

	PT MEGA INOVASI ORGANIK		
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HACCP DOCUMENTATION

PT MEGA INOVASI ORGANIK

	Compiled by:	Checked by :	Approved by :
			
Name :	Ashari Gurit Setyadi	Dian Tiara Farisa	Arif Dermawan
Position:	<i>Document Control</i>	<i>Quality Assurance</i>	<i>General Manager</i>
Date :	August 11, 2025	August 11, 2025	August 12, 2025

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I. Food Safety Team

Company Name : PT Mega Inovasi Organik
 Location (Head Office) : Marquette Shophouses Blok GR No. 01-02 RT 02 RW 06 Citra Grand Cibubur, Cibubur Cileungsi Alternative Road KM 5 Jatirangga, Jatisampurna, Bekasi, West Java, 17434
 (Plant/Site) : Sempu RT 74/RW 33, Bumirejo, Lendah, Region Special Yogyakarta, 55663
 Plant/Line Description : PT Mega Inovasi Organik is an industry that processes organic coconut sugar. This plant is a processing location, where there is a raw material warehouse, a sorting, sieving, drying, packaging, and a finished product warehouse. The stages of the organic coconut sugar process at PT Mega Inovasi Organik include receiving raw materials in the form of wet organic coconut sugar, storing raw materials, sorting, sifting wet sugar, drying in the sun, drying in an oven, sifting dry sugar, metal detection, packaging, and storing finished products.

Food Safety Team: refers to the Decree of the Food Safety Team of PT Mega Inovasi Organik

Name	Title/Position	Competency standards	Actual Competence	Training
Dian Tiara Farisa	<i>Quality Assurance</i>	- Bachelor of Biochemistry/Food Technology - Have experience in food manufacturing for at least 1 year - Understand about GMP, SSOP, HACCP, (HACCP, GMP, SSOP, FSSC22000 version 6, internal audit, Halal/Kosher, and chemical and microbiological analysis of food - Able to speak English (at least passive)	- Bachelor of Nutritional Science - Experienced in food manufacturing production department	HACCP, FSSC 22000 ver 6.0
Ashari Gurit Setyadi	Document Control/Quality Control	- Bachelor of Food Technology	- S1 food technology,	HACCP, FSSC 22000 ver 6.0

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		- Understand GMP, SSOP, HACCP, Personal Hygiene, internal audit, Halal/Kosher, and chemical and microbiological analysis of food - Able to speak English (at least passive) - Firm, active, and has the ability to analyze problems well	- agricultural engineering - Have experience in QC field more than 3 years	
Djoko Novanto	Team Member/Production Manager	- Bachelor's degree in Industrial Engineering, Chemical Engineering, or Food Technology - Minimum 3 years experience in manufacturing - Have leadership spirit - Understand food safety standards (HACCP, GMP, SSOP, FSSC22000 version 6).	- S1-Arts - Have 6 years experience in manufacturing	HACCP, JAS, BRC Issue 8, Internal Control System FSSC 22000 ver 6.0
John Agung Wibowo	Team Member/Unit Head 1	- Minimum high school / vocational school - Have leadership spirit - Have experience working in production for at least 1 year - Have knowledge about food safety	- High School / Vocational School - 3 years experience in manufacturing	HACCP, FSSC 22000 ver 6.0
Guntoro	Team Member/Unit Head 2	- Minimum high school / vocational school - Have leadership spirit - Have experience working in production for at least 1 year - Have knowledge about food safety	- High School / Vocational School - 3 years experience in manufacturing	HACCP, FSSC 22000 ver 6.0
Eko Rahmad	Team Member/Unit Head 3	- Minimum high school / vocational school - Have leadership spirit	- High School / Vocational School	HACCP, FSSC 22000 ver 6.0

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		- Have experience working in production for at least 1 year - Have knowledge about food safety	- 3 years experience in manufacturing	
Nurhayati	Team Member/HR-GA	- D3 Psychology / Human Resource Management / Accounting - Minimum 1 year experience - Have basic knowledge of food safety - Able to speak English (at least passive)	- D3 Accounting - Have more than 6 years experience in HR GA field	HACCP, FSSC 22000 ver 6.0
Iman Surahno	Team Member/Maintenance	- Minimum Automotive Vocational School - Have experience in handling tool and machine problems - Have knowledge in the field of sugar processing and food safety	- SENIOR HIGH SCHOOL - More than 3 years of experience in repairing tools and machines	HACCP, FSSC 22000 ver 6.0
Marina Febri	Team Member/Quality Control Assistant	- D3 Food Technology - Understanding / Agroindustry - GMP, SSOP, HACCP, Personal Hygiene, internal audit, Halal/Kosher, and chemical and microbiological analysis of food - Able to speak English (at least passive) - Firm, active, and has the ability to analyze problems well	Associate Degree of Food Quality Assurance Supervisor	HACCP, FSSC 22000 ver 6.0
Muhammad Maulana Sidik	Team Member/Business Operational	- Bachelor of Agriculture - Understanding about HACCP, GMP, Food Quality and Organic Supply Management	Master of Science in Biomanagement	HACCP, FSSC 22000 ver 6.0

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		- Able to speak English (at least passive) - Have business operation experience		
Tri Endang Kurniasih	Team Member/ Logistics	- Minimum D3 Management - Have good knowledge in shipping process - Able to speak English (at least passive)	- D3 Administration Management - 4 years experience in shipping field	HACCP, FSSC 22000 ver 6.0
Evi Helvina	Team Member/ Purchasing	- Minimum D3 Management / relevant - Have basic knowledge of food safety - Able to speak English (at least passive)	D3 Accounting	HACCP, FSSC 22000 ver 6.0

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II. Product Specifications

Product name	Organic Coconut Sugar
Product description	In the form of granular powder, brownish yellow in color, sweet taste with a hint of caramel
Process description	Raw material storage, sorting, wet sugar sieving, sun/oven drying, dry sugar sieving, metal detection, packaging
Composition and Nutrition Facts	Composition: organic coconut sugar (wet)
	Nutrition Facts (serving size 100 g) Energy : 387.70 kcal Protein: 1.19% Fat: 0.74% Saturated fat: 0.59% Trans Fatty Acid : Not detected Polyunsaturated Fat: 0.03% Monounsaturated Fat: 0.12% Cholesterol: Not detected Carbohydrate: 94.07% Total sugar: 87.43% Dietary Fiber: 1.16% Sodium (Na): 146.46 mg/100 g Potassium (K): 743.08 mg/100 g Zinc (Zn): 0.21 mg/100 g Calcium (Ca): 7.21 mg/100 g Iron (Fe): 1.35 mg/100 g Magnesium (Mg): 29.99 mg/100 g Manganese (Mn): 0.24 mg/100 g Phosphorus: 444.85 mg/kg Ash: 2.88% Moisture: 1.12% Vitamin D3 (cholecalciferol) : Not detected
	*Percent Daily Values are based on 2150 calories. Your daily intake may be higher or lower depending on your calorie needs.

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Food safety characteristics (biological, chemical, physical)	Biology: TPC (3x10 ³ CFU/g); mold and yeast (<10 CFU/g); E. coli (<3 MPN/g); <i>S. aureus</i> (<10 CFU/g). Chemical: Sulphite (< 10 ppm) (EC) No. 834/2007 or 889/2008; Cadmium (<0,05 ppm); Mercury (<0,001 ppm); the maximum water content of 2%; Free gluten (<20 ppm) EU No. 828/2014; pH 7. Physical: free from foreign matter metal (Fe 0.6 mm; Non-Fe 0.7 mm; SUS 0.9 mm) and non-metal.
Shelf Life	29 months
Storage conditions	Room temperature 20 – 36°C RH Room 50 – 80 %
Packaging	Primary: PE plastic size 520 mm x 700 mm Secondary: Cardboard box size 538 x 355 x 215 mm Box label size 114 mm x 160 mm Pallet label size 2100 mm x 2970 mm
Information on the label/ or that is informed to the customer	Carton packaging: Product name, production code, product handling, sugar characteristics, granule size, fairtrade and non-fairtrade information, expiry date, net weight Sticker: product name, lot code, production date, best before date, net weight, country of origin, color, quality, organic ID, FLO- ID (if product is Fairtrade), organic logo (refer to product specifications and customer requests), Kosher logo.
Distribution method	Container – shipping by truck and sea freight Room temperature 20 – 36 °C Room RH 50 – 80%
Usage plan	Consumed directly as a mixture in drinks or cooking, used as a raw material for making candy, chocolate, bread, etc.
Target users	Food and beverage industry
User Age	All ages, including babies aged 0-2 years

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III. Characteristics of Raw Materials/Supporting Materials

No	Name of Raw Material	Source and Description of Raw Materials	Composition	Food safety characteristics	Production Method	Shelf Life	Storage Conditions	Packaging	Distribution Method	Label information related to Food Safety, Handling instructions, preparation and use	Supplier (name & location)
1	Organic coconut sugar (wet)	Source: agricultural products. Description: Powder form, yellow to brown in color, has a sweet taste, distinctive	Organic coconut sap, organic laru, organic ipah (coconut milk)	Biological TPC (3 x 10 ³ CFU/g); mold and yeast (<10 CFU/g) Chemical: Water content <4% (with a tolerance of 0.5%, Gluten Free (<20 ppm))	Heating of sap, granulation, drying	29 Months	Room temperature 20-36°C	Primer: PE Plastic	Using a truck or pickup truck with a tarpaulin base	Farmer code, sugar weight, sugar character	Referring to the list of farmers in the ICS (Internal Control System)

