WHAT IS CLAIMED:

1. A vial jacket configured to receive a label, the vial jacket comprising:

a plastic material having a cryogenic operating temperature range, the plastic material dimensioned to surround at least a portion of a vial;

a hinge formed in the plastic material, the hinge defining a first half shell comprising a first edge and a second half shell comprising a second edge;

a locking mechanism configured to secure the first edge of the first half shell to the second edge of the second half shell; and

an opening formed in the plastic material having an axial length and a transverse length.

2. The vial jacket of claim 1, wherein the cryogenic operating temperature range comprises a range of about -150°C to about 0°C.

3. The vial jacket of claim 1, wherein the cryogenic operating temperature range comprises a range of about -190°C to about 0°C.

4. The vial jacket of claim 1, wherein the hinge is formed by a thinning of the plastic material.

5. The vial jacket of claim 1, wherein the plastic material comprises at least one of HDPE, polypropylene, or other suitable plastic.

6. The vial jacket of claim 1, wherein the locking mechanism secures the vial jacket to the vial.

7. The vial jacket of claim 1, wherein the locking mechanism is configured to snap fit the first edge of the first half shell to the second edge of the second half shell.

8. The vial jacket of claim 1, wherein the axial length of the opening is greater than the transverse length.

9. The vial jacket of claim 1, wherein the transverse length of the opening is greater than the axial length.

10. The vial jacket of claim 1, wherein the opening is proximate to at least one of the first edge of the first half shell or the second edge of the second half shell.

11. A vial assembly comprising a vial and a vial jacket configured to receive a label, the vial jacket comprising:

a plastic material having a cryogenic operating temperature range, the plastic material dimensioned to surround at least a portion of the vial;

a hinge formed in the plastic material, the hinge defining a first half shell comprising a first edge and a second half shell comprising a second edge;

a locking mechanism configured to secure the first edge of the first half shell to the second edge of the second half shell; and

an opening formed in the plastic material having an axial length and a transverse length.

12. The vial assembly of claim 11, wherein the cryogenic operating temperature range comprises a range of about -150°C to about 0°C.

13. The vial assembly of claim 11, wherein the cryogenic operating temperature range comprises a range of about -190°C to about 0°C.

14. The vial assembly of claim 11, wherein the hinge is formed by a thinning of the plastic material.

15. The vial assembly of claim 11, wherein the plastic material comprises at least one of HDPE, polypropylene, or other suitable plastic.

16. The vial assembly of claim 11, wherein the locking mechanism secures the vial jacket to the vial.

17. The vial assembly of claim 11, wherein the locking mechanism is configured to snap fit the first edge of the first half shell to the second edge of the second half shell.

18. The vial assembly of claim 11, wherein the axial length of the opening is greater than the transverse length.

19. The vial assembly of claim 11, wherein the transverse length of the opening is greater than the axial length.

20. The vial assembly of claim 11, wherein the opening is proximate to at least one of the first edge of the first half shell or the second edge of the second half shell.