

## Hazard Analysis

Hazard identification (column 2) considers known or reasonably foreseeable hazards (i.e., potential hazards) that may be present in the food because the hazard occurs naturally, the hazard may be unintentionally introduced, or the hazard may be intentionally introduced for economic gain.

B = Biological hazards including bacteria, viruses, parasites, and environmental pathogens

C = Chemical hazards, including radiological hazards, food allergens, substances such as pesticides and drug residues, natural toxins, decomposition, and

P = Physical hazards include potentially harmful extraneous matter that may cause choking, injury or other adverse health effects

1	2		3		4	5	6	
Ingredient/ Processing Step	Identify <u>potential</u> food safety hazards introduced, controlled or enhanced at this step		Do any <u>potential</u> food safety hazards require a preventive control?		Justify your decision for column 3	What preventive control measure(s) can be applied to significantly minimize or prevent the food safety hazard?	Is the preventive control applied at this step?	
			Yes	No		<i>Process including CCPs, Allergen, Sanitation, Supply- chain, other preventive control</i>	Yes	No
	B	Salmonella, Listeria monocytogenes, Bacillus cereus, CP Staph	X		Materials are low water activity and will not support growth of microorganisms. Microorganisms could survive the supplier manufacturing process or they could potentially be recontaminated in the packaging process. Ingredient specifications in place. Only approved suppliers are used for ingredients.	Supplier performs microbiological testing and provides COA for absence of pathogens. Supplier COA verification is performed by Before Brands Quality Department or designee. Verification testing is performed on a predetermined basis. A COA is created by Before Brands giving clearance for use of the ingredient.	<b>PC 1 Supply Chain PC</b>	

Raw Material Receiving	P	Metal, Plastic, Wood, nut shells		X	Ingredients have passed through a particle reduction step such that any foreign material would not be of a size to be a food safety hazard. No previous foreign material incidents have been identified in the ingredients. Ingredient specifications in place. Only approved suppliers are used for ingredients.	Controlled by the use of a sieve at 0.85 mm. Controlled at Sieving step PC 4		X
	C	Allergenic Food Materials - Seafood, Tree Nuts, Peanuts, Dairy, Eggs, Soy, Wheat, Sesame, Shellfish	X		Ingredients contain allergenic materials capable of causing allergic reactions to individuals with food allergies. Ingredient specifications in place. Only approved suppliers are used for ingredients.	Proper labeling of product must be used to inform consumers of the risk. Controlled at labeling step PC 6		X
	C	Aflatoxin, DON, Ochratoxin, Heavy Metals (Inorganic Arsenic, Cadmium, Lead, Mercury), Pesticides, Acrylamide	X		Select ingredients have been known to contain harmful toxins (Aflatoxin, DON, Ochratoxin). Select ingredients have been known to contain Heavy Metals that may be toxic. Pesticides may be present from agricultural practices. Acrylamides may form through the manufacturing process.	Supplier performs chemical testing and provides COA for acceptable results. Supplier COA verification is performed by Before Brands Quality Department or designee. Verification testing is performed by Before Brands on selected lots. A COA is created by Before Brands giving chemical contaminants clearance.	<b>PC 1 Supply Chain PC</b>	
	B	Environmental pathogens - Salmonella, Listeria monocytogenes		X	Letter of guarantee for primary packaging. Prerequisite programs - Handling of Packaging material, Receiving Inspection procedures. Packaging specifications in place. Only approved suppliers are used for packaging materials.			

Packaging Receiving	P	Foreign material - Wood, Metal, Plastic		X	Letter of guarantee for primary packaging. Prerequisite programs - Handling of Packaging material, Receiving Inspection procedures. Packaging specifications in place. Only approved suppliers are used for packaging materials.			
	C	Chemicals used during the production of primary packaging		X	Letter of guarantee for primary packaging. Prerequisite programs - Handling of Packaging material, Receiving Inspection procedures. Packaging specifications in place. Only approved suppliers are used for packaging materials.			
Incoming Goods Inspection	B	Pathogens - Salmonella, Listeria monocytogenes		X	Pathogenic microorganisms could be introduced into the ingredients due to compromised packaging. Employees follow cGMPs in sampling process. Damaged packages of ingredients are destroyed.			
	P	Foreign material - Wood, Metal, Plastic		X	Foreign materials could be introduced into the ingredients due to compromised packaging. Employees follow cGMPs in sampling process. Damaged packages of ingredients are destroyed. Supplier Performs foreign material prevention during their process.			
	C	Allergen mislabeling or incorrect ingredient	X		Material could be mislabeled or ingredients changed without the knowledge of the plant. Verification of the ingredient label to ensure correct material and subcomponents are present.	Label verification on the ingredients to ensure correct material with correct subcomponents has been received.	<b>PC 2 Allergen PC</b>	
Raw Material Storage	B	Environmental pathogens - Salmonella, Listeria monocytogenes		X	Material is stored in original packaging or secured inside a sealed poly bag. Damaged packages are identified and removed to prevent usage. Environmental monitoring program in place.			
	P	Foreign material - Wood, Metal, Plastic		X	Material is stored in original packaging or secured inside a sealed poly bag. Damaged packages are identified and removed to prevent usage. Master Sanitation Schedule ensures sanitary conditions.			
	C	Allergen cross contact, Sanitation and maintenance chemicals, Pest control chemicals		X	Material is stored in original packaging or secured inside a sealed poly bag. Damaged packages are identified and removed to prevent usage. Proper chemical storage program. Allergen control procedure for storage.			
	B	Environmental pathogens - Salmonella, Listeria monocytogenes		X	Packaging material is stored in original packaging or secured inside a sealed poly bag. Damaged packages are identified and removed to prevent usage. Environmental monitoring program in place.			