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		coconut aroma.		EU No. 828/2014 Sulfite (<10 PPM) (EC) No. 834/2007 or 889/2008 Physical: free from foreign matter Allergen: Does not contain allergens							
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Note: *) if any/optional

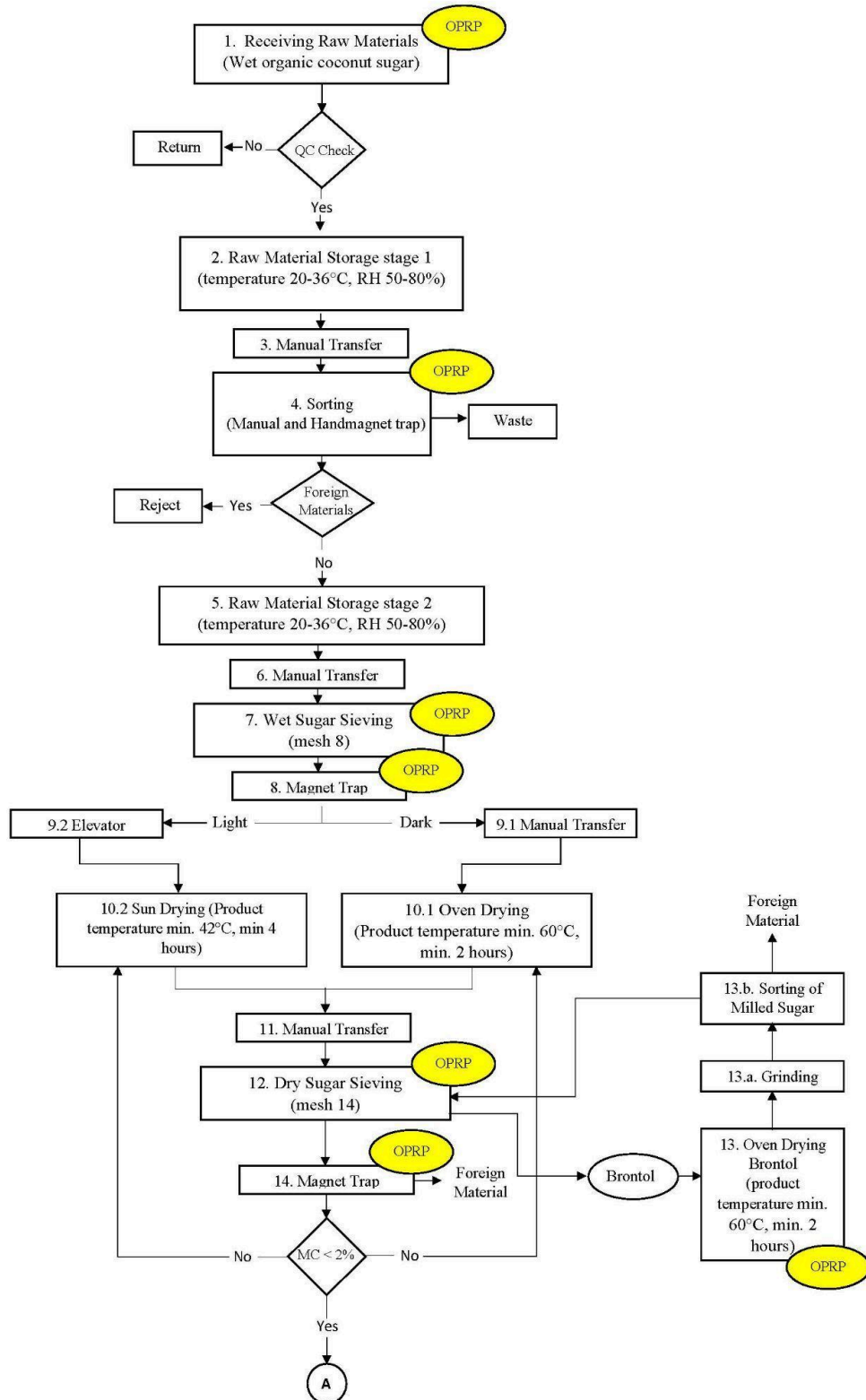
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IV. Characteristics of Packaging Materials

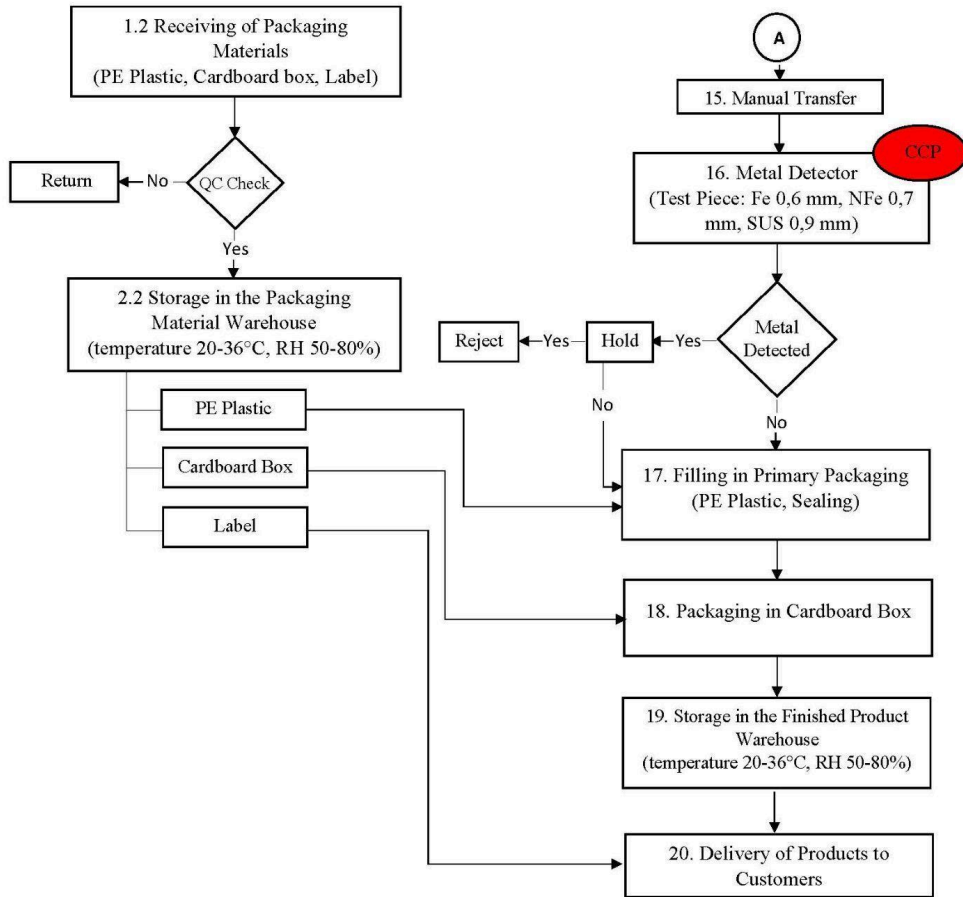
No	Name of packaging material	Source and Description of packaging materials	Ingredients	Shelf Life	Food safety characteristics (biological, physical, chemical)	Storage conditions	Packaging	Information on the label (related to food safety, handling instructions, preparation, use)	Distribution method	Supplier (name & location)
1	PE plastic	Source: results polyethylene resin seed processing Description: Clear cloudy color, dimensions 52x70 cm, thickness 0.12 cm	Polyethylene	10 years	Safe for food contact (migration test)	Clean warehouse space, placed on pallets, not exposed to direct sunlight	plastic sack	Product name, product dimensions	Car	PT Moerti Plastindo - Semarang
2	Cardboard box	Source: paper processing results Description: brown in color, dimensions 543x353x215 mm	B/F (3 mm/double wall)	10 years	Clean, not wet, not torn	Clean warehouse space, placed on pallets, not exposed to direct sunlight	NA	NA	Truck	PT Rukun Semangat Abadi-Kediri

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V. Process Flow Chart



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VI. Flow Chart Verification

1. Receipt of Raw Materials: Sugar arrives by truck or car. Sugar is weighed per cartridge (plastic packaging) and the weighing results are recorded in documents MIO/FM/03 and MIO/FM/22.

1.2. Receipt of Packaging Materials: Every time packaging material arrives, the condition of the packaging material and the COA are checked. Recording is done in the MIO/FM/93, MIO/FM/94, and MIO/FM/95 documents.

2. Raw Material Storage Stage 1: Sugar is stored in the raw materials warehouse. It is stacked on plastic pallets and placed away from the walls (approximately 30 cm from the walls) based on the collector and the type of fairtrade or non-fairtrade sugar.

2.2. Storage in the Packaging Material Warehouse: Packaging materials are stored in the packaging materials warehouse. Packaging materials are stacked on wooden pallets that are still in good condition based on the type of packaging material and placed away from the wall (distance from the wall $\pm$ 30 cm).

3. Manual Transfer: Wet sugar from stage 1 raw material storage is moved manually to the sorting room.

4. Sorting: separating wet sugar from foreign objects other than sugar manually and using a hand magnet. Foreign objects found are recorded in documents MIO/FM/07 and MIO/FM/08. The findings are put into plastic clip containers and grouped by collector and sorting date. The sorted sugar is packaged in plastic.

