Claims

1. Portion capsule (1) for preparing a beverage, comprising a capsule body (2) with a capsule bottom (3) and a lid (6), wherein between the capsule bottom (3) and the lid (6), a cavity (100) for receiving a powdered or liquid beverage substrate (101) is formed in the cavity, and wherein a filter element (7) is situated and the filter element is made of non-woven fibre material, characterised in that the fibre material is plastically formed, preferably deep-drawn.

2. Portion capsule (1) according to claim 1 or the general scope of patent claim 1, characterised in that the filter element, preferably spaced apart from the capsule bottom (3), is connected to the capsule body (2).

3. Portion capsule (1) according to claim 1 or the general scope of patent claim 1, characterised in that the filter element is preferably spaced apart from the capsule bottom (3) and connected to a collar edge (5).

4. Portion capsule (1) according to any one of the preceding claims or according to the general scope of patent claim 1, characterised in that the filter element comprises a filter region (28) and a connecting portion (27) and that the connecting region is set at an angle to the filter region.

5. Portion capsule (1) according to any one of the preceding claims or according to the general scope of patent claim 1, characterised in that the filter element comprises a filter region (28) which is curved.

6. Portion capsule according to any of the preceding claims or the general scope of patent claim 1, characterised in that the filter element has at least one fold (24) in its connecting region.

7. Portion capsule according to any of the preceding claims or the general scope of patent claim 1, characterised in that the filter element has at least one multi-layer region (25) in its connecting region.

8. Portion capsule according to any of the preceding claims or the general scope of patent claim 1, characterised in that the filter element is polygonal, preferably hexagonal.

9. Portion capsule according to claim 4 or 5, characterised in that it comprises a plurality of folds (24) or a plurality of multilayer portions (25) which are preferably irregular.

10. Portion capsule according to any of the preceding claims, characterised in that paper is a component of the filter element.

11. Portion capsule according to any of the preceding claims, characterised in that the filter element is a nonwoven and/or a felt structure.

12. Portion capsule (1) according to claim 11, characterised in that the mesh comprises a nonwoven fabric made of polyester fine fibres and/or that the web has a mass density between 40 and 100 grammes per square metre, preferably between 60 and 80 grammes per square metre and more preferably generally 70 grammes per square metre and/or that the nonwoven has a thickness between 0.20 and 0.8 millimetres, preferably between 0.25 and 0.39 millimetres, and most preferably is generally 0.32 millimetres and/or that the mesh has an air permeability at a pressure of 100 Pascal of between 1000 and 3000 l/(m² s), preferably from 1500 to 2500 (l/m² s) and particularly preferably generally at 2000 l/(m² s).

13. Portion capsule according to claim 11, characterised in that the filter element (7) has two felt structures (7.1., 7.3), preferably needle felt structures, which are preferably separated from each other by a supporting structure (7.2).

14. Portion capsule (1) according to any one of the preceding claims, characterised in that the filter element (7) is elastic.

15. Portion capsule (1) according to any one of the preceding claims, characterised in that the filter element (7) on the capsule body (2) or on the collar edge (5) is sealed to the capsule, in particular sealed by ultrasound.

16. Portion capsule (1) according to any one of the preceding claims or according to the general scope of claim 1, characterised in that a cover film (6) is sealed to the filter element (7).

17. Portion capsule (1) according to any one of the preceding claims, characterised in that the diameter of the filter element (7) is greater than the diameter of the capsule bottom (3).

18. Portion capsule (1) according to any one of the preceding claims, characterised in that the filter element (7) has a region (7') which protrudes substantially in the direction of the filling side (4), and/or is bent in the direction of the filling side (4).

19. Portion capsule (1) according to claim 18, characterised in that the region (7') extends at least partially along a side wall portion (102) of the capsule body (2), wherein the sidewall region extends between the filling side (4) and the capsule bottom (3).

20. Portion capsule (1) according to any one of the preceding claims, characterised in that the capsule bottom (3) has an indentation (21) in the direction of the filling side (4).

21. Portion capsule (1) according to any one of the preceding claims, characterised in that the capsule bottom (3) is formed such that for a perforation of the capsule bottom (3) by an external perforation means (16), the filter element (7) remains unperforated.

22. Portion capsule (1) according to any one of the preceding claims, characterised in that the filter element (7) has a corrugated or folded portion (103') which acts as a fluid channel.

