

Harbin Hollow
 1149 Parkers Chapel Rd
 Portland, TN 37148

07/01/2019

Dear Ms. Harbin,

After reviewing the formulation for **Original Elderberry Syrup**, I have determined the product to be an acidified food with an equilibrium pH is **3.98**. Based on this information, I would suggest the following hot fill processes to produce a commercially sterile food product with a **maximum equilibrium pH of 3.9**.

Temperature (°F)	Process Time	Least Sterilizing Value of the Scheduled Process
Fill Temperature	Hold Time	Other F Value Death rate (z)=16 Ref. Temp (T)=200
180	2.0 minutes	0.1
185	1.0 minutes	0.1
190	26.0 seconds	0.1
195	13.0 seconds	0.1
200	6.0 seconds	0.1
205	2.5 seconds	0.1
210	1.5 seconds	0.1

All containers should be inverted or steam flushed after filling to ensure sterilization of the container headspace. You must adhere to General Good Manufacturing Practices described in 21 CFR part 117 subpart B, and as well as regulations specific to manufacturing acidified foods described in 21 CFR part 114.

If we can be of further service please contact us.

Sincerely,



Mark Morgan
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