5. Raw Material Storage Stage 2: Sugar is stored in a wet sifting room. It is stacked on plastic pallets and placed away from the walls (approximately 30 cm from the walls) based on the collector and the type of fairtrade or non-fairtrade sugar.

6. Manual Transfer: Wet sugar from stage 2 raw material storage is transferred manually to the wet sieving tool.

7. Wet Sugar Sifting: sifting sugar per collector using mesh 8. The sifted sugar is put into containers. Each sifted sugar per collector is given an identity containing information on the date of receipt, the date of wet sifting, the name of the collector, a list of farmers, and the number and code of containers used. Recording is done in documents MIO/FM/10 and MIO/FM/23.

8. Magnet Trap: The sifted sugar is passed through a magnet trap. The catch in the magnet trap is recorded on MIO/FM/09.

9.1. Manual Transfer: The sieved wet sugar is moved manually to the oven drying room.

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9.2. Elevator: The wet sugar resulting from the wet sugar sifting is moved using an elevator to the drying room.

10.1. Drying using an Oven: sugar is dried to reduce the water content to <2%. Drying temperature min. 60°C for a minimum time 2 hours. Temperature monitoring is carried out every 2 hours during drying and the sugar is stirred every 45-60 minutes. The results of temperature monitoring and drying time using the oven are recorded in MIO/FM/14. Each oven used is given the identity of the sugar being dried. The dried sugar is placed in a different container than the original container when the sugar is wet. Recording the results of the quantity of sugar drying using the oven is done in documents MIO/FM/13 and MIO/FM/25.

10.2. Drying using sunlight (sun drying): sugar is dried to kill harmful bacteria and reduce the water content to <2%. The drying temperature is at least 42°C for a minimum of 4 hours. Temperature monitoring is carried out every 2 hours during drying. The results of temperature monitoring and drying time using sunlight are recorded in MIO/FM/14. Each drying rack used is given the identity of the sugar being dried. The dried sugar is placed in a container box that is different from the box container. The initial stage is when the sugar is wet. The results of the quantity of sugar dried using sunlight are recorded in documents MIO/FM13 and MIO/FM/25.

11. Manual Transfer: sugar resulting from oven drying and sun drying is transferred manually to a dry sieve.

12. Dry Sugar Sifting: dry sugar is sieved using mesh 14. Sugar that passes through the sieve will pass through a magnet trap before entering the container. The findings in the magnet trap are recorded in the MIO/FM/14 document. The sifted dry sugar is put into a container box and then given an identity containing information on the date of receipt, drying date, name of the collector, type of dryer and the number and code of containers used.

13. Drying Brontol with an Oven: The byproduct, which consists of lumps of sugar that don't pass through the sieve, is called brontol. This brontol must be dried in an oven at a minimum temperature of 60°C before being milled.

13a. Milling: dried brontol is ground using a grinding machine

13b. Sorting of Milled Sugar: milled sugar is sorted to separate foreign matter.

14. Magnet Trap: The sifted sugar is passed through a magnetic trap. The catch on the magnetic trap is recorded on MIO/FM/14.

15. Manual Transfer: dry sugar from dry sifting is transferred manually to the metal detector.

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16. Metal Detecting All dry sugar to be packaged must pass through a metal detector. Any metal objects detected by the device are recorded in document MIO/FM/15.

17. Filling in primary packaging: Dry sugar that passes the metal detection process is packed into 12.5 kg PE plastic primary packaging materials. The quantity of dry sugar packaged is recorded in documents MIO/FM/19 and MIO/FM/62.

18. Packaging in cardboard box: plastic packaging containing sugar is then sealed and placed into secondary packaging in the form of cardboard boxes (2 x 12.5 kg). Labeling is carried out each time stuffing is carried out.

19. Storage in finished product warehouse: finished products are stored in the finished product warehouse. Products are stacked on pallets that are still in good condition by type, identified and placed away from the wall (distance from the wall $\pm$ 30 cm).

20. Delivery of products to customers: Shipping products by sea in containers. Each time a product is placed in a container, a cleanliness check is performed and recorded in MIO/DP/26.

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VII. Raw Material Hazard Analysis

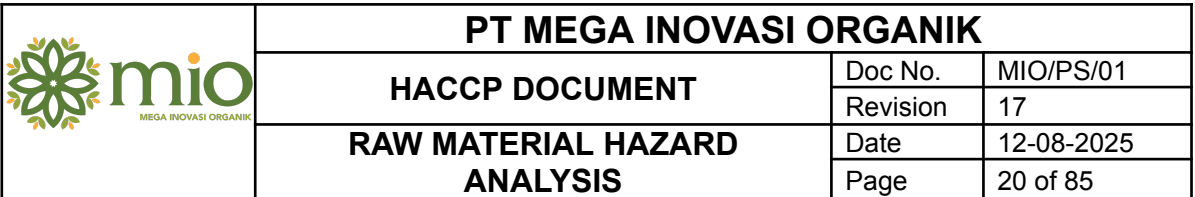
No.	Material	Hazard Identification Category			Acceptable Level in End Product	Hazard Assessment			Control Measure	Decision Tree					Category
		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
1	Organic palm sugar (wet)	B (Non Pathogenic)	Ant	Contamination from the environment around the processing room at the farmer level	No insects allowed	M(2)	L(1)	NS	-GMP education to farmers and suppliers through ICS -Monitoring pests during the process	-	-	-	-	-	PRP
		B (Non Pathogenic)	TPC	Contamination from suppliers	<5 x 10 ³ CFU/g based on NSI Specification	L(1)	M(2)	NS	-Microbiological analysis of raw materials to external laboratories	-	-	-	-	-	OPRP

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No.	Material	Hazard Identification Category			Acceptable Level in End Product	Hazard Assessment			Control Measure	Decision Tree					Category
		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	S. aureus	Contamination from suppliers	S.aureus (<10 CFU/g)	L(1)	M(2)	NS	-Microbiological analysis of raw materials to external laboratories	-	-	-	-	-	OPRP
		B (Pathogen)	E. coli	Contamination from suppliers	E. coli (<3 MPN/g) based on NSI Specification	L(1)	M(2)	NS	-Microbiological analysis of raw materials to external laboratories	-	-	-	-	-	OPRP
		All	Sulfite Gluten	Contamination from suppliers	Free Gluten (<20 ppm) EU No 828/2014 Sulfites (<10 ppm) (EU) No. 1169/2011	L (1)	H(3)	S	- Gluten and sulfite testing on raw materials to external laboratories	Y	-	-	-	Non CCP	OPRP

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No.	Material	Hazard Identification Category			Acceptable Level in End Product	Hazard Assessment			Control Measure	Decision Tree					Category
		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		P	Foreign objects (twigs & wood,)	Contamination from the environment around the processing room at the farmer level	There must be no foreign objects (twigs & wood in the product)	L(1)	M(2)	NS	-GMP education to farmers and suppliers -Sorting process	-	-	-	-	-	PRP
		P	Foreign objects (metal)	Contamination of processing equipment at the	There must be no foreign objects (metal)	L(1)	M(2)	NS	-GMP education to farmers and suppliers -Sorting process	-	-	-	-	-	PRP



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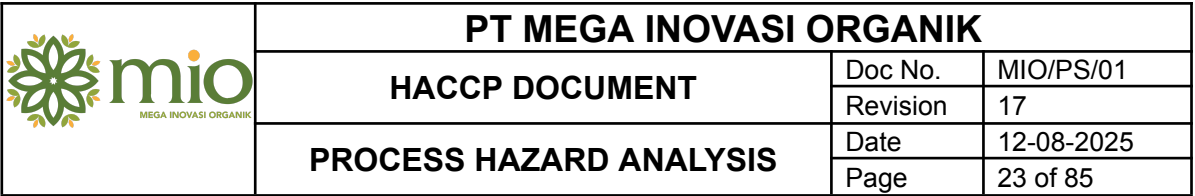
No.	Material	Hazard Identification Category			Acceptable Level in End Product	Hazard Assessment			Control Measure	Decision Tree					Category
		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Dust	Contamination from suppliers	Cardboard should not be dusty	L (1)	L(1)	NS	Checking the condition of the carton upon receipt	-	-	-	-	-	PRP
4	Label	B	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		C	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Ni	-	-	-	-	-	-	-	-	-	-	-	-

*) B = Biology P = Physical C = Chemical All = Allergen

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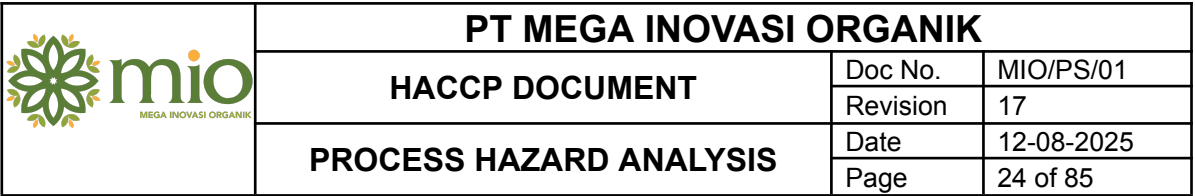
VIII. Process Hazard Analysis

No.	Process Step	Hazard Identification Category			Acceptable level in end product	Hazard Assessment			Control Measure	Decision Tree					Category
		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
1	Receipt of raw materials (wet organic palm sugar)	B (Non Pathogenic)	TPC	Personnel contamination during sampling	<5000 CFU/g based on NSI Specification	L (1)	M (2)	NS	-Personal hygiene	-	-	-	-	-	PRP
		B (Pathogen)	S. aureus	Personnel contamination during sampling	<10 CFU/g	L (1)	H(3)	S	-Personal hygiene	Y	Y	N	-	Non CCP	OPRP



