CLAIMS

What is claimed is:

1. A packaging for a syringe having a nominal size of less than 1 mL, the packaging comprising:

a flexible tray having a cavity for containing the syringe, the syringe including a barrel with an outer diameter, wherein the cavity includes an opening, one or more sidewalls, and a base;

a lip surrounding the opening, wherein the lip extends radially outward from the cavity and defines a periphery of the tray;

a removable cover having a periphery that is adhered to the lip, wherein the removable cover is permeable to a gaseous sterilant, including one or more of vaporized hydrogen peroxide or ethylene oxide; and

a dome-shaped projection associated with the base of the cavity and extending away from the base of the cavity in a direction opposite to the opening of the cavity, wherein the dome-shaped projection includes a diameter greater than the outer diameter of the barrel of the syringe.

2. The packaging of claim 1, wherein the diameter of the dome-shaped projection is 10 mm to 20 mm, wherein the diameter of the dome-shaped projection defines a widest portion of the dome-shaped projection where the dome-shaped projection meets the base of the cavity.

3. The packaging of claim 1, wherein the cavity includes three cavity portions arranged in series along a longitudinal axis of the tray, wherein the three cavity portions are connected to each other via narrowed portions.

4. The packaging of claim 3, wherein the dome-shaped projection is associated with a middle cavity portion of the three cavity portions, and wherein the tray is formed from

a suitable thermoplastic material, including one or more of polypropylene, polystyrene, polyethylene, polycarbonate, polyvinyl chloride, or polyethylene terephthalate glycol.

5. The packaging of claim 3, wherein, when the syringe is contained within the cavity, a height of the dome-shaped projection from an apex of the dome-shaped projection to a base of the dome-shaped projection is 5 mm to 6 mm, and a distance between the base of the dome-shaped projection and a portion of the syringe overlying the dome-shaped projection is 3 mm to 4 mm.

6. The packaging of claim 5, wherein the syringe is a pre-filled syringe.

7. The packaging of claim 1, wherein the tray includes at least two geometrical features located on at least one sidewall of the packaging to retain the syringe within the cavity by friction fit.

8. The packaging of claim 7, wherein the tray includes a third geometrical feature located on the base of the cavity below where the syringe is to be contained within the cavity.

9. A packaging comprising:

a tray having an opening and a cavity, wherein the cavity includes a plurality of sidewalls and a base;

a syringe contained within the cavity, wherein the syringe is pre-filled with a medicament; and

a projection associated with the tray at a location in line with a portion of the syringe;

wherein, in a first state, the projection extends away from the syringe in a direction opposite from the opening of the cavity;

wherein the projection is configured to transition from the first state to a second state when subjected to pressure; and

wherein, in the second state, the projection is inverted so that a portion of the projection extends towards the portion of the syringe in line with the projection.

10. The packaging of claim 9, wherein the projection is located in line with a barrel of the syringe when in the first state.

11. The packaging of claim 9, wherein the cavity includes three cavity portions, wherein a first cavity portion contains a plunger of the syringe, a second cavity portion contains a barrel of the syringe, and a third cavity portion contains a needle attachment portion of the syringe.

12. The packaging of claim 11, wherein the three cavity portions are connected to one another by intermediate narrowed portions, and wherein the syringe extends through the narrowed portions.

13. The packaging of claim 12, wherein the narrowed portions include a plurality of geometric features projecting into the narrowed portions to position the syringe away from the plurality of sidewalls.

14. The packaging of claim 13, further comprising a removable cover sealing the opening of the cavity opposite the base, wherein the removable cover is permeable to a gaseous sterilant configured to maintain a sterile barrier.

15. The packaging of claim 9, wherein the medicament is one of aflibercept, ranibizumab, bevacizumab, conbercept, OPT-302, RTH258 (brolocizumab), a pegylated designed ankyrin repeating protein (DARPin), or RG7716.

16. A method of removing an externally-sterilized syringe from packaging, the method comprising:

peeling off a removable cover from a blister packaging tray having a cavity configured to contain the externally-sterilized syringe therein, wherein the blister packaging tray includes a dome-shaped projection associated with a base of the cavity of the blister packaging tray and aligned with the externally-sterilized syringe;

pushing a portion of the dome-shaped projection towards the cavity of the blister packaging tray, wherein pushing the portion of the dome-shaped projection causes a portion of the blister packaging tray to flex; and

orienting the blister packaging tray so that an opening of the cavity faces a sterile surface to discharge the externally-sterilized syringe from the blister packaging tray and onto the sterile surface.

