Biological: Bacteria, viral, or paracetic

pathogens. Chemical: chemical residues Physical: glass,

metal, or rubber fragments, yeast/bacterial sediment

Brewing Packaging

Hazard Analysis

Process Step	Food Safety Hazard		Severity & Likelihood		If yes in column C, what measures could be applied to prevent, eliminate, or reduce hazard to an acceptable level?	Is this a CCP?	Critical Control Point	Critical Limits	Monitoring Procedures and Frequency	HACCP Records	Verification Procedures and Frequency	Corrective Action
Water Supply	Biological-	No	2E_16	We use Bend City water, ran through a charcol filter and in the instance that Bend City water is not potable the city would contact us	Bi-annual water testing by 3rd party	N		Potable Water	Bi-annual water testing by 3rd party	Filed in HACCP binder, and digital HACCP	Data from 3rd party is archived	Contact Bend Municipal Water
	Chemical-	No										
Brew Tea Concentrate	Biological-	Yes	2C_8	Mold and pathogens may be present in dry tea	vat pasteurize tea wher	Υ	Temp	Must steep >145 degree F for 30 minutes	Temp recording and signoff on brewing log for each tea batch #	Temp recorded per batch in brewing log	Temp log signoff verified weekly by brew team lead	Always verify proper temp when brewing tea, prior to transport to fermenters
	Physical-	Yes	4C_18	Debris from open lid and/or sugar addition	SOP for adding sugar	N	Prepping sugar for kettle	Sugar packaging is secure and in tact	Visual inspection of sugar packaging			Always filtered prior to entering fermenters with 540 micron
	Chemical-	Yes	3D_17	Teabags washed with soap. Residual chemical from CIP of kettle	SOP for washing of teabags, utilize kettle CIP log to verify cleaning and sanitization	Υ	Cleaning/sanit ation of teabags, CIP of kettle	No soap used with teabags, no chemical residue		Teabag cleaning signoff in brewing log, Kettle CIP log	Teabag cleaning in brewing log as teabags are cleaned (twice a week). Daily signoff for CIP of kettle. Verified daily and weekly by brew team	If teabags washed improperly do not use until rewashed using SOP. Review SOP for kettle CIP to ensure proper use of chemicals and sanitizer
Transport to		N					_			_		
Fermenters	Physical-	- ''	•	is has stainless steel i								
	Chemical-	Yes	2C_8	Residual chemical from CIP	Following SOP for transport to fermenters (prime the line)	Y	Prior to transport to fermenters	Line must be primed		Sign off for tank and equipment cleaning that follows SOP		CIP lines if not documented/unsure. If hosing is used and not proven clean prioduct must be dumped.