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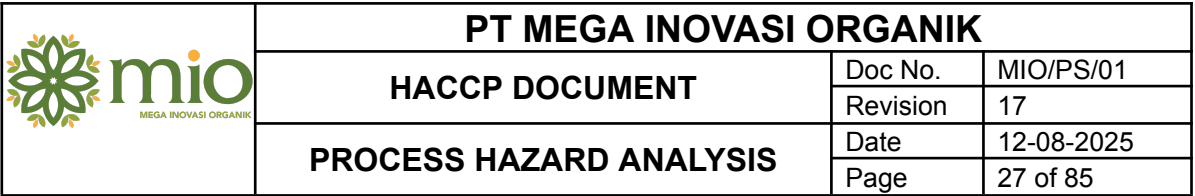
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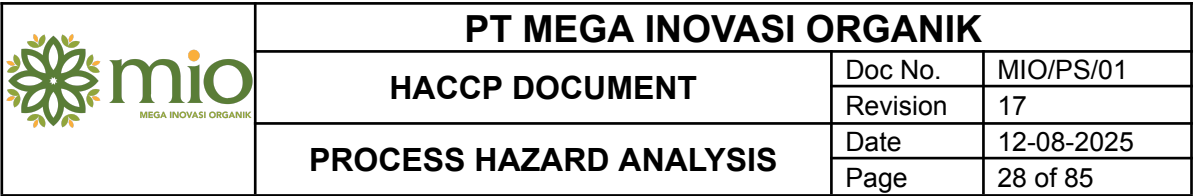
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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
2.2	Storage of packaging materials (room temperature)	B	Molds and yeasts	Increased humidity in the container warehouse	<10 CFU/g	L(1)	L(1)	NS	-Monitoring the cleanliness of the packaging material storage room	-	-	-	-	-	PRP
		C	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Foreign objects Wood chips,	Contamination from the environment	There should be no wood chip contamination	L(1)	M(2)	NS	Controlling the cleanliness of the warehouse space	-	-	-	-	-	PRP
2.2	Storage of	P	Dust Foreign Objects	Contamination from the environment	There should be no Dust	L(1)	M(2)	NS	Controlling the cleanliness	-	-	-	-	-	PRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
	packaging materials (room temperature)				Contamination				of the warehouse space						
		P	Metal Foreign Object	Contamination from the environment	There should be no Metal contamination	L(1)	M(2)	NS	Controlling the cleanliness of the warehouse space	-	-	-	-	-	PRP
		P	Foreign Objects (Animal Feces)	Contamination from the environment	There must be no animal waste contamination	L(1)	M(2)	NS	Controlling the cleanliness of the warehouse space	-	-	-	-	-	PRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		All	food residue from sorting personnel	Contamination from sorting personnel	no allergens in the final product	L(1)	H(3)	S	Personal hygiene and equipment sanitation	Y	Y	N	-	Non CCP	OPRP
		P	Plastic/metal foreign objects	Contamination from gloves, chipped pans, damaged cleaning tools	No foreign objects allowed	L(1)	H(3)	S	Personal hygiene, monitoring the condition of the hand magnet	Y	Y	N	-	Non CCP	OPRP
5	Storage of wet palm sugar stage 2 (room	B	mold and yeast	increased water content in the receiving warehouse, the	<10 CFU/g	L(1)	L(1)	NS	- Monitoring the temperature and humidity of the storage room	-	-	-	-	-	PRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
	temperature)			warehouse space is not kept clean											
		C	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Ni	-	-	-	-	-	-	-	-	-	-	-	-
6	Manual transfer	B (Non Pathogenic)	TPC	Handling transfer that causes the packaging to tear	<5000 CFU/g based on NSI Specification	L (1)	M (2)	NS	-PRP trolley usage	-	-	-	-	-	PRP
		B (Pathogen)	S. aureus	Handling transfer that causes the packaging to tear	<10 CFU/g	L (1)	H(3)	S	-PRP trolley usage	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	E. coli	Handling transfer that causes the packaging to tear	<3 MPN/g based on NSI Specification	L (1)	H(3)	S	-PRP trolley usage	Y	Y	N	-	Non CCP	OPRP
		C	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Ni	-	-	-	-	-	-	-	-	-	-	-	-
7	Wet sugar sieving (mesh 08)	B (Non Pathogenic)	TPC	Contamination from personnel and equipment	<5000 CFU/g based on NSI Specification	L(1)	M(2)	NS	Personal hygiene and equipment sanitation	-	-	-	-	-	PRP
		B (Pathogen)	S. aureus	Contamination from personnel and equipment	<10 CFU/g	L(1)	H(3)	S	Personal hygiene and equipment sanitation	Y	Y	N	-	Non CCP	OPRP

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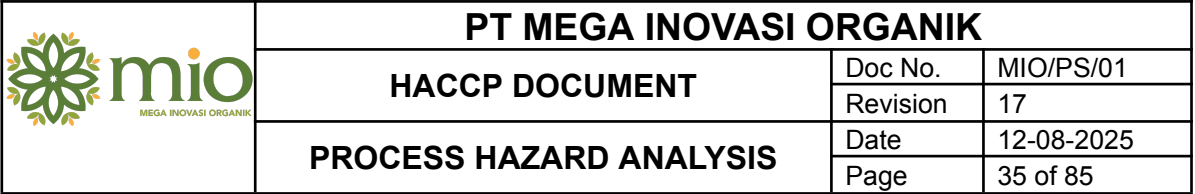
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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	E. coli	Contamination from personnel and equipment	<3 MPN/g based on NSI Specification	L(1)	H(3)	S	Personal hygiene and equipment sanitation	Y	Y	N	-	Non CCP	OPRP
		C	Ni							-	-	-	-	-	
		All	food residue from sorting personnel	Contamination from sorting personnel	no allergens in the final product	L(1)	H(3)	S	Personal hygiene and equipment sanitation	Y	Y	N	-	Non CCP	OPRP
		P	Sieve flakes	Torn sieve	There must be no torn sieves.	L(1)	H(3)	S	-Monitoring sieve conditions	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likeli hood	Severity	Risk (Significa nce)		Q1	Q2	Q3	Q4	CCP (Y/N)	
8	Magnet Trap	B	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		C	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Sieve flakes	torn sieve	There should be no sieve debris	L (1)	H (3)	S	-Monitoring magnet condition	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		P	Metal Flakes	Scraping the pan during cooking of Nira	There should be no Metal Fragments	L (1)	H (3)	S	-Monitoring magnet condition	Y	Y	N	-	Non CCP	OPRP
9.1	Manual transfer	B (Non Pathogenic)	TPC	Contamination from personnel and equipment	<5000 CFU/g based on NSI Specification	L(1)	M(2)	NS	GMP Personal hygiene and equipment sanitation	-	-	-	-	-	PRP
		B (Pathogen)	S. aureus	Contamination from personnel and equipment	<10 CFU/g	L(1)	H (3)	S	GMP Personal hygiene and equipment sanitation	Y	Y	N	-	Non CCP	OPRP
		B (Pathogen)	E. coli	Contamination from personnel	<3 MPN/g based on NSI	L(1)	H (3)	S	GMP Personal hygiene and	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
10.1	Oven drying (minimum temperature 60o C, minimum time 2 hours)	B (Non Pathogenic)	TPC	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	<5000 CFU/g based on NSI Specification	L(1)	M(2)	NS	Monitoring oven temperature and drying time	-	-	-	-	-	-

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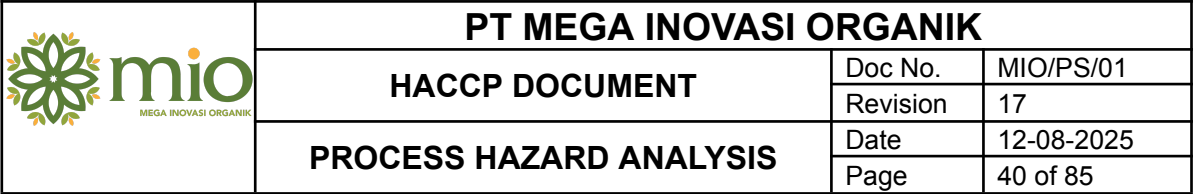
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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Non Pathogenic)	Molds and yeasts	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	<10 CFU/g	L(1)	M(2)	NS	Monitoring oven temperature and drying time	-	-	-	-	-	-

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	S. aureus	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	<10 CFU/g	L(1)	H (3)	S	Monitoring oven temperature and drying time	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	E. coli	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	<3 MPN/g based on NSI Specification	L(1)	H (3)	S	Monitoring oven temperature and drying time	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
10.2	Sun drying (minimum temperature 42°C, minimum time 4 hours)	B (Non Pathogenic)	TPC	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -temperature and drying time with sunlight are not achieved	<5000 CFU/g based on NSI Specification	L(1)	M(2)	NS	Monitoring oven temperature and drying time	-	-	-	-	-	OPRP

