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Appendix A

GMP PROCEDURES

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QMP PROCEDURE

SUBJECT: PERSONAL HYGEINE

ISSUED BY	CHECKED BY	APPROVED BY
……/……/……	……/……/……	……/……/……
Department/Section	QMR	Section Manager

GMP Procedures	Document No.:
Subject: Personal Hygiene	No. of Revision:
	Date issued:
	Page:
Prepared by:	Approved by:

PERSONAL HYGIENE PROCEDURE

1. Objective

To ensure that all employees and staffs shall operate their jobs hygienically in accordance with personal hygiene procedure.

2. Scope

This procedure covers all works and operations of all employees, include plant manager and visitors.

3. Definition

4. Responsibility

4.1 The operator at loading yard

4.2 The operator at packing line

4.3 Assistant supervisor of production department

4.4 Production supervisor

4.5 Technical supervisor

4.6 Administration supervisor

5. Procedures

5.1 Dressing Procedure

5.1.1 The dresses of all staffs shall conform to the company rules as follows.

a) Unloading Area, Line D

- putting on T-shirt, pants, shoes, socks and cap.
- Employees at unloading area shall wear boots

b) Packing line and Bags preparation area

- putting on T-shirt, pants, shoes, socks and cap. (At bags-preparation area employees shall take off their shoes before work)

c) Loading area

- putting on T-shirt, pants, shoes, socks and cap.

5.2 Other Procedures

5.2.1 Do not sit and sleep at unloading area, packing line, stockpiles, bags-preparation, and warehouse

5.2.2 Smoking is allowed only at the smoking area.

5.2.3 Foods, candy and gum are not permitted during working time.

5.2.4 Glass is not permitted in all production area.

5.2.5 Employees' belongings shall be kept in the lockers that must be cleaned by employees.

5.2.6 Long or painted fingernails are not permitted.

5.2.7 All employees shall wash their hands before going to work (both morning and afternoon) and after using toilet facilities.

5.2.8 Employees who have wounds on their hands shall use bandages and wear gloves before working.

5.2.9 During works employees are not allowed to bite fingernails or other improper conducts.

5.2.10 After washing hands, faces, or bodies, employees must ensure that their bodies are dry before going to work.

5.2.11 Jewelry, necklaces, rings, watches and other ornaments are not permitted.

5.3 Monitoring Procedures of Personal Hygiene

5.3.1 All responsible staffs shall check and record the dresses, clothing, caps. and cleanness of employees every morning and afternoon before going to work.

- Unloading and Loading areas — Record C.P.1
- Line Pack — Record C.P.2
- Technician — Record C.P.3
- Stocks — Record C.P.4

5.3.2 Production supervisor checks and verifies record C.P.1-2 everyday.
Technical supervisor checks and verifies record C.P.3 everyday.
Administration supervisor checks and verifies record C.P.4 everyday.

5.4 Employees shall go to receive annual medical examination at the hospitals that signed contract with the company, and shall send the reports to administration department.

6. References

7. Records

List of records	Responsibility	Duration for keeping
Personal Hygiene C.P.1	Assistant Supervisor / Loading operator / Production Supervisor	3 Months
Personal Hygiene C.P.2	Packing Line operator / Production Supervisor	3 Months
Personal Hygiene C.P.3	Technical Supervisor	3 Months
Personal Hygiene C.P.4	Administration Supervisor	3 Months

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QMP PROCEDURE

SUBJECT: PEST CONTROL PROCEDURE

ISSUED BY	CHECKED BY	APPROVED BY
……/……/……	……/……/……	……/……/……
Department/Section	QMR	Section Manager

GMP Procedures Subject: Pest Control Procedure	Document No.: No. of Revision: Date issued: Page:
Prepared by:	Approved by:

PEST CONTROL PROCEDURE

1. Scope

1.1 Procedure to control ants, cockroaches, rats and other insects from outside to contaminate the products.

1.2 Methods to select Pest control company and chemical substances.

1.3 This control procedure does not include insects that coming with the raw material such as weevils, caterpillars, and etc.

2. Objective

The objective of this procedure is to ensure that the production, packaging and stock areas are safe from the insects and to prevent the contamination of those insects. In addition, it is used to ensure that the products are clean enough to consume. This procedure includes the selection methods of Pest Control Company and environmental and product friendly chemical substances.