Fermentation Maintenance	Biological-	Yes	2D_12	Open fermenters; mold spores, pH not low enough	Measurement of pH	Υ	When sweet tea is added to fermenter	Must be under 4.5 pH	Measure pH prior to and post fermentation	Fermenting tea pH log	Measure pH prior to and post fermentation. PH prior and post fermentation is recorded with each batches tracking data	If pH is above 4.5 tea is dumped
	Physical-	Yes	2C_8	Fruit flies	Keeping fermenters covered, utilize traps when fruit flies present	Υ	When fermenters are open especially in warmer months	No presence of any adult or larva fruit fly in fermenter allowed	Pre and post harvest visual inspection, also when cleaning tank	Log any contaminated tanks	Review logs weekly to try and identify patterns	Any contaminated product dumped and logged
	Chemical-	No										
Harvest Kombucha to Brites	Biological-	Yes	2C_8	Unsanitized equipment	SOP for all equipment in direct contact with kombucha	Υ	Prior to use	Must be sanitized prior to use	Brew team lead constantly enforcing			Do not use any equipment without prior sanitization
	Physical-	Yes	4C_21	Impeller/gasket parts	516 micron filter used, weekly inspection and	Υ	Filtering	Visual sign of equipment malfunction	Inspection of impeller in pump, pre and post use	Log for daily inspection of impeller	Pump inspection log verified weekly	Contaminated tea batch is dumped, and logged as dumped
	Chemical-	Yes	2C_8	Residual chemical from CIP	Visual check that brite is clean and all residual liquid evacuated	Υ	Prior to harvesting into brite tank	Any chemical residue	Inspect bite tank CIP log prior to filling to verify cleaned and with	Brite tank CIP log	Brite tank ticket verifies that tank has been CIP, weekly review of CIP log	If CIP not logged, CIP tank prior to fill, If brite tank is ever filled
	Biological-	No										
Creation/Add ing Flavor	Physical-	Yes	4C_18	Pump/impeller parts, debris from open lid	516 micron filter used, weekly inspection and maintenance of all pumps	Υ	Filtering	Visual sign of equipment malfunction and/or particulate loss	Inspection of impellor in pump, pre and post use	Log for daily inspection of impeller wholeness	Pump inspection log verified weekly	Contaminated tea batch is dumped, and logged as dumped
	Chemical-	Yes	2C_8	Residual chemical from CIP(brite tank and equipment)	Visual check that brite is clean and all residual liquid evacuated, chemical/sanitizer concentration		Prior to harvesting into brite tank	No chemical residue allowed	Inspect bite tank CIP log prior to filling to verify cleaned and with adequate chemical/sanitizer concentration	Brite tank CIP log	Brite tank ticket verifies that tank has been CIP, weekly review of CIP log	If CIP not logged, CIP tank prior to fill, If brite tank is ever filled dirty dump product
Recirculate	Biological-											
and Carbonate	Physical-	Yes	4C_18	Impeller/gasket parts	516 micron filter used, weekly inspection and	Υ	Filtering	Visual sign of equipment malfunction	Inspection of impeller in pump, pre and post use	Log for daily inspection of impeller	Weekly verification of impeller inspection log	Contaminated tea batch is dumped, and logged as dumped
	Chemical-		1	1			-					
	Biological-	No	-			<u> </u>						
Bottle(Packag	—	No	-			<u> </u>						
e bottle)	Chemical-	No	20.0			<u>. </u>			D 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
Rinse Bottle (Package bottle)	Biological-	Yes	2C_8	if rinse water is stagnant	Rinse water reservoir is used for sanitization step of Meheen CIP then air dried	Y	sanitization step of Meheen CIP	reservoir not dry from previous days bottling run	Daily signoff that reservoir was dry and fresh water filled	log daily reservoir signoff	Weekly verification of Bottling Line Cleaning/Sanitation log	reservoir is washed and sanitized if found with liquid from previous day

	Physical- Chemical-	Yes	4C_18	if lid is not attached to reservoir	keep lid on reservoir at	N	beginning of bottling run	lid not secured on	lid is always attached once filled			
	Biological-	Yes	2C_8	potential contamination if packager hygiene/glove use in inadequate	constant enforcement of hygiene (hand washing) and glove use at all time when packaging	Υ	when handling packaging equipment and product	Gloves must always be worn when working packaging line	daily/constant inspection and enforcement of hand washing and glove use by shift lead		shift supervisor responsible to enforce daily	Product improperly handled is disposed of
	Physical-	Yes	4C_18	pieces of filler may break	Daily visual inspection, weekly	N						
	Chemical-	Yes	2C_8	Poor CIP/rinse	Follow SOP for CIP of Meheen filler	Υ	CIP of filler	filler must be CIP end of each bottling day	Signoff upon completion of CIP, visual inspection & CIP verification prior to start of bottling run	_	Daily CIP verification prior to start of bottling run. Log checked weekly for	If CIP not logged CIP filler prior to use
Capper	Biological-	No										
(Package Bottle)	Physical-	Yes	2C_8	bottle could break if capper malfunctioned or bad bottle, grease or belt wear	constant visual inspection of bottles for breakage	Υ	As bottles are pulled from accumulation tray and packed	No glass particles are acceptable	All broken bottles are recorded		Weekly review of breakage to look for patterns	All product with signs of breakage are counted disposed of. Equipment is adjusted if breakage can be
	Chemical-	No										
(Package Keg)	Biological-	Yes	2C_8	If keg washing cycles are not working properly potential growth, inadequate temp and/or chemical/sanitizer concentration	Any abnormalities of machine brought to attention of production manager, inspection of first keg cleaned (open it up) weekly	Y	Inspection of first keg	detergent reservoir temp at 180, opened keg must be clean, peracetic within operational limits	Temperature and chemical concentration of reservoir tested and logged along with peracetic concentration prior to each washing shift	Kegging Log	Daily testing, inspection, and logging when kegging	Chemical concentrations and temp. of detergent reservoir as well as peracetic concentration must be within operational limits according to SOP. No washing is to occur until chemical/sanitizer is within operational limits if equipment is malfunctioning cannot
	Chemical-	Yes	2C_8	If keg washing	Any abnormalities of	Υ	Inspection of	detergent	Temperature and	Kegging Log	Daily testing,	Chemical
	Cicinical		20_0	cycles are not working properly potential growth, inadequate temp and/or chemical/sanitizer concentration	machine brought to attention of production manager, inspection of first keg cleaned (open it up) weekly. Observe cycles of first keg washed to ensure all cycles are runnning.		first keg and first	reservoir temp at 180, opened keg must be clean, peracetic within operational limits	chemical concentration of reservoir tested and logged along with peracetic concentration prior to each washing shift	mogenig cog	,	concentrations and temp. of detergent reservoir as well as peracetic concentration must be within operational limits according to SOP. No washing is to occur until
Keg Filling	Biological-	No					_					