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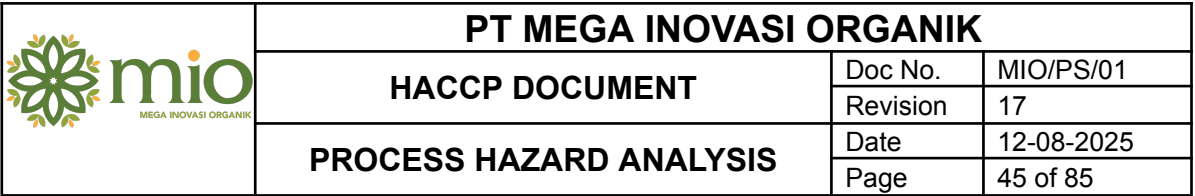
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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Non Pathogenic)	mold and yeast	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -temperature and drying time with sunlight are not achieved	<10 CFU/g	L(1)	M(2)	NS	Monitoring oven temperature and drying time	-	-	-	-	-	OPRP

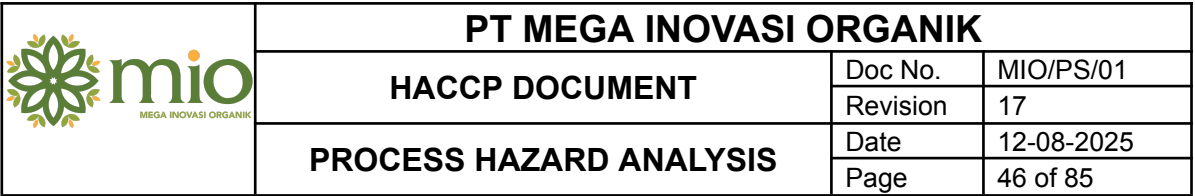
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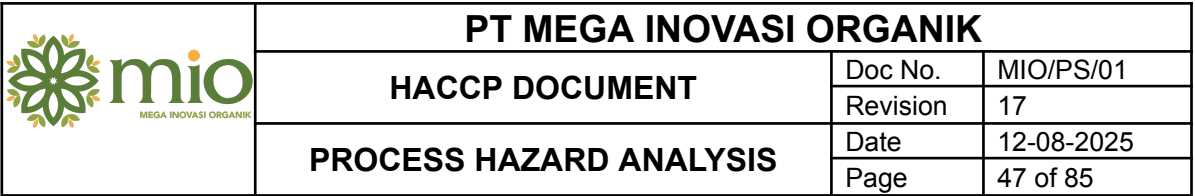
No.	Process Step	Hazard Identification Category			Acceptable level in end product	Hazard Assessment			Control Measure	Decision Tree					Category
		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	S. aureus,	- Contamination from personnel, hazards carried by suppliers/farmers, equipment-temperature and drying time with sunlight are not achieved	<10 CFU/g	L(1)	H (3)	S	Monitoring oven temperature and drying time	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	E. coli	- Contamination from personnel, hazards carried by suppliers/farmers, equipment-temperature and drying time with sunlight are not achieved	<3 MPN/g based on NSI Specification	L(1)	H (3)	S	Monitoring oven temperature and drying time	Y	Y	N	-	Non CCP	OPRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		P	Sieve flakes	Torn sieve	No foreign objects (sieve debris)	L(1)	H(3)	S	-Monitoring sieve conditions	N	Y	Y	-	Non CCP	OPRP
	Drying the brontol with an oven	B (Non Pathogenic)	TPC	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	TPC 3 x 10 ³ colonies/g	L(1)	M(2)	NS	Monitoring oven temperature and drying time	-	-	-	-	-	PRP

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oven
(temperature 60 °C, minimum 2 hours)

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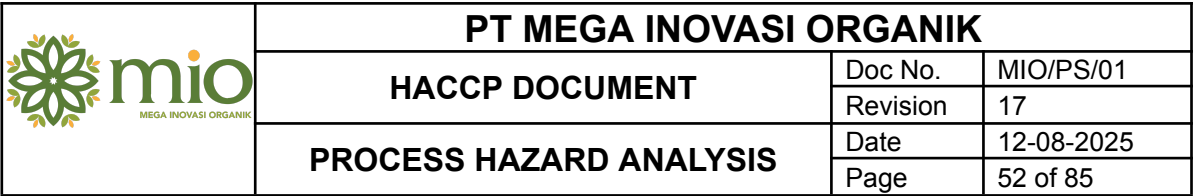
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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Non Pathogenic)	mold and yeast	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	Mold and Yeast <10 CFU/g based on NSI Specification	L(1)	M(2)	NS	Monitoring oven temperature and drying time	-	-	-	-	-	PRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Pathogen)	S. aureus	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	S.aureus <10 colonies/g	L(1)	H (3)	S	Monitoring oven temperature and drying time	Y	-	-	-	Non CCP	OPRP

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		*)	Hazard	Source		Likeli hood	Severity	Risk (Significa nce)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		B (Patho gen)	Salmonella	-Contamination from personnel, hazards carried by suppliers/farmers, equipment -the temperature and drying time with the oven are not achieved	Salmonella Absence based on NSI Specification	L(1)	H (3)	S	Monitoring oven temperature and drying time	Y	-	-	-	Non CCP	OPRP



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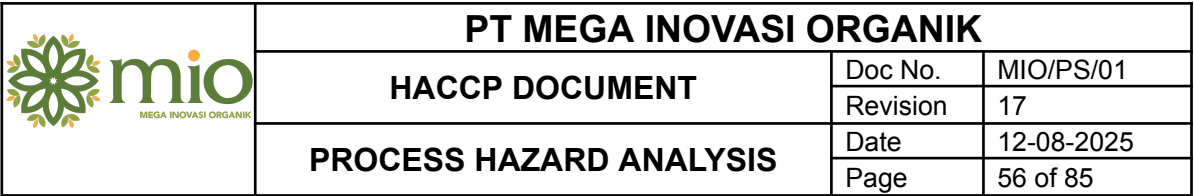
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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		C	Oil contamination	Oil leak in the grinding machine	no oil leaks and contaminates the product and the use of food grade oil	L (1)	M (2)	NS	-Preventive maintenance of milling machines, MSDS of food grade oil	-	-	-	-	-	PRP
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Ni	-	-	-	-	-	-	-	-	-	-	-	-
13b.	Sorting of milled sugar	B (Non Pathogenic)	TPC	Originating from the personnel's body	<5000 CFU/g based on NSI Specification	L(1)	M(2)	NS	-Personal hygiene -Personnel swab	-	-	-	-	-	PRP
		B (Pathogen)	S. aureus	Originating from the	S.aureus <10 colonies/g	L(1)	H(3)	S	-Personal hygiene	Y	-	-	-	Non CCP	PRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
				personnel's body	Negative based on NSI Specification				-Personnel swab						
		B (Pathogen)	E. coli	Originating from the personnel's body	Negative based on NSI Specification	L(1)	H(3)	S	-Personal hygiene -Personnel swab	Y	-	-	-	Non CCP	PRP
		C	This	-	-	-	-	-	-	-	-	-	-	-	-
		All	food residue from sorting personnel	Contamination from sorting personnel	no allergens in the final product	L(1)	H(3)	S	-Personal hygiene -Personnel swab	Y	-	-	-	Non CCP	PRP
		P	Foreign object (Torn	Contamination from gloves	There should be no foreign	L(1)	L(1)	NS	Personal hygiene	-	-	-	-	-	PRP

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		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
			plastic glove)		objects (torn plastic gloves)										
14	Magnet Trap	B	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		C	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Sieve flakes	torn sieve	There should be no foreign objects (Mesh flakes)	L (1)	H (3)	S	-Monitoring magnet condition	Y	-	-	-	Non CCP	OPRP
15	Manual transfer	B (Non Pathogenic)	TPC	Contamination from personnel and equipment	<5000 CFU/g based on NSI Specification	L(1)	M(2)	NS	GMP Personal hygiene and equipment sanitation	-	-	-	-	-	PRP

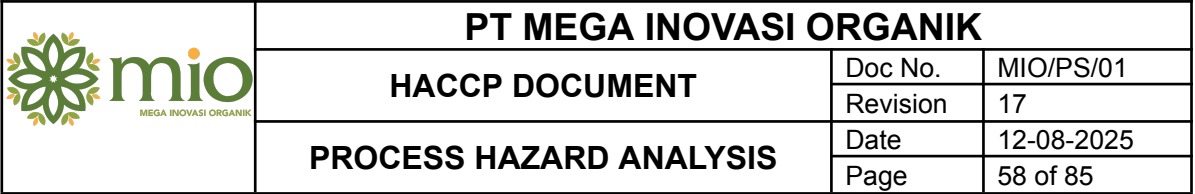


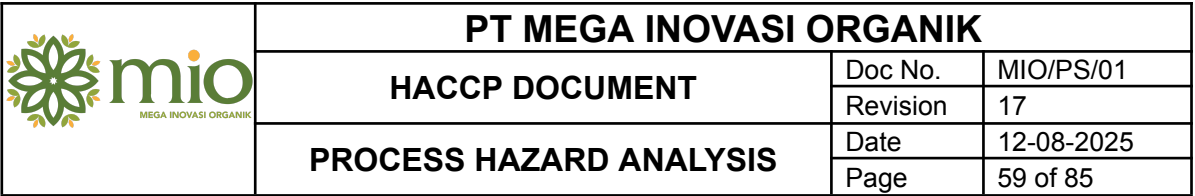
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No.	Process Step	Hazard Identification Category			Acceptable level in end product	Hazard Assessment			Control Measure	Decision Tree					Category
		*)	Hazard	Source		Likelihood	Severity	Risk (Significance)		Q1	Q2	Q3	Q4	CCP (Y/N)	
		P	Metal Objects (Fe 0.6 mm ; Nfe 0.7 mm ; SUS 0.9 mm)	Contamination from previous process machinery and equipment	no metal contamination on the finished product (Fe 0.6 mm; Nfe 0.7 mm; SUS 0.9 mm)	L (1)	H (3)	S	-Checking the detector sensitivity on the tool using a test piece -Checking the metal detector indicator light	N	Y	N	Y	CCP	CCP
17	Filling with primary packaging materials (PE plastic and Sealing)	B	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		C	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		All	Ni	-	-	-	-	-	-	-	-	-	-	-	-
		P	Glove cut	Contamination from personnel	there are no foreign objects in the finished product	L(1)	M(2)	NS	-Personal hygiene	-	-	-	-	-	PRP

