Claims

1. Container for the accommodation of a contact lens during a treatment process, comprising an elongated tubular body (2) having a sidewall (3) and at one longitudinal end thereof a bottom (4) which protrudes convexly towards the outside of the tubular body (2), and an access opening (5) at the opposite longitudinal end thereof, the bottom (4) being provided with a number of apertures enabling a free flow of a liquid into and out of the tubular body (2), and having a retaining element (6) which is located inside the tubular body (2), permitting access of a transfer means into the tubular body (2) towards the bottom (4) thereof for insertion and removal of a contact lens, and enabling a circulation of the liquid inside the tubular body (2), but prohibiting the contact lens from being washed out of the tubular body (2).

2. Container according to claim 1, wherein the retaining element (6) comprises a diaphragm (61) having flexible fins (62) which extend from a circumference towards the center thereof.

3. Container according to claim 2, wherein the flexible fins (62) are formed by diagonal slots in the diaphragm (61).

4. Container according to claim 2 or claim 3, wherein the flexible fins (62) are inclined towards the bottom (4) of the tubular body (2).

5. Container according to any one of claims 2 - 4, wherein the flexible fins (62) are provided with throughholes (63) enabling free passage of a liquid.

6. Container according to any one of the preceding claims, wherein the apertures in the bottom (4) of the tubular body (2) comprise throughholes (41) and longitudinal slots (42) which extend from a transition of the bottom (4) into the sidewall (3) of the tubular body (2), towards the retaining element (6).

7. Container according to claim 6, wherein a total area of the longitudinal slots (42) at least corresponds to an area covered by the throughholes (41) in the convex bottom (4).

8. Container according to any one of the preceding claims, wherein the longitudinal end of the tubular body surrounding the access opening (5) is provided with an annular flange (8).

9. Container according to claim 8, wherein the sidewall (3) of the tubular body (2), underneath the annular flange (8) is provided with at least two resilient locking tabs (9).

10. Container according to any one of claims 2 – 9, wherein the diaphragm (61) extends from a circumferential, preferably cylindrical, portion (64) which, in the mounted state, rests against a, preferably cylindrical inside wall (31) of the tubular body (2).

11. Container according to claim 10, wherein the cylindrical portion (64) is provided with at least two lugs (65) which protrude from the circumference thereof and, in the mounted state, lock in corresponding apertures (32) in the sidewall (3) of the tubular body (2).

12. Container according to claim 10 or 11, wherein the inside wall (31) of the tubular body (2) is provided with an annular shoulder (7) for axially supporting the circumferential portion (64) of the retaining element (6).

13. Container according to any one of the preceding claims, wherein the tubular body (2) is made from a moldable plastic material, preferably a polyolefin, a polyester, or mixtures thereof.

14. Container according to claim 13, wherein the tubular body (2) is manufactured by one of injection molding, impact extrusion, or blow molding.

15. Container according to any one of the preceding claims, wherein the retaining element (6) is made from Silicon.

16. Container according to any one of claims 1 - 9, wherein the retaining element is formed integrally with the tubular body.

17. Container according to claim 16, wherein the tubular body and the retaining element are manufactured in a two-component injection molding process.

18. Container according to any one of the preceding claims, wherein the treatment process is one or more treatment processes selected from the group consisting of extraction processes, rinsing processes or coating processes.

CLAIMS

The invention claimed is:

1. A container for the accommodation of a contact lens during a treatment process comprising an elongated tubular body having a sidewall and at one longitudinal end thereof a bottom which protrudes convexly towards the outside of the tubular body, and an access opening at the opposite longitudinal end thereof, the bottom being provided with a number of apertures enabling a free flow of a liquid into and out of the tubular body, and having a retaining element which is located inside the tubular body, permitting access of a gripper into the tubular body towards the bottom thereof for insertion and removal of a contact lens, and enabling a circulation of the liquid inside the tubular body, but prohibiting the contact lens from being washed out of the tubular body; and

the longitudinal end of the tubular body surrounding the access opening is provided with an annular flange, and wherein the sidewall of the tubular body, underneath the annular flange is provided with at least two resilient locking tabs.

2. The container according to claim 1, wherein the retaining element comprises a diaphragm having flexible fins which extend from a circumference towards the center thereof.

3. The container according to claim 2, wherein the flexible fins are formed by diagonal slots in the diaphragm.

4. The container according to claim 2, wherein the flexible fins are inclined towards the bottom of the tubular body.

5. The container according to claim 2, wherein the flexible fins are provided with throughholes enabling free passage of a liquid.

6. The container according to claim 1, wherein the apertures in the bottom of the tubular body comprise throughholes and longitudinal slots which extend from a transition of the bottom into the sidewall of the tubular body, towards the retaining element.

7. The container according to claim 6, wherein a total area of the longitudinal slots at least corresponds to an area covered by the throughholes in the convex bottom.

8. The container according to claim 1, wherein the diaphragm extends from a circumferential portion which, in the mounted state, rests against a cylindrical inside wall of the tubular body.

9. The container according to claim 8, wherein the cylindrical portion is provided with at least two lugs which protrude from the circumference thereof and, in the mounted state, lock in corresponding apertures in the sidewall of the tubular body.

10. The container according to claim 9, wherein the inside wall of the tubular body is provided with an annular shoulder for axially supporting the circumferential portion of the retaining element.

11. The container according to claim 1, wherein the tubular body is made from a moldable plastic material selected from polyolefins, polyesters, or mixtures thereof.

12. The container according to claim 11, wherein the tubular body is manufactured by one of injection molding, impact extrusion, or blow molding.

13. The container according to claim 1, wherein the retaining element is made from silicon.

14. The container according to claim 1, wherein the retaining element is formed integrally with the tubular body.

15. The container according to claim 14, wherein the tubular body and the retaining element are manufactured in a two-component injection molding process.

16. The container according to claim 1, wherein the treatment process is one or more treatment processes selected from extraction processes, rinsing processes or coating processes.