[0120] In another preferred embodiment, an operator places the shield into the shipping bag in a generally horizontal orientation, inserting the shield into an appropriately-sized recess in the foam liner at the bottom of the bag. The operator then places a separate foam block on top of the shield to fill any space between the upward-facing side of the shield and the opening of the bag, which closely invests around shield.

[0121] In an embodiment, the bag is scaled appropriately to work in conjunction with shielding elements to yield Yellow-II hazard rating with up to 1 Ci for I-131, up to 16.5mCi for Ga-68, and up to 12mCi for Cu-64. In other embodiments, the bag may be scaled to accommodate shielding elements to accommodate other ratings based on other isotopes.

[0122] Alternatives are possible.

What is claimed is:

1. A shield for a syringe containing biohazardous material, the shield comprising:

an elongate body comprising a compartment extending longitudinally therethrough from a body cold end to a body hot end, the compartment dimensioned to receive a syringe barrel;

a cold end cover dimensioned to receive and enclose a syringe plunger extending beyond the body cold end, the cold end cover attachable at the body cold end for enclosing the compartment and the syringe plunger at the body cold end thereby to shieldingly contain the biohazardous material in the syringe at the body cold end; and

a hot end cover attachable at the body hot end for at least enclosing the compartment at the body hot end thereby to shieldingly contain the biohazardous material in the syringe at the body hot end.

2. The shield of claim **1**, wherein the elongate body is cylindrical.

3. The shield of claim **1**, comprising:

a first collar comprising an inner portion attached to the body cold end and an outer portion attachable to the cold end cover.

4. The shield of claim **3**, wherein the outer portion of the first collar comprises outwardly-projecting cams and the cold end cover comprises inwardly-projecting cams complementary to and engageable with the outwardly-projecting cams of the outer portion of the first collar thereby to enable bayonet attachment of the cold end cover at the body cold end.

5. The shield of claim **4**, further comprising a first gasket associated with the outer portion of the first collar and compressible between the cold end cover and the outer portion of the first collar during bayonet attachment thereby to inhibit unintentional detachment of the cold end cover from the outer portion.

6. The shield of claim **3**, comprising:

a second collar comprising an inner portion attached to the body hot end and an outer portion attachable to the hot end cover.

7. The shield of claim **6**, wherein the outer portion of the second collar comprises outwardly-projecting cams and the hot end cover comprises inwardly-projecting cams complementary to and engageable with the outwardly-projecting cams of the outer portion of the second collar thereby to enable bayonet attachment of the hot end cover at the body hot end.

8. The shield of claim **7**, further comprising a second gasket associated with the outer portion of the second collar and compressible between the hot end cover and the outer portion of the second collar during bayonet attachment thereby to inhibit unintentional detachment of the hot end cover from the outer portion.

9. The shield of claim **1**, further comprising:

a shielding sleeve lining an interior of the cold end cover to be intermediate the cold end cover and the syringe plunger; and

a shielding puck at a distal end of the cold end cover to be intermediate the cold end cover and the syringe plunger.

10. The shield of claim **9**, wherein the cold end cover comprises a removable lid at the distal end of the cold end cover, the lid dimensioned to receive the shielding puck.

11. The shield of claim **1**, further comprising:

a shielding puck at a distal end of the hot end cover to be intermediate the hot end cover and a syringe tip.

12. The shield of claim **11**, wherein the shielding puck at the distal end of the hot end cover comprises an inlet dimensioned to at least partly receive the syringe tip while the hot end cover is attached at the body hot end.

13. The shield of any one of claims **1** to **12**, further comprising:

a locking ring associated with the body cold end, the locking ring dimensioned to receive and engage a syringe hilt to enable selective inhibition of one or both of: longitudinal and rotational movement of the syringe with respect to the body.

14. The shield of claim **13**, wherein the locking ring comprises:

a ring body having an outer face and an inner face, wherein the inner face faces the body cold end of the elongate body;

a channel having first and second hilt portions flanking a barrel portion, the channel extending entirely through the ring body from the outer face to the inner face, the hilt portions and the barrel portion dimensioned to permit the syringe hilt and the syringe barrel to pass respectively therethrough only while the syringe is in a first rotational orientation with respect to the ring body;

first and second hilt recesses in the ring body flanking the barrel portion of the channel, the hilt recesses extending only partway through the ring body from the inner face towards the outer face and dimensioned to receive respective portions of the syringe hilt from the direction of the inner face of the ring body only while the syringe is in a second rotational orientation with respect to the ring body, the second rotational orientation being different than the first rotational orientation, wherein rotational movement of the syringe with respect to the locking ring is inhibited while the syringe hilt is received within the first and second hilt recesses;

shelf structure associated with the hilt recesses for permitting rotation of the syringe between the first and second rotational orientations only while the syringe hilt received within the channel is longitudinally level with the inner face of the ring body; and

resiliently deformable retention structure associated with the hilt recesses for selectively retaining the syringe hilt within the hilt recesses, the retention structure moveable between a rest position in which the hilt recesses are partially obstructed and a release position in which