Packaging Storage	P	Foreign material - Wood, Metal, Plastic		X	Packaging material is stored in original packaging or secured inside a sealed poly bag. Damaged packages are identified and removed to prevent usage. Master Sanitation Schedule maintains sanitary condition in storage areas.			
	C	Allergen cross contact, Sanitation and maintenance chemicals, Pest control chemicals		X	Packaging material is stored in original packaging or secured inside a sealed poly bag. Damaged packages are identified and removed to prevent usage. Proper chemical storage program. Allergen control procedure for storage of allergen containing materials.			
Raw Material Scaling	B	Contamination by environmental pathogens - Salmonella, Listeria monocytogenes	X		Ingredients are open and exposed to the environment. They are being contacted by scoops which have been used for previous production. Employee GMP and Hygiene practices in place to control cross contamination. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.	Sanitation Preventive Controls verified by environmental monitoring. Hygienic Zoning Program	PC 5 Sanitation PC	
	P	Foreign material - Wood, Metal, Plastic	X		Ingredients are open and exposed to the environment. GMPs are in place. Plant assessments to minimize FM contamination.	Controlled by sieving to remove foreign material. Sieving Step PC 4.		X
	C	Over addition of allergens	X		Material specification requires control of ingredients in each batch.	Controlled by maintaining ingredient preweights within $\pm 1\%$	PC 3 Process PC	
	C	Cross Contamination from Lube and Cleaning Chemical Residue, Allergen Cross Contact.	X		Maintenance programs to ensure food grade grease is used as applicable and prevent overgreasing. Proper Chemical Handling and Storage program. Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Allergen Control Program in place.	Sanitation Preventive Controls verified by allergen swabbing program.	PC 5 Sanitation PC	
Raw Material Feeding	B	Contamination by environmental pathogens - Salmonella, Listeria monocytogenes	X		Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Employee GMP and Hygiene practices to minimize cross contamination. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.	Sanitation Preventive Controls verified by environmental monitoring. Hygienic Zoning Program	PC 5 Sanitation PC	
	P	Foreign material - Wood, Metal, Plastic	X		Ingredients are open and exposed to the environment. Potential materials from the environment could contaminate product.	Controlled by sieving to remove foreign material. Sieving Step PC 4.		X

	C	Cross Contamination from Lube and Cleaning Chemical Residue, Allergen Cross Contact.	X		Maintenance programs to ensure food grade grease is used as applicable and prevent overgreasing. Proper Chemical Handling and Storage program. Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Allergen Control Program in place.	Sanitation Preventive Controls verified by allergen swabbing program.	<b>PC 5 Sanitation PC</b>	
Mixing / Blending	B	Contamination by environmental pathogens - Salmonella, Listeria monocytogenes	X		Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Employee GMP and Hygiene practices. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.	Sanitation Preventive Controls verified by environmental monitoring. Hygienic Zoning Program	<b>PC 5 Sanitation PC</b>	
	P	Foreign material - Wood, Metal, Plastic	X		Ingredients are open and exposed to the environment. Potential materials from the environment could contaminate product.	Controlled by sieving to remove foreign material.		X
	C	Cross Contamination from Lube and Cleaning Chemical Residue, Allergen Cross Contact.	X		Maintenance programs to ensure food grade grease is used as applicable and prevent overgreasing. Proper Chemical Handling and Storage program. Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Allergen Control Program in place.	Sanitation Preventive Controls verified by allergen swabbing program.	<b>PC 5 Sanitation PC</b>	
Intermediate WIP Storage	B	Environmental pathogens - Salmonella, Listeria monocytogenes		X	Material is stored in sealed new packaging. Damaged packages are identified and removed to prevent usage. Environmental monitoring program is in place. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.			
	P	Foreign material - Wood, Metal, Plastic		X	Material is stored in sealed new packaging. Damaged packages are identified and removed to prevent usage.			
	C	Allergen cross contact, Sanitation and maintenance chemicals, Pest control chemicals		X	Product is stored in sealed container. MSS, Chemical Storage and Allergen Control Programs are in place.			

