A biodegradable and disposable container has an upper portion and a lower portion respectively formed thereon. The container comprises a reservoir chamber defined in the container and extending to a top of the upper portion of the container to define an opening. The lower portion has multiple crushworthy fins co-axially and radially formed on a rim section thereof for preventing the lower portion of the container from directly contacting with a hard stuff and breaking. The upper portion has multiple insulating fins radially extending from an outer periphery thereof for reducing heat conducting from the container.
BIODEGRADABLE AND DISPOSABLE CONTAINER

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

The present invention relates to a disposable container, and more particularly to a biodegradable and disposable container having a strengthened structure.

[0002] 2. Description of Related Art

Since people desire hot drinks, one solution has been to provide hot liquid in cups for insulating heat so that the user's hand is not burnt while holding the hot cup. Styrofoam (polystyrene) is a common material used in disposable cups for this purpose. However, many people do not like polystyrene for at least two reasons. It is not biodegradable, and some of the material is ingested with the hot drink. There is, therefore, a need for disposable cups, particularly for hot drinks, which are environmentally friendly, to replace Styrofoam disposable cups.

[0003] A conventional disposable cup is sandwiched formed including an inner paper liner and an outer paper shell both composed of a biodegradable sheet material. A ridge structure is disposed between the inner paper liner and the outer paper shell. The ridge structure is perpendicular to an axis of the conventional disposable cup. The ridge structure can be formed of corrugations, a mesh or a cell network and partially filled with a phase-transition material to maintain a maximum temperature at an exterior of the outer paper shell for a given hot temperature of the liquid within the conventional disposable cup.

[0004] However, the biodegradable sheet material is manufactured by starch of the plant, e.g., cornstarch, such that the conventional disposable cup is easily broken when the conventional disposable cup is slightly crushed. Therefore, the conventional disposable cup is inconvenient for using.

[0005] The present invention has arisen to mitigate and/or obviate the disadvantages of the conventional disposable cup.

SUMMARY OF THE INVENTION

[0006] The main objective of the present invention is to provide an improved biodegradable and disposable container having an enhanced structure.

[0007] To achieve the objective, the biodegradable and disposable container in accordance with the present invention has an upper portion and a lower portion respectively formed thereof. The container comprises a reservoir chamber defined in the container and extending to a top of the upper portion of the container to define an opening. The lower portion has multiple crashworthy fins radially formed on a rim section thereof for preventing the lower portion of the container from directly contacting with a hard stuff and breaking. The upper portion has multiple insulating fins radially extending from an outer periphery thereof for reducing heat conducting from the container.

[0008] The multiple crashworthy fins are fragmented for cushioning a force of a crash and preventing the lower portion from directly hitting against stuff when the lower portion is crashed. Furthermore, the multiple insulating fins decreases a contact area of the user’s hand and reduces the heat conducting to the user’s hand such that the user can properly hold the container when hot liquid is received in the container and the user holds the container via the multiple insulating fins.

[0009] Further benefits and advantages of the present invention will become apparent after a careful reading of the detailed description with appropriate reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 is a top perspective view of a biodegradable and disposable container in accordance with the present invention;

[0011] FIG. 2 is a bottom perspective view of the biodegradable and disposable container in accordance with the present invention;

[0012] FIG. 3 is a partial cross-sectional view of the biodegradable and disposable container in FIG. 1;

[0013] FIG. 4 is a bottom plan view of the biodegradable and disposable container;

[0014] FIG. 5 is an operational view of the biodegradable and disposable container in accordance with the present invention; and

[0015] FIG. 6 is a partial enlarged perspective view of the biodegradable and disposable container in FIG. 5.

DETAILED DESCRIPTION OF THE INVENTION

[0016] Referring to the drawings in FIGS. 1-6, a container 1 in accordance with the present invention is composed of a biodegradable and fragile material that is substantially extracted from starch of plant, especially extracted form cornstarch. In addition, the container 1 in accordance with the present invention is disposable. The container 1 comprises a reservoir chamber (not numbered) defined therein and extending to a top of the container 1 to define an opening (not numbered). The container 1 has an upper portion 2 and a lower portion 3 respectively formed thereon.