17. The method of claim 16, wherein the externally-sterilized syringe is pre-filled with aflibercept, ranibizumab, bevacizumab, conbercept, OPT-302, RTH258 (brolocizumab), a pegylated designed ankyrin repeating protein (DARPin), or RG7716.

18. The method of claim 16, wherein the blister packaging tray is fabricated from a material including one or more of polypropylene, polystyrene, polyethylene, polycarbonate, polyvinyl chloride, or polyethylene terephthalate glycol.

19. The method of claim 16, wherein the removable cover is permeable to a gaseous sterilant.

20. The method of claim 19, wherein the gaseous sterilant is vaporized hydrogen peroxide.

21. A method of removing an externally-sterilized syringe from a packaging, the packaging including a tray having a cavity, a deformable projection associated with the cavity, and an opening covered by a gas-permeable material, the method comprising:

removing the gas-permeable material so as to expose the opening of the tray;

deforming the projection into the cavity and toward a barrel of the externally-sterilized syringe, wherein the step of deforming the projection also causes a portion of the tray to flex; and

ejecting the externally-sterilized syringe from the tray.

22. The method of claim 21, wherein ejecting the externally-sterilized syringe from the tray is performed without a user directly handling the syringe.

23. The method of claim 21, wherein the gas-permeable material is permeable to vaporized hydrogen peroxide or ethylene oxide.

24. The method of claim 21, wherein the deformable projection includes a bulbous shape.

25. The method of claim 21, wherein the externally-sterilized syringe is pre-filled with aflibercept, ranibizumab, bevacizumab, ranibizumab, bevacizumab, conbercept, OPT-302, RTH258 (brolocizumab), a pegylated designed ankyrin repeating protein (DARPin), or RG7716.

26. A method of removing an externally-sterilized syringe from a packaging, the packaging including a tray having a cavity, a projection associated with the cavity that is configurable to at least partially deform, and an opening covered by a gas-permeable material, the method comprising:

removing the gas-permeable material so as to expose the opening of the tray;

deforming a portion of the cavity toward a barrel of the externally-sterilized syringe, so as to cause a portion of the tray to flex; and

ejecting the externally-sterilized syringe from the tray.

27. The method of claim 26, wherein ejecting the externally-sterilized syringe from the tray is performed without a user touching the externally-sterilized syringe with a bare hand.

28. The method of claim 26, wherein the gas-permeable material is permeable to one or more of vaporized hydrogen peroxide or ethylene oxide.

29. The method of claim 26, wherein the externally-sterilized syringe is pre-filled with aflibercept, ranibizumab, bevacizumab, conbercept, OPT-302, RTH258 (brolocizumab), a pegylated designed ankyrin repeating protein (DARPin), or RG7716.

30. A packaging for a syringe having a nominal size of less than 1 mL, the packaging comprising:

a flexible tray having a cavity for receiving the syringe, wherein the cavity includes an opening, one or more sidewalls, and a base;

a lip surrounding the opening, wherein the lip extends radially outwards from the cavity and defines a periphery of the tray;

a removable cover having a periphery that is adhered to the lip, wherein the removable cover is permeable to a gaseous sterilant, including one or more of vaporized hydrogen peroxide or ethylene oxide; and

a projection associated with the base of the cavity and extending away from the base of the cavity in a direction opposite to the opening of the cavity, wherein the projection is hollow and open towards the cavity.

31. The packaging of claim 30, wherein the projection is configurable to move relative to the cavity in response to receiving a force at a portion of the projection.

32. A packaging, comprising:

a tray having an opening and a cavity configured to contain a syringe pre-filled with a medicament;

wherein the cavity includes a plurality of sidewalls, a base, and at least three cavity portions that includes a first cavity portion configured to contain a plunger of the syringe, a second cavity portion configured to contain a barrel of the syringe, and a third cavity portion configured to contain a needle attachment portion of the syringe;

wherein the at least three cavity portions are connected to one another by intermediate narrowed portions, and each of the intermediate narrowed portions includes a geometric feature projecting into the intermediate narrowed portion;

a projection associated with the base of the second cavity portion; and

a removable cover sealing the opening of the cavity opposite the base, wherein the removable cover is permeable to a gaseous sterilant configured to maintain a sterile barrier.

33. The packaging of claim 32, wherein the projection includes a dome having a widest diameter at the base of the cavity, wherein the projection is extends directly outward from the base such that the widest diameter of the dome is connected at the base.

34. The packaging of claim 33, wherein, when the syringe is disposed within the cavity, a height of the projection from an apex of the dome to a base of the projection is greater than a distance between the base of the projection and a portion of the syringe contained within the cavity and overlying the projection.