card composite materials, provided that they withstand the pressure conditions.

[0040] By means of the inventive filling in granule form it is possible to store physiologically active components which are labile to hydrolysis or have other compound-relevant adverse compliance properties over a relatively long time separately from drinks liquids and only to mix them into the drinks liquid rapidly and completely at the time of consumption. In this manner, physiologically active components are made accessible through further fields of application in a novel administration form.

[0041] A condition for achieving the said advantages is obviously complete dissolution or suspension of the active component. In this case the auxiliary component on account of its property of developing gas volumes or acting as a disintegrant plays an essential role in the dissolution or suspension of the physiologically active compounds. In this case the auxiliary component does not act as solubilizer, i.e.

not as typical emulsifier or as dispersant, but rather it acts mechanically or chemically, for example via a pH change, on the active ingredient component and its solubility.

[0042] Of course, the claimed filling, in addition to the two components a) and b) can also contain other customary additives and formulation aids, such as, for example, flavourings, colourings, sugar, release agents, acidulants, sweeteners and other substances which do not come under the definition of a physiologically active ingredient or a food supplement and also have no significant effect on the dissolution behaviour of component a) in the drinks liquid.

[0043] The examples hereinafter mention typical fillings according to the present invention.

EXAMPLES OF PREFERRED EMBODIMENTS

Example 1

[0044] A mixture consisting of 75% by weight creatine citrate and 25% by weight sodium hydrogencarbonate was granulated using a Gerteis Makro-Paktor compactor, a granulator rotor and a screening machine in such a manner that the resultant granules had a particle size distribution of 98%>2.5 mm and 99%<5 mm. In this case the compression force, the roll speed and screw speed were set in such a manner that the granules completely dissolved or dispersed in water at pH=3 within one minute at 20° C. water temperature. Specific compression force 16 kN/cm, flake thickness 5 mm, granulator screen 5 mm, tumbling screen 2.5 mm.

Example 2

[0045] A mixture of 20% by weight potassium hydrogen-carbonate (effervescent component) and a food supplement component consisting of 40% calcium lactate gluconate, 20% by weight ascorbic acid, 1% by weight zinc sulphate, 14% by weight magnesium citrate, 0.5% by weight manganese aspartate, 0.5% by weight vitamin A palmitate, 0.5% by weight vitamin E acetate, 0.5% by weight riboflavin and also 3% by weight sodium carboxymethylcellulose as disintegrant was granulated using a Gerteis Makro-Paktor compactor, granulator rotor and a screening machine in such a manner that the resultant granules had a particle size distribution of 97%>2 mm and 98%<5 mm. (The weight figures relate to the total weight of the filling). The compression force, the roll speed and the screw speed were set in such a manner that the granules completely dissolved or dispersed in water at pH=3 within one minute at 20° C. water temperature. Specific compression force 18 kN/cm, flake thickness 4 mm, granulator screen 5 mm, tumbling screen 2 mm.

Example 3

[0046] A mixture of 35% by weight acetylsalicylic acid, 30% by weight citric acid, 25% sodium hydrogencarbonate (effervescent component) and 10% by weight sodium carboxymethylcellulose (disintegrant) was granulated using a Gerteis Makro-Paktor compactor, granulator rotor and a screening machine in such a manner that the resultant granules had a particle size distribution of 97%>1 mm and 98% by weight<3 mm. (The weight figures relate to the total weight of the filling). In this case the compression force, the roll speed and the screw speed were set in such a manner that

the granules fully dissolved or dispersed in water at pH=8.5 (by means of sodium carbonate and sodium hydrogencarbonate) within one minute at 20° C. water temperature. Specific compression force 14 kN/cm, flake thickness 3 mm, granulator screen 3 mm, tumbling screen 1 mm.

Example 4

[0047] A mixture of 28% by weight calcium lactate, 21% by weight magnesium citrate, 18% by weight ascorbic acid, 18% by weight potassium bicarbonate, 5% by weight potassium carbonate, 5% by weight sodium carboxymethylcellulose, 3% by weight zinc gluconate, 1% by weight manganese gluconate, 1% by weight vitamin E was granulated using a Gerteis Makro-Paktor compactor, a granulator rotor and a screening machine in such a manner that the resultant granules had a particle size distribution of 97% by weight >1.5 mm and 96% by weight

[0048] <3.2 mm. The resultant granules dissolved in a drink consisting of 88% by weight water and 11% by weight maize syrup having amounts of sodium benzoate, potassium sorbate, pectin, maltodextrin, flavour and citric acid, dissolved completely within 2 minutes at 4° C., or the granules were readily dispersed in this drink. Specific compression force 17 kN/cm, flake thickness 4 mm, granulator screen 3.2 mm, tumbling screen 1.5 mm.