23. Portion capsule (1) according to any one of the preceding claims, characterised in that the capsule bottom (3) has a predetermined breaking point (104) which is intended to tear open as a result of a mechanical contact with an external perforation means (16).

24. Portion capsule (1) according to claim 23, characterised in that the predetermined breaking point (104) comprises a plurality of lines of weakness (105) radiating from a central point (106) on the capsule bottom (3), wherein the capsule bottom (3) has a reduced thickness and/or is perforated.

25. Portion capsule (1) according to any one of the preceding claims, characterised in that the capsule bottom (3) has an opening (107) which is preferably sealed with a film (108), wherein the film (108) particularly preferably has a pull tab (109) for removal of the film by hand.

26. Portion capsule according to any of the preceding claims, characterised in that the filter element is sealed to the capsule bottom, wherein the sealing seam is preferably

an annular ring.

27. Portion capsule according to claim 26, characterised in that the average diameter of the annular ring is 22 - 25 mm.

28. Method for the manufacture of a portion capsule with a capsule body, and with a filter element made of a non-woven fibrous material, wherein the filter element is connected to the capsule body, then filled with a beverage and/or food substrate, and the capsule body is closed with a lid foil, characterised in that the filter element (7) is plastically formed, preferably deep-drawn.

29. A method according to claim 28, characterised in that the filter element is cut and preferably introduced into the capsule by means of the knife, preferably spaced apart from the capsule bottom and connected to the capsule body or the collar edge, and then the portion capsule is filled with powder or tea and the capsule is then sealed with a cover film.

30. A method according to claim 29, characterised in that the cover film is secured to the filter element.

31. Process for the preparation of a portion capsule with a filter element made of a non-woven fibre material, characterised in that a planar filter element is inserted into a portion capsule using a punch and thereby moulded and then connected to the capsule body, in particular by means of sealing.

32. A method according to claim 31, characterised in that the moulded filter element is relaxed prior to sealing.

33. Use of a portion capsule (1) according to any one of claims 1 to 27 for producing a beverage, preferably for preparing a coffee, cocoa, tea and/or milk beverage.

The invention claimed is:

1. Portion capsule (**1**) for preparing a beverage, comprising a capsule body (**2**) with a capsule bottom (**3**) and a lid (**6**), wherein between the capsule bottom (**3**) and the lid (**6**), a cavity (**100**) for receiving a powdered or liquid beverage substrate (**101**) is formed in the cavity, and wherein a filter element (**7**) is situated and the filter element is made of non-woven fibre material, the fibre material is plastically formed, deep-drawn, the filter element is elastic.

2. Portion capsule (**1**) according to claim **1**, characterised in that the filter element, spaced apart from the capsule bottom (**3**), is connected to the capsule body (**2**).

3. Portion capsule (**1**) according to claim **1**, characterised in that the filter element is spaced apart from the capsule bottom (**3**) and connected to a collar edge (**5**).

4. Portion capsule (**1**) according to claim **1**, characterised in that the filter element comprises a filter region (**28**) and a connecting portion (**27**) and that the connecting region is set at an angle to the filter region.

5. Portion capsule (**1**) according to claim **1**, characterised in that the filter element comprises a filter region (**28**) which is curved.

6. Portion capsule according to claim 1, characterised in that the filter element has at least one fold (**24**) in a connecting region.

7. Portion capsule according to claim 1. characterised in that the filter element has at least one multi-layer region (**25**) in a connecting region.

8. Portion capsule according to claim 1. characterised in that the filter element is polygonal.

9. Portion capsule according to claim **4**, characterised in that it comprises a plurality of folds (**24**) or a plurality of multilayer portions (**25**).

10. Portion capsule according to claim **1**, characterised in that paper is a component of the filter element.

11. Portion capsule according to claim **1**, characterised in that the filter element is a a felt structure.

12. Portion capsule (**1**) according to claim **11**, characterised in that a mesh comprises a nonwoven fabric made of polyester fine fibres and/or that the web has a mass density between 40 and 100 grammes per square meter and/or that the nonwoven has a thickness between 0.20 and 0.8 millimeters and/or that the mesh has an air permeability at a pressure of 100 Pascal of between 1000 and 3000 $l/(m^2 s)$.

13. Portion capsule according to claim **11**, characterised in that the filter element (**7**) has two felt structures (**7.1**, **7.3**).