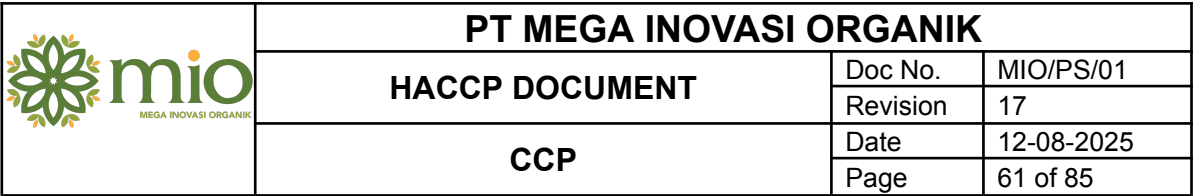
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IX. Critical Control Point

Material/ Process	Hazard	Control Measures	Critical Limit	Monitoring		Live Correction	Corrective Action	Responsibilit y and Authority	Documents / Notes	Verification	Validation
				A: What, D: Where, K: When							
				S: Who, B: How							
Process 16. Metal Detecting	Physical: Metal foreign objects	Checking with test piece	Test piece Fe 0.6 mm; Nfe 0.7 mm; SUS 0.9mm	A	Metal detector sensitivity	Direct correction by the Head/Deput y UP/operator, if the test piece & detector light detection is not achieved, then the process is stopped and the product will be	Analyze the root cause and take corrective action	Checked: metal detector operator Verification: QC Direct correction: QC, Production Manager and MD staff.	- MIO/PK/12 Metal detecting process procedure - MIO/FM/15 Equipment, machine, and CCP UP 3 monitoring form	Short term (daily): - Checking of metal detector sensitivity monitoring records and indicator lights by QC Long-term: - Tool	-External vendor validation (tool specifications) -Normal production data collection -Internal validation (challenge test) -Regulation: FDA (CHAPTER 20: Metal Inclusion)
				D	Packing room						
				K	At the beginning of each shift, every 4 hours, and						



Material/ Process	Hazard	Control Measures	Critical Limit	Monitoring		Live Correction	Corrective Action	Responsibilit y and Authority	Documents / Notes	Verification	Validation
				A: What, D: Where, K: When							
				S: Who, B: How							
					at the end of the process	labeled Hold. Report to QC, MP and MTC		Corrective action: QC, Production Manager and MD staff.		calibration	
				S	Metal detector machine operator	then metal detecting will be					
				B	Skip the test piece before starting the process	carried out again after repairs					
		Checking the metal detector indicator light	The indicator light is on	A	Metal detector indicator light	If a product passes MD and metal is detected, the product will					
				D	Packing room	be held and re-checked					

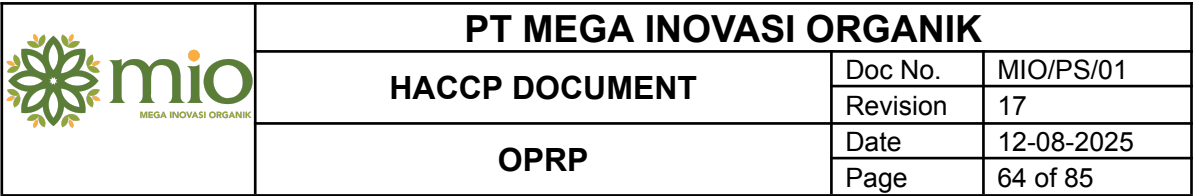
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Material/ Process	Hazard	Control Measures	Critical Limit	Monitoring		Live Correction	Corrective Action	Responsibilit y and Authority	Documents / Notes	Verification	Validation
				A: What, D: Where, K: When							
				S: Who, B: How							
				K	At the beginning of each shift, every 4 hours, and at the end of the process	(max. 3 times). If it is still detected, the product will be sorted manually to find metal findings. If it is not detected, the product's status will change to release.					
				S	Metal detector machine operator						
				B	Visual check						

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X. Operational-PRP

Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
Material 1.	Organic palm sugar (wet)	Biology: TPC, S.aureus, E.coli, Mold&yeast Gluten, sulfites	-Analysis of raw materials to external laboratories	TPC (3x103 colonies/g); E.coli (<3 MPN/g) ; S.aureus (<10 colonies/g, mold and yeast (1x102 colonies/g) Gluten Free (<20	A	Biological hazards (TPC, S.aureus, E.coli, Gluten, Sulfites)	- Hold product/ Return product	Analyzing the root of the problem and taking corrective action by suppliers and PT MIO	-Checked by: wet sugar reception staff -Verification by : QA -Direct correction: QC and raw material receiving section -Corrective action: QC,	CoA of raw materials from external labs	Verification of external lab results by QA	-Analysis of raw materials to external laboratories -Collection of normal production condition data -Regulation: EU No 828/2014, (EU) No. 1169/2011,
				S.aureus (<10 colonies/g, mold and yeast (1x102 colonies/g) Gluten Free (<20	D	Raw materials (wet organic palm sugar)	- Communication to ICS and suppliers					
				S.aureus (<10 colonies/g, mold and yeast (1x102 colonies/g) Gluten Free (<20	K	Each raw material acceptance process (based on the raw material sampling program)	- Re-analysis is to external lab					



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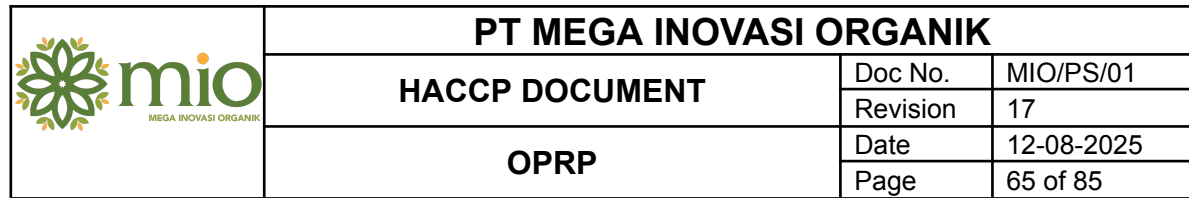
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Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
				ppm) Sulfite (<10 ppm)	S	QC and external laboratories			supplier, and ICS			
					B	Taking samples of raw materials and testing samples at external laboratories as well as internal testing for gluten						



Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
Process 4	Sorting (manual and hand magnet)	Physique : Metal foreign objects	Monitoring the condition of the magnet, including cleaning the magnet and visually checking the findings on the magnet, Monitoring the strength of the magnetic trap (pull test)	There must be no foreign objects, the magnet can catch 2.5 mm metal and the magnet trap is clean Magnetic strength 8000 gauss	A	Metal foreign objects attached to the magnet trap Magnetic trap strength	-Separate the findings from the sugar -Check the magnetic strength	Analyzing the root of the problem take corrective action on the hand magnet	-Checked by: sorting staff Verification by : QC -Direct correction: QC, Production Manager, Sorting staff -Corrective action: QC, Production Manager, Sorting staff	MIO/PK/57 Hand magnet and magnet trap monitoring procedures MIO/FM/09 Equipment and machinery monitoring form	Checking of monitoring results records by QC	-Collection of normal production condition data '-Challenge test
					K	Start of shift and end of shift Once a month						
					D	magnetic tool Pull test						
					S	Sorting staff						

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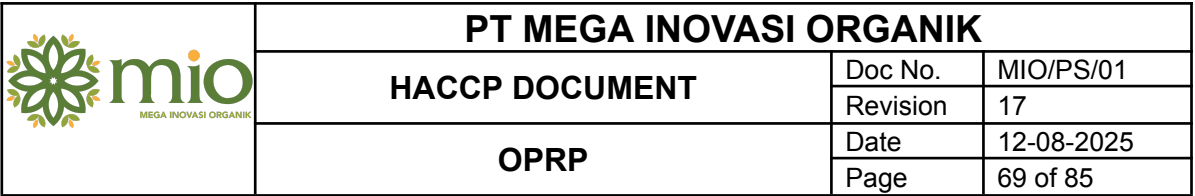
Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
				(11.08 lbf)	B	Clean the hand magnet and check the strength of the magnetic trap using a pull test				UP1		
Process 7	Wet sugar sieving	Physical: sieve flakes	Monitoring sieve conditions	There must be no torn sieves.	A	Check the condition of the sieve	-Process termination '-Sifter replacement	Analyze the root cause and take corrective action on the wet sugar sifter	-Checked by: wet sugar sieving staff -Verification by : QC -Direct correction: QC, Production Manager,	- MIO/PK/06 Procedure for wet sugar sieving process - MIO/FM/09 UP 1 equipment	Checking of monitoring results records by QC	-Collection of normal production condition data '-Challenge test
					K	Every before and after process	-Re-analysis of foreign objects in the product					
					D	Wet sugar screening room						

