CLAIMS

What is claimed is:

1. A method for forming and maintaining an aseptic work zone of a blow fill seal process, comprising:

subjecting critical, direct and indirect food product contact surfaces of a fill nozzle assembly, parison and resulting hermetically sealed container to a sterile gas, wherein the sterile gas flows uni-directionally, thereby maintaining sterility of the critical, direct, and indirect food product contact surfaces during a fill cycle;

extruding hot molten plastic via an extruder at an extrusion temperature sufficient to maintain the sterility of the plastic;

passing sterile gas through the hot molten plastic thereby creating a hot plastic parison;

providing a mold apparatus to enclose the hot plastic parison thereby sealing the bottom of the plastic parson;

cutting the hot plastic parison with a sterilized cutting device such that is it removed from the extruder and forms a plastic parison having a closed end and an open end;

subjecting the open end of the plastic parison to a sterile fill nozzle assembly; and

providing a sterile blowing gas from the fill nozzle assembly into the interior of the plastic parison thereby forming a plastic container, wherein the sterile blowing gas passes out of the plastic container and maintains sterility of the opening of the plastic container.

2. The method of claim 1, wherein the aseptic work zone, comprising the critical, direct and indirect food product contact surfaces of the fill nozzle assembly, parison and resulting hermetically sealed container, is continuously being formed throughout the blow fill seal process.

3. The method of claim 1, wherein the extrusion temperature is from about 150° C to about 230° C.

4. The method of claim 1, wherein the sterility of the fill nozzle assembly is maintained during and between each fill cycle by only making contact with the sterile plastic parison and resulting plastic container during filling operations, and further wherein the sterilized fill nozzle assembly is contained in a pre-sterilized shroud when not in filling position during the fill cycle.

5. The method of claim 1, further comprising the step of:

filling the container with a sterilized low acid food product; and

hermetically sealing the open end of the container.

6. The method of claim 1, wherein sterile-filtered HEPA gas is utilized to maintain the sterility of the fill nozzle assembly as it vertically retracts to and from a filling position.