(Package Keg)	Physical-	Yes	4C_18		visual inspection of	N					
					seal ring area prior to						
	Chemical-	No									
Refrigerated	Biological-	No									
Storage and	Physical-			If left	Get finished products		Must be kept	Daily awareness of walk	walk in fridge	Weekly check and	If fridge is above 40
Distribution				unrefrigerated for	into fridge promptly.		refrigerated at	in fridge temperature	log	record temp of walk in	degrees contact Scott
				extended time,	Always verify that		all times <40			fridge	or Chillmen to have
				increased	freight driver has		degrees				adjusted to lower temp
				carbonation could	turned on trucks						
				cause bottle to	refrigeration						
		Yes	4C_18	explode							
	Chemical-	No									

Receiving	Biological-	Yes	2_8C	Improper storage	Goods requiring a	Υ	Temp	Refrigerated	Daily inspection and	Walk in fridge	Weekly verification of	If fridge/freezer
Raw Goods				temp may lead to	paticular storage			below 40	recording of temperature	log	log and if temps are	malfunctions time
				bacteria growth	temp; refridgerated			degrees or	of walk in fridge and		high contact Chillmen	outside of
					or frozen are			frozen	freezer		for servicing. Review	recommended storage
					immediately received						all COA's to ensure	temp is noted and
					into adequated						receiveing correct and	supplier is contacted
					conditions to maintain						safe product.	about safety of
					safe product. COA							material. If deemed
					received with all raw							unsafe material are
					goods							disposed of
	Physical-			Debris from	All raw goods	Υ	Upon receipt	Goods received	Inspection of each load	Signoff with		Damaged packaging is
	,564.			transport/receiving	•	•	орон госорс	must be full	received	date on		refused at dock if
					ground. Only receive			packaged to		BOL/packing		substantial
					sealed goods			prevent		slip		
		Yes	2_8C					contamination				
	Chemical-	No	_									

Shipping	Biological-	No								
Product	Physical-	Yes	4_18C	If too warm of	Checking weather of	N		Get email notification	Archive shipping	If customer complaint
				temps, continued	destination. Fragile			upon delivery.	request form and	or package is lost in
				fermentation could	sticker on box. Foam				shipping label. If	transit re-send with
				occur creating	coolers used if temps				product took longer	hand written apology
				unwanted strands	are going to be 50				than anticipated to	
				of bacteria and	degrees or above/ 2				arrive we contact	
				yeast. Increased	or more days and ice				customer verify	
				carbonation could	packs are used.				product is safe to	
				cause bottle to					consume.	
				explode.						
	Chemical-	No								

Retail Fills	Biological-	Yes	4_18C		Follow Taproom Taps,				Taproom Log	Log reviewed by	If faucets and lines are
					Faucets and Line					Taproom manager	discovered not
				Inadequate	Cleaning/Sanitation					weekly	cleaned/ sanitized
					SOP						following SOP
				to contamination		N					
	Physical-	Yes	4_18C	Fill tubes fall into	Follow SOP for Filling			Double check every fill			Remove tube if within
				growlers sometimes	a Growler or			when tube is used			container and restart
					Container in Humm						container filling SOP
					Kombucha Taproom	N					
	Chemical-	Yes	2_8C								

Food Safety Risk Analysis Matrix

	Common	Known to Occur	Could Occur (pub.)	Not expected to occur	Practically Impossible
Consequence Frequency	A	В	С	D	E
1. Fatality	1	2	4	7	11
2. Serious illness	3	5	8	12	16
3. Product recall	6	9	13	17	20
4. Customer Complaint	10	14	18	21	23
5. Insignificant	15	19	22	24	25