1-22. (canceled)

23. A filler material for a container having at least one compartment, wherein the container is situated in a pressurized beverage container and wherein immediately after the beverage container is opened, is suitable for mixing the filler material into the beverage liquid surrounding the container, wherein the filler material is in granule form and has an average particle diameter of 1.0 to 7.0 mm.

24. The filler material according to claim 23, wherein said average particle diameter is between 1.5 and 6.0 mm.

25. The filler material according to claim 23, wherein said granules are in a form selected from the group consisting of spherical, flake, rodshaped, polygonal, unsymmetrical, amorphous form or a mixtures thereof.

26. The filler material according to claim 23, wherein the filler material comprises fines in the form of a particle fraction having an average diameter of <1.0 mm in an amount of at most 20% by weight, based on the total amount of the filling.

27. The filler material according to claim 23, comprising an active component a) and an auxiliary component b).

28. The filler material according to claim 27, wherein active component a) is selected from the group consisting of a food supplement, a pharmaceutically active ingredient, a vitamin, a phospholipid, a probiotic, a mineral, an unsaturated fatty acid, an amino acid, a phytosterol and a polysaccharide, a derivate thereof of a mixture thereof.

29. The filler material according to claim 27, wherein the active component a) is selected from the group consisting of acetylsalicylic acid, a representative of the vitamin groups A, B, C, D, E and K, riboflavin, folic acid, creatine monohydrate, creatine pyruvate, creatine/citric acid compounds, in particular creatine citrate, glucosamine, chondroitin, phosphatidylserine, phosphatidylcholine, phosphatidylethanolamine, phosphatidylinositol, docosahexaenoic acid (DHA), eicosapentaenoic acid (EPA), conjugated linoleic acid (CLA) and arachidonic acid (ARA) and also the minerals calcium, magnesium, manganese and zinc.

30. The filler material according to claim 27, wherein the auxiliary component b) is an effervescent component.

31. The filler material according to claim 27, wherein the effervescent component is selected from the group consisting of a carbonate salt, a hydrogen carbonate salt, an organic acid, a disintegrant and a crosslinker.

32. The filler material according to claim 23, wherein the active component a) is present in an amount of from 35 to 98% by weight and the auxiliary component b) is present in an amount of from 2 to 65% by weight.

33. The filler material according to claim 23, wherein said auxiliary component b) is an aid for dissolving the active component a) in the drinks liquid.

34. The filler material according to claim 33, wherein said auxiliary component b) is a disintegrant.

35. The filler material according to claim 23, wherein the component b) is a formulation aid selected from the group consisting of a bulking agent, a release agent, a flavour substance, a coloring and a sweetener.

36. The filler material according to claim 23, wherein the granules contain at least one of an active component a) or an auxiliary component b).

37. The filler material according to claim 23, it contains the granules in core-shell form, in particular the active component a) forming the core and the auxiliary component b) forming the shell.

38. The filler material of claim 37, wherein the active component a) is contained in the core, and auxiliary component b) is contained in the shell.

39. The filler material according to claim 23, suitable for introducing into beverage liquids which have a pH<7.0.

40. The filler material according to claim 23, suitable for introduction into beverage liquids which have a pH≥7.0.

41. The filler material according to claim 23 wherein at a temperature of from 4 to 20° C., the filler material has a suspension time in the drinks liquid of 10 to 300 seconds.

42. The filler material according to claim 23, wherein the granules were produced by mechanical or chemical grain enlargement compression pelleting or pelletizing under the action of a compression force between 1 and 20 kN/cm.

43. The filler material according to claim 23, comprising an active component a) in an instant form.

44. The filler material according to claim 23 wherein the drink liquid is a refreshment drink.

45. The filler material according to claim 23, suitable for a refreshment drink, a soft drink, a fruit juice-containing drink, a milk-based drink, a beer and an alcoholic mixed drink.

46. The filler material according to claim 23, suitable for a drink tin whose drinks liquid has an overpressure compared with the compartment container of ≥0.3 bar.

47. The filler material of claim 24, wherein the average particle diameter is between 2.0 and 5.0 mm.

48. The filler material of claim 26, wherein said fines are present in an amount of up to 15% by weight.

49. The filler material of claim 24, wherein said fines are present in an amount of up to 10% by weight.

50. The filler material according to claim 28, wherein said active component a) is selected from the group consisting of cellulose, creatine, α-lipoic acid and dietary fiber.

51. The filler material according to claim 27, wherein said effervescent component is selected from the group consist-

ing of citric acid, phosphoric acid, malic acid, tartaric acid, carboxymethylcellulose, alginic acid, a low-substituted hydroxypropylmethylcellulose, a starch glycolate and a crosslinked N-vinyl-2-pyrrolidone.

52. The filler material according to claim 34, wherein the distintergrant is present in an amount of less than or equal to 10% by weight.

53. A beverage container comprising:

a first container having at least one compartment having a pressure therein and having an opening; and

a beverage in said container; wherein

said compartment contains the filler material of claim 23.

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