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Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
					S	Wet sugar sifter operator			Maintenance, wet sugar sieving staff	and machinery monitoring form		
					B	Check the condition of the sieve before and after the process			-Corrective action: QC, Production Manager, Wet sugar sieving staff			
					A	Metal foreign objects attached to the magnet trap						
Process 8	Magnet Trap	Physical: Sieve flakes and other	Monitoring the condition of the magnet, including cleaning the	The magnet can catch 2.5 mm metal and		Magnetic trap strength	-Stopping the production process	Analyze the root cause and take corrective action on the	-Checked by: wet sugar sieving staff	MIO/PK/57 Hand magnet and magnet	Checking of monitoring results records by	-Collection of normal production condition data

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Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
		metal foreign objects	magnet trap and visually checking the findings on the magnet trap. Monitoring the strength of the magnetic trap (pull test)	the cleanliness of the magnet trap Magnetic strength 8000 gauss (11.08 lbf)	K	Start of shift and end of shift Once a month	-Check the magnetic strength	magnet trap	-Verification by : QC -Direct correction: QC, Production Manager, Wet sugar sieving staff -Corrective action: QC, Production Manager, Wet sugar sieving staff	trap monitoring procedures MIO/FM/09 Equipment and machinery monitoring form UP1	QC	'-Challenge test
				D	Magnetic trap tool Pull test	-Hold product						
				S	Wet sugar sifter operator	-Re-analysis of foreign objects in the product						



Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
					B	Conducting cleaning of magnet traps and visual inspection of findings on magnet traps Conducting magnetic trap strength using pull test						
Process 12	Dry sugar sifting	Physical: sieve flakes	Monitoring sieve conditions	There must be no torn sieves.	A	Check the condition of the sieve	-Process termination -Sifter replacement -Re-analysis	Analyze the root cause and take corrective action on the dry sugar sifter	-Checked by: dry sugar sieving staff -Verification by : QC	- MIO/PK/ 10 Dry sugar sieving process procedure	Checking of monitoring results records by QC	-Collection of normal production condition data -Challenge test
					K	Every before and after process						

-Direct

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Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
					D	Dry sugar screening room	foreign objects in the product		correction: QC, Production Manager, Maintenance, wet sugar sieving staff	- MIO/FM/14 Oven, Drying, and OPRP UP 2 Monitoring Form		
					S	Dry sugar sifter operator						
					B	Check the condition of the sieve before and after the process			-Corrective action: QC, Production Manager, Wet sugar sieving staff			

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Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
Process 14	Magnet Trap	Physical: Sieve flakes and other metal foreign objects	Monitoring the condition of the magnet, including cleaning the magnet trap and visually checking the findings on the magnet trap. Monitoring the strength of the magnetic trap (pull test)	The magnet can catch 2.5 mm metal and the cleanliness of the magnet trap Magnetic strength 8000 gauss (11.08 lbf)	A	Metal foreign objects attached to the magnet trap Magnetic trap strength	-Stopping the production process -Check the magnetic strength -Hold product -Re-analysis of foreign objects in the product	Analyze the root cause and take corrective action on the magnet trap	Checked by: wet sugar sieving staff -Verification by : QC -Direct correction: QC, Production Manager, Wet sugar sieving staff -Corrective action: QC, Production	MIO/PK/57 Hand magnet and magnet trap monitoring procedures MIO/FM/14 Oven, Drying, and OPRP UP 2 Monitoring Form	Checking of monitoring results records by QC	-Collection of normal production condition data '-Challenge test

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Process Step	OPRP	Hazard	Control Measures	Action Criteria	Monitoring		Live Correction	Corrective Action	Responsibility and Authority	Documents / Notes	Verification	Validation
					A: What, D: Where, K: When							
					S: Who, B: How							
					K	Start of shift and end of shift Once a month			Manager, Wet sugar sieving staff			
					D	Magnetic trap tool Pull test						
					S	Wet sugar sifter operator						
					B	Conducting cleaning of magnet traps and visual inspection of findings on magnet traps Conducting magnetic trap strength using pull test						

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XI. Verification Plan

No.	Activity	Department	Objective	Method	Frequency	Responsibility	Documents/ Notes/ Records
	(What)	(Where)	(Why)	(How)	(When)	(Who)	
1	Verification of GMP implementation	Production	Ensure GMP is implemented properly	GMP implementation audit	Each month	FSTL, Internal Audit Coordinator, Food Safety Team	GMP audit SOP, audit program, audit schedule, audit checklist, audit report
2	Verification of HACCP implementation and documentation	Production, Purchasing, Warehouse	Ensure HACCP implementation and documentation is always updated	HACCP Implementation Audit and Documentation	Any changes to: (1) the list of raw materials or processes, (2) utilities, (3) changes in equipment, (4) characteristics of the final product, (5) new products, (6) changes in the environment	FSTL, Internal Audit Coordinator, Food Safety Team	Internal audit SOP, audit program, audit schedule, audit checklist, audit report
3	Process flow diagram verification	Production	Ensure the process flow diagram is always updated	Plant tour and checking process flow diagram	Once every 6 months or, whenever there is	FSTL, Internal Audit Coordinator,	Flow diagram

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No.	Activity	Department	Objective	Method	Frequency	Responsibility	Documents/ Notes/ Records
	(What)	(Where)	(Why)	(How)	(When)	(Who)	
					a change in the process stage	Food Safety Team	
4	CCP and OPRP Verification	Production	Ensure proper implementation and monitoring of CCPs	Checking CCP checking report	Every day	Responsible for each CCP and OPRP, Food Safety Team	CCP and OPRP Documentation, HACCP Plan
5	Verification of tools used for CCP and OPRP monitoring	Production and GA	Ensure all tools have good sensitivity	Performing external calibration	Annual	FSTL, Internal Audit Coordinator, Food Safety Team	Calibration SOP, calibration certificate

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IDENTIFIKASI BAHAYA DAN CCP

PENJELASAN TABEL IDENTIFIKASI BAHAYA DAN CCP (TITIK KENDALI KRITIS)

Tabel Analisis Bahaya dan Identifikasi CCP berisi identifikasi bahaya potensial dari tiap material dan tahapan proses, penentuan resiko bahaya, identifikasi tindakan pengendalian, dan penggunaan pohon keputusan untuk penentuan CCP & OPRP

Berikut Penjelasan Kolom-Kolom dari Tabel Identifikasi Bahaya dan CCP :

- Nomor dari Step proses (lihat Flow Diagram)
- Material dan Tahapan Proses (Setiap Material dan Tahapan Proses diidentifikasi bahayanya)
- Contoh Bahaya Potential:
 - B = Biological - Yang menimbulkan Penyakit (misalnya *Salmonella*)
 - C = Chemical - Pestisida, Bahan Aditif, Pelumas
 - P = Physical - Besi, Kayu, Batu, Plastic (Plastik Keras)
 - All = Allergen -Kacang, Susu, Telur, Ikan, Terigu
 - Rad = Radiologi -cesium, uranium
- Penilaian Resiko (Lihat ke Hazard Assessment Matrix - appendix 2)

Analisa Resiko dan Penilaiannya, yaitu :

 - Kemungkinan Terjadi (Probability/Likelihood)
 - High Occurance adalah sangat sering terjadi atau pernah terjadi dalam 12 bulan terakhir (Nilai 3)
 - Medium Occurance adalah pernah terjadi dalam 2 tahun terakhir (Nilai 2)
 - Low Occurance adalah sangat jarang / hampir tidak pernah terjadi dalam 3 tahun terakhir (Nilai 1)
 - Tingkat keparahan (Severity) terhadap konsumen
 - High Severity adalah dapat menyebabkan sakit parah, termasuk rawat-inap atau kematian (Nilai 3)
 - Medium Severity adalah dapat menyebabkan sakit, namun tidak sampai rawat-inap (Nilai 2)
 - Low Severity adalah dapat menyebabkan sakit ringan (Nilai 1)
 - Significance Risk (Resiko) - Kombinasi dari efek kemungkinan terjadi resiko dan tingkat keparahan yang ditetapkan ke dalam suatu tingkatan sebagai dasar untuk tindakan pengendalian
- Tindakan Pengendalian : Tindakan dan aktivitas yang dilakukan yang dapat digunakan untuk mencegah atau menghilangkan suatu bahaya keamanan pangan atau menurunkan sampai batas yang dapat diterima
- Bila Resikonya non signifikan (1,2,3), maka bahaya tersebut dikendalikan dengan PRP
Bila Resikonya signifikan (4, 6, 9), maka bahaya tersebut dikendalikan dengan OPRP atau CCP (dipilih melalui Decision Tree)
- Pohon keputusan untuk identifikasi CCPs (Lihat appendix 3)