[0017] The upper portion 2 has an annular flange 22 horizontally and radially extending from an edge thereof and the annular flange 22 is adjacent to the opening for contacting with a user’s mouth and guiding liquid to the user’s mouth when the user drinks the liquid received in the container 1. Furthermore, the annular flange 22 strengthens a structure of the edge of the container 1 for the liquid to be held with ease. Multiple insulating fins 21 radially and equidistantly extend from an outer periphery of the upper portion 2 for decreasing a contact area between the user’s hand and the container 1 to reduce the heat conducting to the user’s hand such that the user can properly hold the container 1 when hot liquid is received in the container 1 and the user holds the container 1 via the multiple insulating fins 21.

[0018] The lower portion 3 has a bottom 34 formed thereon and a recess 31 centrally defined in the bottom 34. Multiple crashworthy fins 32 are equidistantly and radially formed on a rim section of the lower portion 3 for preventing the lower portion 3 of the container 1 from directly contacting with a hard stuff and being broken. A curved groove 33 is defined in the lower portion 3 between every two adjacent crashworthy fins 32 for increasing a distance between the rim section of the lower portion 3 and the crashworthy fins 32 to form a buffer space when the lower portion 3 is crashed. The multiple curved grooves 33 are concentrically correspond to one another relative to the recess 31.

[0019] The container 1 of the present invention is composed of the biodegradable material such that the container 1 is fragile and easily broken when the container 1 is crashed by the hard stuff. The multiple crashworthy fins 32 strengthen...
the lower portion 3 of the container 1, especially the rim section of the lower portion 3 that is more often crushed by the stuff than the other parts of the container 1. Therefore, the multiple crushworthy fins 32 are fragmented for cushioning a force of crashing and preventing the lower portion 3 from directly hitting against the stuff when the lower portion 3 is crushed. Furthermore, sweats attach to the outer periphery of the container 1 when cold liquid is received in the container 1 and the container 1 is placed on a flat such that the container 1 is easily slipped. The recess 31 in the bottom 34 and the multiple crushworthy fins 32 decrease the contact area between the lower portion 3 and the flat floor for preventing the container 1 from slipping.

[0022] Although the invention has been explained in relation to its preferred embodiment, it is to be understood that many other possible modifications and variations can be made without departing from the spirit and scope of the invention as hereinafter claimed.

What is claimed is:

1. A biodegradable and disposable container having an upper portion and a lower portion respectively formed thereon and comprising a reservoir chamber defined in the container and extending to a top of the upper portion of the container to define an opening, the lower portion having multiple crushworthy fins radially formed on a rim section thereof for strengthening the lower portion of the container; whereby, the multiple fins prevent the lower portion of the container from directly contacting with a hard stuff and being broken.

2. The biodegradable and disposable container as claimed in claim 1 further comprises a groove defined in the lower portion between every two adjacent crushworthy fins for increasing a distance between the rim section of the lower portion and the crushworthy fins to form a buffer space when the lower portion is crushed.

3. The biodegradable and disposable container for as claimed in claim 1, wherein the upper portion has multiple insulating fins radially extending from an outer periphery thereof for reducing heat conducting from the container.

4. The biodegradable and disposable container as claimed in claim 2, wherein the upper portion has multiple insulating fins radially extending from an outer periphery thereof for reducing heat conducting from the container.

5. The biodegradable and disposable container as claimed in claim 1, wherein the lower portion has a bottom formed thereon and a recess centrally defined therein for preventing the container from slipping.

6. The biodegradable and disposable container as claimed in claim 2, wherein the lower portion has a bottom formed thereon and a recess centrally defined therein for preventing the container from slipping, the multiple curved grooves concentrically correspond to one another relative to the recess.

7. The biodegradable and disposable container as claimed in claim 3, wherein the lower portion has a bottom formed thereon and a recess centrally defined therein for preventing the container from slipping.

8. The biodegradable and disposable container as claimed in claim 4, wherein the lower portion has a bottom formed thereon and a recess centrally defined therein for preventing the container from slipping.

9. The biodegradable and disposable container as claimed in claim 2, wherein the upper portion has an annular flange horizontally and radially extending from an edge thereof adjacent to the opening for guiding liquid received in the container.

10. The biodegradable and disposable container as claimed in claim 3, wherein the upper portion has an annular flange horizontally and radially extending from an edge thereof and adjacent to the opening for guiding liquid received in the container.

11. The biodegradable and disposable container as claimed in claim 4, wherein the upper portion has an annular flange horizontally and radially extending from an edge thereof and adjacent to the opening for guiding liquid received in the container.

12. The biodegradable and disposable container as claimed in claim 6, wherein the upper portion has an annular flange horizontally and radially extending from an edge thereof and adjacent to the opening for guiding liquid received in the container.

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