14. Portion capsule (**1**) according to claim **1**, characterised in that the filter element (**7**) on the capsule body (**2**) or on the collar edge (**5**) is sealed to the capsule.

15. Portion capsule (**1**) according to claim **1**, characterised in that a lid (**6**) is sealed to the filter element (**7**).

16. Portion capsule (**1**) according to claim **1**, characterised in that the diameter of the filter element (**7**) is greater than the diameter of the capsule bottom (**3**).

17. Portion capsule (**1**) according to claim **1**, characterised in that the filter element (**7**) has a region (**7'**) which protrudes substantially in the direction of the filling side (**4**), and/or is bent in the direction of the filling side (**4**).

18. Portion capsule (**1**) according to claim **17**. characterised in that the region (**7'**) extends at least partially along a side

wall portion (**102**) of the capsule body (**2**), wherein the side-wall region extends between the filling side (**4**) and the capsule bottom (**3**).

19. Portion capsule (**1**) according to claim **1**, characterised in that the capsule bottom (**3**) has an indentation (**21**) in the direction of the filling side (**4**).

20. Portion capsule (**1**) according to claim **1**, characterised in that the capsule bottom (**3**) is formed such that for a perforation of the capsule bottom (**3**) by an external perforation means (**16**), the filter element (**7**) remains unperforated.

21. Portion capsule (**1**) according to claim **1**, characterised in that the filter element (**7**) has a corrugated or folded portion (**103'**) which acts as a fluid channel.

22. Portion capsule (**1**) according to claim **1**, characterised in that the capsule bottom (**3**) has a predetermined breaking point (**104**) which is intended to tear open as a result of a mechanical contact with an external perforation means (**16**).

23. Portion capsule (**1**) according to claim **22**, characterised in that the predetermined breaking point (**104**) comprises a plurality of lines of weakness (**105**) radiating from a central point (**106**) on the capsule bottom (**3**), wherein the capsule bottom (**3**) has a reduced thickness and/or is perforated.

24. Portion capsule (**1**) according to claim **1**, characterised in that the capsule bottom (**3**) has an outlet opening (**107**).

25. Portion capsule according to claim **1**, characterised in that the filter element is sealed to the capsule bottom, wherein the sealing seam is an annular ring.

26. Portion capsule according to claim **25**, characterised in that the average diameter of the annular ring is 22-25 mm.

27. Use of a portion capsule (**1**) according to claim **1** for producing a beverage, for preparing a coffee, cocoa, tea and/or milk beverage.

28. Portion capsule for preparing a beverage, comprising a capsule body with a capsule bottom and a lid, wherein between the capsule bottom and the lid, a cavity for receiving a powdered or liquid beverage substrate is formed in the cavity, and wherein a filter element is situated and the filter element is made of non-woven fibre material, the fibre material is plastically formed and deep drawn, the filter element has a region which protrudes substantially in the direction of the filling side, and/or is bent in the direction of the filling side.

29. Portion capsule for preparing a beverage, comprising a capsule body with a capsule bottom and a lid, wherein between the capsule bottom and the lid, a cavity for receiving a powdered or liquid beverage substrate is formed in the cavity, and wherein a filter element is situated and the filter element is made of non-woven fibre material, the fibre material is plastically formed and deep drawn, the capsule bottom has an indentation in the direction of a filling side.

30. Portion capsule for preparing a beverage, comprising a capsule body with a capsule bottom and a lid, wherein between the capsule bottom and the lid, a cavity for receiving a powdered or liquid beverage substrate is formed in the cavity, and wherein a filter element is situated and the filter element is made of non-woven fibre material, the fibre material is plastically formed and deep drawn, the capsule bottom has a predetermined breaking point which is intended to tear open as a result of a mechanical contact with an external perforation means, the predetermined breaking point having a plurality of lines of weakness radiating from a central point on the capsule bottom, wherein the capsule bottom has a reduced thickness and/or is perforated.

31. Portion capsule for preparing a beverage, comprising a capsule body with a capsule bottom and a lid, wherein between the capsule bottom and the lid, a cavity for receiving a powdered or liquid beverage substrate is formed in the cavity, and wherein a filter element is situated and the filter element is made of non-woven fibre material, the fibre material is plastically formed and deep drawn, the filter element is sealed to the capsule bottom, wherein the sealing seam is an annular ring.