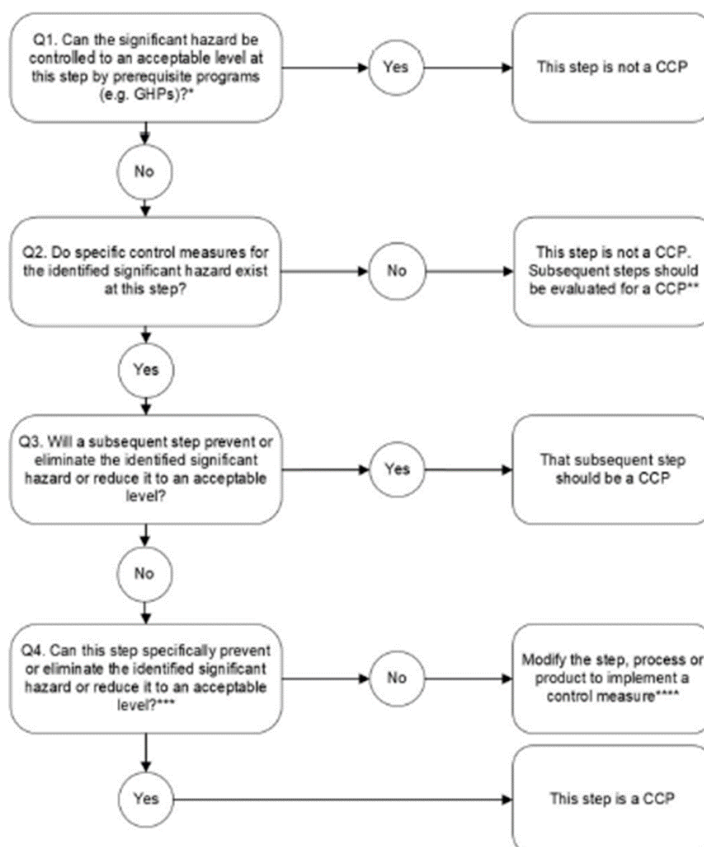
Likelihood	Low	Medium	High
Saverity			
Low	LL	LM	LH
Medium	ML	MM	MH
High	HL	HM	HH

Significant

Not significant

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CXC Decision Tree 1-1969 Rev 2022



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No	Revision Date	No Revision Beginning	Revised Section	No Final Revision	FSTL Initial
1	03-07-2020	00	1) Hazard analysis of raw materials-PE plastic material-hazard type Allergen changed to "not detected" 2) Adding food fraud hazard types to the process hazard analysis (food fraud hazard analysis from the PRP document is moved to the HACCP document) 3) Changing action criteria process 11 b. Magnet Trap 4) Changing the standard metal detector test piece	01	
2	09-15-2020	01	1) Transforming the Food Safety Team 2) In the product specifications, namely the chemical food safety characteristics section, namely a maximum water content of 2% plus (with a tolerance of 0.5%) and changing the shelf life to 3 years. 3) In the Characteristics of Raw/Supporting Materials, namely the food safety characteristics section plus chemicals, namely water content <4% (with a tolerance of 0.5%) 4) Changing the process flow diagram, namely eliminating QC checks after the sorting process; moving the water content checking process from after drying to after the magnet trap process; changing the wet sieve mesh to 8; changing the dry sieve mesh to 14, 18, 30, 70/80; adding the action criteria "metal detected?" after the metal detector process, changing the room temperature writing to a	02	

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			number, adding mesh 30 to the dry sieve process, changing the word waste to foreign materials, eliminating the drying process on brontol and adding foreign materials after the milling sorting process. 5) Adding documents to the magnet trap, namely MIO/PK/70 Magnet trap monitoring procedures and MIO/FM/35 Magnet trap monitoring forms		
3	05-04-2021	02	1) Increased food safety team members to 19 people 2) Revise the sodium metabisulfite limit to <20 ppm 3) Deleting the MIO/PK/09 document from the Sun-drying CCP section. PK/09 is combined with PK/08. 4) Deleting the MIO/PK/09 document in the Oven Drying CCP section. PK/09 is combined with PK/07. 5) Replacing the MIO/PK/13 document for metal detector process procedures and packaging in the CCP metal detector section with the MIO/PK/12 document for metal detecting procedures 6) Deleted document MIO/PK/14 metal detector monitoring procedures on metal detector CCPs, combined with MIO/PK/13 7) Replacing the document MIO/PK/15 wet sieving monitoring procedure in OPRP process 7 wet sugar sieving with MIO/PK/06 wet sugar sieving process procedure	03	

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			8) Replacing the document MIO/PK/11 dry sieving monitoring procedure in OPRP process 11a dry sugar sieving with MIO/PK/10 dry sugar sieving process procedure 9) Change of document number MIO/PK/70 for magnet trap monitoring procedure on OPRP magnet trap to MIO/PK/57		
4	08-16-2021	03	1) Nutrition facts update 2) Changes to product specifications, sodium metabisulfite to sulfite and its limits	04	
5	October 17, 2021	04	1) Separation of the 'Hazard Identification Category' column for 'Biological Hazards' according to their category (pathogenic/nonpathogenic)	05	
6	07-01-2022	05	1) Changes to the food safety team in accordance with Decree No. 001/Dir.MIO/Pen-Tim-KP/I/2022 2) Head Office address update	06	
7	08-08-2022	06	1) Changes to the food safety team in accordance with Decree No. 005/Dir.MIO/Pen-Tim-KP/VIII/2022 2) Separation of the 'Hazard Identification Category' column for 'Biological Hazards' according to their category (pathogenic/nonpathogenic)	07	
8	09-23-2022	07	1) Changes in the storage temperature of finished products according to the temperature in the product specifications.	08	

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			2) Addition of identity number 12 to the flowchart 3) Added point 12. Brontol on the flowchart verification section. 4) Added Acceptable level of chemical hazard of PE plastic packaging to Plastic migration test results below the limit according to CoA 5) Addition of process name in points 2.1, 2.2 Process Hazard Analysis 6) Standardization of process numbers in the process hazard analysis table according to the numbers on the flow diagram 7) Standardization of mesh size at points 7 and 11 of the process hazard analysis table according to the flow diagram 8) Standardization of NFe size to 0.7 mm at point 15 of the Process Hazard Analysis table 9) Added temperature monitoring information on the Drying CCP 10) Added Corrective Actions to CPP Metal Detector 11) Addition of process number information to the CCP table 12) Addition of microbiological critical limits to the Drying CCP 13) Additional information on measuring instrument calibration temperature in the Drying CCP verification section 14) Changes in the size of the Metal Detector test piece to Fe 0.6 mm, Nfe 0.7 mm, and SUS 0,8mm.		

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9	10-05-2022	08	1) Additional information on the Food Safety Team's disciplines 2) Added User Age information to the Product Specifications table 3) Changes to the flow diagram at point 12. Drying Brontol using an oven along with verification of the flow diagram. 4) Changes in the limit for heavy metal contamination of Cadmium from not detected to 0.20 mg/kg according to the 2021 Indonesian National Standard for Palm Sugar	09	
10	03-07-2023	09	1. Changes to the food safety team decree information in accordance with No. 018/Dir.MIO/Pen-Tim-KP/VII/2023 2. Changes to the flow diagram: adding a sorting process using a hand magnet and magnet trap after wet sieving. 3. Changes to the flowchart verification: addition of a sorting process using hand magnets and magnet traps after wet sieving. 4. Changes to the process hazard analysis: addition of sorting process with hand magnet and magnet trap after wet sieving 5. OPRP changes: addition of sorting process with hand magnet and magnet trap after wet sieving	10	
11	08-14-2023	10	1. Elimination of oven drying and sun drying processes as CCP (flow diagram, hazard analysis, CCP) 2. Change of CCP process number 15 to 16	11	

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			3. Correction of the writing of the mold and yeast limit of 1x10 ² colonies/g to 1x10 ² colonies/g		
12	05-08-2024	11	1. Plant/Line Description: Addition of “metal detection” 2. Food safety characteristics: Added gluten free 3. Shelf life: changes to 29 months 4. Raw material characteristics table: addition of free gluten and changes in shelf life 5. Packaging material characteristics table: supplier 6. Flowchart: addition of CCP to raw materials 7. Raw material analysis: Addition of CCP and table changes (change of decision tree) 8. Process hazard analysis: Decision tree changes 9. CCP: Addition of raw materials as CCP 10. Decision tree attachment	12	
13		12	1. Flowchart: change of CCP in raw materials to non CCP (OPRP)	13	
14	10/01/25	13	1. Changes to the food safety team in accordance with Decree No. 001/Dir.MIO/Pen-Tim-KP/I/2022 2. Oven Time Changes in the flow chart 3. Changes in the size of the Metal Detector test piece to Fe 0.6 mm, Nfe 0.7 mm, and SUS 0.9 mm.	14	

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15	05/06/2025	14	Changes to the Food Safety Team No. 069/Dir.MIO/Pen-Tim-KP/V/2025	15	
16	01/07/2025	15	1. Addition of competency standards and actual competencies of the Food Safety Team. 2. Addition of storage conditions, packaging dimensions, temperature and RH of the distribution method room to the Product Specifications. 3. Addition of allergen information to the Characteristics of Raw Materials/Supporting Materials. 4. The addition of RH in the palm sugar storage process stage 1, palm sugar storage stage 2 and storage in the finished product warehouse as well as the consistency of drying time in the brontol drying process with an oven in the Process Flow Diagram. 5. Added “mesh 14” specification in point 12 of Flowchart Verification. 6. Separation of biological hazards of pathogens <i>S. aureus</i> and <i>E. Coli</i> and physical hazards of foreign objects such as twigs & wood with metal in Raw Material Hazard Analysis point 1. 7. Separation of pathogen hazards in Process Hazard Analysis points 1, 3, 4, 6, 7, 9.1, and 10.1	16	

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			8. Separation of physical hazards based on the type of foreign object in Process Hazard Analysis points 2.2 and 8. 9. Addition of who is the direct perpetrator of corrections processed 16 at Critical Control Point.		
17	12/08/25	16	1. Update nutrition facts on Product Specifications 2. Adding an appendix page to the Table of Contents 3. Adding a Revision History section to the Table of Contents	17	