Sieving	B	Contamination by environmental pathogens - Salmonella, Listeria monocytogenes	X		Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Employee GMP and Hygiene practices. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.	Sanitation Preventive Controls verified by environmental monitoring. Hygienic Zoning Program	<b>PC 5 Sanitation PC</b>	
	P	Foreign material - Wood, Metal, Plastic	X		Ingredients are open and exposed to the environment. Potential materials from the environment could contaminate product.	Controlled by the use of a sieve at 0.85 mm.	<b>PC 4 Process PC</b>	
	C	Cross Contamination from Lube and Cleaning Chemical Residue, Allergen Cross Contact.	X		Maintenance programs to ensure food grade grease is used as applicable and prevent overgreasing. Proper Chemical Handling and Storage program. Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Allergen Control Program in place.	Sanitation Preventive Controls verified by allergen swabbing program.	<b>PC 5 Sanitation PC</b>	
Metal Detection	B	Contamination by environmental pathogens - Salmonella, Listeria monocytogenes	X		Ingredients are being contacted by equipment which has been used for previous production. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.	Sanitation Preventive Controls verified by environmental monitoring. Hygienic Zoning Program	<b>PC 5 Sanitation PC</b>	
	P	None		X	The system is closed from the sieve through packaging.			
	C	Cross Contamination from Lube and Cleaning Chemical Residue, Allergen Cross Contact.	X		Maintenance programs to ensure food grade grease is used as applicable and prevent overgreasing. Proper Chemical Handling and Storage program. Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Allergen Control Program in place.	Sanitation Preventive Controls verified by allergen swabbing program.	<b>PC 5 Sanitation PC</b>	
Filling / Packaging / Checkweigh	B	Contamination by environmental pathogens - Salmonella, Listeria	X		Ingredients are exposed to the environment. They are being contacted by equipment which has been used for previous production. Employee GMP and Hygiene practices. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.	Sanitation Preventive Controls verified by environmental monitoring. Hygienic Zoning Program	<b>PC 5 Sanitation PC</b>	
	P	None			LOG for packaging material. Proper storage of packaging material. Employee GMPs.			

Checkweigh	C	Cross Contamination from Lube and Cleaning Chemical Residue, Allergen Cross Contact.	X		Maintenance programs to ensure food grade grease is used as applicable and prevent overgreasing. Proper Chemical Handling and Storage program. Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Allergen Control Program in place.	Sanitation Preventive Controls verified by allergen swabbing program.	<b>PC 5 Sanitation PC</b>	
Labeling	B	None		X	Material is packaged and does not provide conditions for growth of pathogens. Water activity is less than 0.60 not allowing pathogens to grow in this material.			
	P	None		X	Material is packaged and not accessible for foreign material introduction.			
	C	Allergen declaration	X		Product packaging label must declare allergens present.	Allergen Preventive control for label verification.	<b>PC 6 Allergen PC</b>	
Waste	B	None						
	P	None						
	C	None						
Waste Disposal	B	None						
	P	None						
	C	None						
Palletizing / Storage / Distribution	B	None						
	P	None						
	C	None						
Compressed Air	B	Salmonella, Listeria		X	Preventive maintenance program, Filtration of compressed air. Compressed Air is not used in direct contact with the product contact zones.			
	P	Foreign material		X	Preventive maintenance program, Filtration of compressed air. Compressed Air is not used in direct contact with the product contact zones.			
	C	Maintenance chemicals		X	Prerequisite programs - Preventive maintenance program, Chemical handling. Compressed Air is not used in direct contact with the product contact zones.			
Rework	B	Contamination by environmental pathogens - Salmonella, Listeria	X		Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Water activity is less than 0.60 not allowing pathogens to grow in this material. Pest control program managed by external Pest Control Company.	All rework steps are included under sanitation controls and part of the verification process.	<b>PC 5 Sanitation PC</b>	
	P	Foreign material - Wood, Metal, Plastic	X		Ingredients are open and exposed to the environment. Potential materials from the environment could contaminate product.	Rework would be added back to the process at a point where it would pass through the "Sieving" PC before being packaged. Controlled at Sieving step PC 4		X

	C	Cross Contamination from Lube and Cleaning Chemical Residue, Allergen Cross Contact.	X		Maintenance programs to ensure food grade grease is used as applicable and prevent overgreasing. Proper Chemical Handling and Storage program. Ingredients are open and exposed to the environment. They are being contacted by equipment which has been used for previous production. Allergen Control Program in place.	All rework steps are included under sanitation controls and part of the verification process.	<b>PC 5 Sanitation PC</b>	
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