The insulated bottle containment system supports a disposable water or sports drink bottle under a hard plastic ring below the cap. Supporting the bottle by this ring allows the invention to port the top of the disposable bottle with a puncture tube that is angled in a way that, while puncturing the top, it does not introduce a piece of the cap into the drink. At the top of the containment system is a hinged or pivoted top that introduces the puncture tube into the top and at its closed position locks into place. Through the puncture tube, the drink is allowed to flow to the drink port, where the consumer can drink their beverage. The top is adaptable to various different neck sizes. The insulated container is sized to accommodate a range of bottles.
INSULATED BOTTLE CONTAINMENT SYSTEM

BACKGROUND OF THE INVENTION

[0001] The present invention relates to the field of insulated containers for water and beverages.

[0002] The wide use of disposable plastic bottles for water and chilled beverages involves several difficult problems. Since these bottles possess little or no insulation value, they cannot maintain the cool temperature of the water/beverage. This causes a rapid loss of the refreshment value of the drink, particularly under warm weather conditions during outdoor sporting events. Disposal of such bottles is a troublesome source of litter, particularly in parks, athletic fields and recreational areas, where plastic bottles and caps are frequently strewn on the ground in alarming numbers. Another problem is that disposable bottle caps are often difficult to twist off for very young and elderly persons.

[0003] The existing alternative to disposable plastic drink bottles is provided by various types of insulated containers, such as "sports bottles," into which water or a chilled beverage can be poured. While such insulated containers are useful in keeping water/beverages cool and drinkable, they require frequent cleaning and can easily become infested with unhealthful and distasteful mold. Gallons of water are typically spent cleaning the traditional water bottles by hand, particularly when contaminated with mold.

[0004] The present invention addresses the aforesaid deficiencies of both disposable bottles and existing insulated containers. It provides an insulated containment system which accepts a capped disposable water/beverage bottle and accesses its contents by puncturing the bottle cap, without introducing plastic debris from the cap into bottle interior.

SUMMARY OF THE INVENTION

[0005] The insulated bottle containment system supports a disposable water or sports drink bottle under a hard plastic slotted support plate below the cap. Supporting the bottle by this slotted plate allows the invention to port the top of the disposable bottle with a puncture tube that is angled in a way that, while puncturing the top, it does not introduce a piece of the cap into the drink. At the top of the containment system is a hinged or pivoted top that introduces the puncture tube into the top and at its closed position locks into place. Through the action of closing the hinged container top, the angled puncture tube cuts through the cap of the water bottle so as to create a flap which remains connected to the cap. This feature avoids contaminating the water with plastic fragments from the cap, while providing a port through which the water can flow.

[0006] Through the puncture tube, the drink is allowed to flow to the drink port, where the consumer can drink their beverage. The top is adaptable to various different neck sizes. The insulated container is sized to accommodate a range of bottles.

[0007] The foregoing summarizes the general design features of the present invention. In the following sections, specific embodiments of the present invention will be described in some detail. These specific embodiments are intended to demonstrate the feasibility of implementing the present invention in accordance with the general design features discussed above. Therefore, the detailed descriptions of these embodiments are offered for illustrative and exemplary purposes only, and they are not intended to limit the scope either of the foregoing summary description or of the claims which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is an exploded view of an insulated bottle container in accordance with the preferred embodiment of the present invention.

[0009] FIG. 2 is a partial cross-section view of the insulated bottle container of FIG. 1 taken along the line A-A.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0010] Referring to FIGS. 1 and 2, the exemplary insulated bottle container 10 comprises an insulated vessel 11, consisting of a cylindrical wall defining an interior space sized to accommodate a disposable water/beverage bottle 26. The insulated vessel 11 has an externally threaded neck 12 and an internal neck groove 13. A C-shaped bottle support 14 fits with the neck groove 13 and supports the bottle by its neck 27.

[0011] The exemplary insulated bottle container 10 further comprises a vessel lid 15. The vessel lid 15 has an open cylindrical lid base 16 with internal threading 31 that cooperates conjunctively with the threaded neck 12 of the insulated vessel 11. Integrally surrounding the lid base 16 is a cap enclosure 17 having frusto-conical wall defining an interior space sized to accommodate the upper neck 27 and cap 28 of a disposable bottle 26. Hingeably connected to the top of the cap enclosure 17 is a hinged port 19, which attaches to the cap enclosure 17 by a hinge 18 and is secured in a closed position by a catch 20, such as the button catch 20 depicted in FIG. 2.

