position to the second position and dispense the chemical from the bore through the discharge aperture of the docking station, and wherein the discharge aperture is defined by an inner sidewall, and the reservoir defines a vertically elongated body having a cross-sectional size substantially equal to a cross-sectional size of the discharge aperture.

[0011] In another example, a chemical dispensing reservoir is described. The reservoir includes a reservoir defining a bore configured to contain a chemical. The reservoir has a bottom end through which the chemical is configured to be dispensed. The reservoir also includes at least one retention tab adjacent the bottom end of the reservoir. The example specifies that the retention tab is movable from a first position in which the tab extends radially across at least a portion of the bore to a second position in which the tab is offset relative to the bore.

[0012] In another example, a method using the chemical dispensing system according to any of the examples is described that includes inserting a reservoir having a bore containing chemical that is held in the bore by at least one retention tab extending radially across at least a portion of the bore into a docking station. The docking station has at least one retention tab receiving region. The example method also involves engaging the retention tab with the retention tab receiving region, thereby causing the retention tab to move to a position that is offset relative to the bore, causing chemical to dispense from the bore through a discharge aperture of the docking station, wherein inserting the reservoir into the docking station comprises screwing the reservoir into the docking station, and engaging the at least one retention tab with the at least one retention tab receiving region comprises engaging an annular cavity bounded by an inner sidewall and an outer sidewall and located below a threaded section of the docking station, causing the inner sidewall to push against the at least one retention tab as the reservoir is inserted in the docking station.

[0013] The details of one or more examples are set forth in the accompanying drawings and the description below. Other features, objects, and advantages will be apparent from the description and drawings, and from the claims.

BRIEF DESCRIPTION OF DRAWINGS

[0014] FIG. 1 is a side view of an example chemical dispensing system.

[0015] FIG. 2 is an exploded sectional view of the A-section indicated on FIG. 1 taken along the X-Z plane indicated on FIG. 1.

[0016] FIG. 3 is a side sectional view showing an example retention tab assembly having a plurality of retention tabs.

[0017] FIGS. 4A–4C illustrate an example configuration of a reservoir being docked into an example configuration of a docking station.

DETAILED DESCRIPTION

[0018] This disclosure generally relates to chemical packaging and dispenser systems. In some examples, a chemical is packaged in a reservoir that surrounds and holds the chemical for later discharge. The reservoir may have a closed top end, a bottom end that defines an opening, and one or more sidewalls surrounding the sides of the reservoir. The bottom end of

CLAIMS:

1. A chemical dispensing system comprising:

a reservoir defining a bore configured to contain a chemical, the reservoir having a bottom end through which the chemical is dispensed,

at least one retention tab adjacent the bottom end of the reservoir, the at least one retention tab being movable from a first position in which the tab extends radially across at least a portion of the bore to a second position in which the tab is offset relative to the bore;

a docking station having a discharge aperture and at least one retention tab receiving region,

wherein the docking station is configured to receive the reservoir with the at least one retention tab engaging the at least one retention tab receiving region, thereby causing the at least one retention tab to move from the first position to the second position and dispense the chemical from the bore through the discharge aperture of the docking station, and

wherein the discharge aperture is defined by an inner sidewall, and the reservoir defines a vertically elongated body having a cross-sectional size substantially equal to a cross-sectional size of the discharge aperture.

2. The system of claim 1, wherein:

the reservoir has a top end and at least one sidewall connecting the top end to the bottom end, and

the second position to which the at least one retention tab is configured to move comprises the tab extending parallel to the at least one sidewall.

3. The system of either of claims 1 and 2, wherein the at least one retention tab receiving region of the docking station comprises an annular cavity bounded by an inner sidewall and an outer sidewall, the inner sidewall being configured to push against the at least one retention tab as the reservoir is inserted in the docking station and cause the tab to move from the first position to the second position.

5. The system of any one of the foregoing claims, wherein reservoir defines a retention tab receiving space adjacent the bottom end sized greater than or equal to a thickness of the retention tab, such that the at least one retention tab can fold into the retention tab receiving space when moved to the second position.

6. The system of any one of the foregoing claims, wherein the at least one retention tab is attached to the reservoir via a hinge and is configured to rotate about the hinge upwardly into the bore as it moves from the first position to the second position.

7. The system of any one of the foregoing claims, further comprising a retention tab assembly carrying the at least one retention tab, wherein the retention tab assembly is secured to a bottom edge of the reservoir.

8. The system of any one of the foregoing claims, wherein the at least one retention tab comprises a plurality of retention tabs arrayed about a perimeter of the bore.

9. The system of any one of the foregoing claims, wherein the reservoir further comprises a rupturable film enclosing the bottom end.

10. The system of any one of the foregoing claims, wherein the reservoir contains the chemical, and the chemical is one of a solid bock, solid pucks, and solid granules.

11. A method of dispensing chemical using the chemical dispensing system according to any one of claims 1 to 10, the method comprising:

inserting a reservoir having a bore containing chemical that is held in the bore by at least one retention tab extending radially across at least a portion of the bore into a docking station, the docking station having at least one retention tab receiving region, and

engaging the at least one retention tab with the at least one retention tab receiving region, thereby causing the at least one retention tab to move to a position that is offset relative to the bore, causing chemical to dispense from the bore through a discharge aperture of the docking station,

wherein inserting the reservoir into the docking station comprises screwing the reservoir into the docking station, and

engaging the at least one retention tab with the at least one retention tab receiving region comprises engaging an annular cavity bounded by an inner sidewall and an outer sidewall and located below a threaded section of the docking station, causing the inner sidewall to push against the at least one retention tab as the reservoir is inserted in the docking station.

12. The method of claim 11, wherein the at least one retention tab is attached to the reservoir via a hinge, and engaging the at least one retention tab with the at least one retention tab receiving region comprises rotating the at least one retention tab up into the bore.

13. The system of claim 3, wherein the reservoir comprises external threading adjacent the bottom end, the docking station comprises complementary threading for screwably receiving the external threading of the reservoir, and the annular cavity is positioned below the complementary threading.