



Why Aseptic?

Aseptic vs Hot Fill At A Glance

	 ASEPTIC	 HOT FILL
PRODUCT pH	Low-Acid (any food or beverage with a finished equilibrium pH greater than 4.6 and a water activity greater than 0.85)	High-Acid (any food or beverage with a finished equilibrium pH less than 4.6 and a water activity greater than 0.85)
STERILIZATION	Product and Package Separate	Heated product sterilizes package and product pH
PARTICLE SIZE	< 1/4 in	< 3/8 in
PRESERVATIVES	None	High Acid Composition or Preservatives Required
PRODUCT NUTRITIONAL VALUE	Maintained	Nutritional/ Vitamin Loss (May need to formulate/fortify to maintain nutritional composition)
PRODUCT TASTE	Maintained	Acidified Taste Profile

THE ASEPTIC PROCESS



PROCESSING COMPARISON

ASEPTIC

Processing system, Filling system and packaging are sterilized according to FDA guidelines

Product and packaged are heated and cooled very quickly

Short heat time and rapid cooling create reduced negative impact on nutritional value, color and taste



HOT FILL

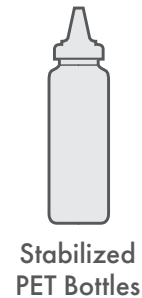
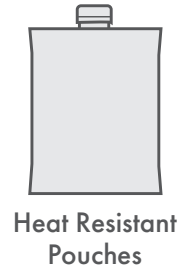
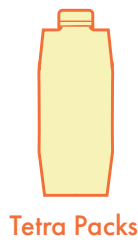
Process requires heating the product in the filled container, for extended periods to insure destruction of spoilage organisms in conjunction with pH

The required Hot-Hold Times and Cooling times are dependent on a number of critical factors... Process temp, Container Volume, Adjusted pH (example - lower pH such as 4.0 requires less heat and hold time) product make-up – chunky vs homogenous etc.

Heated product is used to sterilize the inside surface of the containers (pouch, cup, bottle)



INDUSTRY PACKAGING EXAMPLES



AFP ASEPTIC & HOT FILL PACKAGING TYPES

ASEPTIC



HOT FILL