[0012] The hinged port 19 comprises a puncture tube 21, having at its proximal end a tube outlet 24 which is in fluid communication with a drink port 23. At its distal end, the puncture tube 21 has an angled cutting edge 25, and its midsection is encompassed by a tube seal 22. With the hinged port 19 in the closed position, as depicted in FIG. 2, the puncture tube 21 and tube seal 22 became inserted into an entry aperture 32 on the top of the cap enclosure 17, and the cutting edge of the puncture tube 25 angularly engages the top of the bottle cap 28, so as to cut a hole 29 in the cap and leave a remnant flap 30 of cap material hanging within the interior of the bottle cap 28.

[0013] The method of using the insulated bottle containment system 10 is to unscrew the vessel lid 15 from the insulated vessel 11 and lift the hinged port 19 away from the cap enclosure 17. The neck support 14 is then placed around the bottle neck 27, and the capped bottle 26 is lowered into the insulated vessel 11. The vessel lid 15 is then screwed tightly onto the insulated vessel 11, so that the bottle cap 28 engages the entry aperture 32 in the cap enclosure 17. The hinged port 19 is then lowered to a closed position fully engaged with the cap enclosure 17, causing the cutting edge of the puncture tube 25 to project through the entry aperture 32 and angularly engage the top of the bottle cap 28, so as to cut a hole 29 in the cap 28 and leave a remnant hanging flap 30 of cap material within the cap 28. The hinged port 19 is then secured in the closed position by the button catch 20.

[0014] Upon the completion of the foregoing steps, the insulated bottle container 10 can be tilted so that water/beverage flows from the disposable bottle 26 through the puncture tube 21 and out through the drink port 23. Alternately, a
flexible straw can be inserted through the drink port 23 and the puncture tube 21 in order to draw water/beverage from the bottle 26 by suction.

[0015] Although the preferred embodiment of the present invention has been disclosed for illustrative purposes, those skilled in the art will appreciate that many additions, modifications and substitutions are possible, without departing from the scope and spirit of the present invention as defined by the accompanying claims.

What is claimed is:

1. An insulated container for water and beverages, comprising:
   (a) a disposable bottle comprising a bottle body, a bottle neck and a bottle cap;
   (b) an insulated vessel enclosing the bottle body;
   (c) a bottle support from which the bottle is suspended by the bottle neck within the insulated vessel;
   (d) a vessel lid conjugately connectable to the insulated vessel;
   (e) a port member hingeably connected to the vessel lid, such that a hinge connection enables the port member to be either lifted to an open position, in which the port member partially disengages from the vessel lid, or lowered to a closed position, in which the port member fully engages the vessel lid;
   (f) a catch mechanism that secures the port member in the closed position; and
   (g) a puncture tube and a drinking port within the port member, wherein the puncture tube has a tube outlet in fluid communication with the drinking port and a tube inlet containing an angled cutting edge, and wherein, in the closed position of the port member, the angled cutting edge projects through an aperture in the vessel lid and penetrates the bottle cap, so as to cut a hole in the bottle cap through which a liquid can flow from the bottle through the puncture tube to the drinking port, and so as to leave a hole remnant flap hanging within the bottle cap.

2. A method for containing and accessing water and beverages, comprising:
   (a) providing a disposable bottle comprising a bottle body, a bottle neck and a bottle cap;
   (b) enclosing the bottle body within an insulated vessel;
   (c) supporting the bottle neck so as to suspend the bottle within the insulated vessel;
   (d) conjugately connecting a vessel lid to the insulated vessel;
   (e) hingeably connecting a port member to the vessel lid, wherein the port member comprises a puncture tube and a drinking port, and wherein the puncture tube has a tube outlet in fluid communication with the drinking port and a tube inlet containing an angled cutting edge;
   (f) lowering the port member into a closed position in which the port member fully engages the vessel lid and in which the angled cutting edge of the puncture tube projects through an aperture in the vessel lid and angularly engages the bottle cap;
   (g) penetrating the bottle cap with the angled cutting edge of the puncture tube, thereby cutting a hole through the bottle cap;
   (h) leaving a hole remnant flap hanging within the bottle cap;
   (i) securing the port member in the closed position with a catch mechanism; and
   (j) pouring or drawing a liquid from the bottle through the puncture tube and through the drinking port.

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