3. Responsibility

- Plant manager
- Head of Safety Department
- Technical Supervisor

4. Pest Control Program

Pest	Control and eradication Method	Frequency	Responsible
1. Rats	1.1 Control and eradication - Place glued mouse traps at many locations inside the building as shown in PC1.	2 times/month	Safety
	1.2 If the problems still occur, increase the frequency of services in many locations.	Increase 1 time /month at the place found the problem and the place	Safety

		nearby.	Safety
	1.3 Check glued mouse traps and mouse trail .inside the factory.	3 days after place glued mouse traps.	
	1.4 Rat eradication - Put the rats in the plastic bag before throwing away.	Immediate after found rats at glued mouse traps.	Safety
2. Ants and Cockroaches	2.1 Control and eradication - Outside the building – spray the chemical and fumigation outside the factory	1 time/month	Contractor
	- Inside the building – paint the chemical or spray non-scatter chemical except production line area If still found the problem the frequency will be increased.	Do the service until no problem found	Contractor
3. Night insect	3.1 Control and eradication - Attach light bulbs to induce insect beneath the finished product storage tanks.		Technician
	3.2 Clean the insect traps.	1 time/week	Technician
	3.3 Change light bulbs according to their product lifes.	1 time/year	Technician
4. Bird	4.1 Inspect the condition of bird-protecting nets.	1 time/month	Technician
	4.2 Inspect and destroy bird inhabits.	1 time/month	Technician

5. Criteria to select Pest Control Company

5.1 Company ability to provide service
Must have enough equipments and chemical substances or pesticides and able to provide services that cover the factory's problems.

5.2 Company experiences
Having at least 1 year experience of Pest Control in the factorys or food manufacturers.

5.3 Clear working procedure.

5.4 Sufficiently service as requirement and able to provide extra service if the service is unsatisfied.

5.5 Right working process.

5.6 Concern the service provider's safety.

Wear fully-protected cloth, gloves and chemical prevention masks while performing the tasks.

5.7 Chemical substance used

The chemical substance used must have right registration and have right to possess according to Food and Drug Administration and Ministry of Public Health. Every time using chemical substance must be under the supervision of Head of Safety Department.

5.8 Knowledges and skills of the staffs.

Pest Control Company must provide adequate training to the staffs who provide service regularly. And the staffs must understand how to use the equipment and chemical substances.

5.9 Report

Report the result of performance after the service .

5.10 Ready to give advice and service during emergency period.

6. Attachment

6.1 Positions of glued mouse traps and induced insect light bulbs (PC1)

6.2 Record of the inspection of the glue mouse traps and mouse trail (PC2)

6.3 Record of the inspection of ants and cockroaches at each location (PC3)

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QMP PROCEDURE

SUBJECT: WATER CONTROL PROCEDURE

ISSUED BY	CHECKED BY	APPROVED BY
…… ……/……/…… Department/Section	…… ……/……/…… QMR	…… ……/……/…… Section Manager

GMP Procedures Subject: Water Control Procedure	Document No.: No. of Revision: Date issued: Page:
Prepared by:	Approved by:

WATER CONTROL PROCEDURE

1. Objectives

To ensure that the water used in production process of the factory is clean and will not be harmful to consumers.

2. Scope

The measurement is used for water quality control in production process.

3. Definition

4. Responsibility

4.1 Plant Manager is responsible for providing and contacting water testing company.

4.2 Safety Supervisor is responsible for following up and specifying place to collect samples of water.

4.3 Technical Supervisor is responsible for maintaining the filter and water pipe.

5. Work Process

5.1 Plant Manager provides and contacts water testing company to inspect water quality used in production process every month according to criteria in No.6.

5.2 Technical Supervisor maintains the filter according to Prevention Maintenance Program.

5.3 Safety Supervisor follows up and specify place to collect water samples to water testing company. Specified place is

5.3.1. Water tank after the water come out from the filter

5.4 Plant Manager compares water quality test with the standard of drinking water. If the quality does not reach the standard, no. 5.5 must be proceeded.

5.5 Water testing company collects water for the second test and technicians inspects the filter, including maintenance system and water pipes.

5.6 If the second test result does not meet the standard, Plant Manage will revise the problem and find the corrective action.

6. Criteria for Selecting Water Testing Company

6.1 Ability to provide service

Must have sufficient testing equipment and reliable test result.

6.2 Company experiences

At least 1 year experience in water quality control.

6.3 Have clear working process

6.4 Able to visit and collect water sample in short period of time

6.5 Right working procedure

6.6 Knowledge and skills of the tester

6.7 Quick test result

6.8 Giving advise when problem arise

7. Documentation

7.1 Safety Supervisor collects the test result for 1 year

8. Reference

8.1 Siwaporn Siwavech, "Sanitary in a food factory", Kasetsart University, Fifth edition, 1999.

9. Appendix

9.1 Water Quality Standard for Production Process Table

9.2 Example of Water Quality Test Result

Table 1 **Standard water quality according to Ministry of Public Health Announcement no.61 (2542) Subject: Drinking water in close utensils**

Physics Qualification	
Color	Not more than 20
Odor	Have no odor, not include Chlorine odor
Turbidity	Not more than 5.0
pH Value	Between 6.5 – 8.5
Chemical Qualification	
Total solids	Not more than 1,000 mg./1kg.
Total hardness expressed as $CaCO_3$	Not more than 3,000 mg./1kg.
Fluoride expressed as fluorine	Not more than 1.5 mg./1kg.
Albuminoid ammonia expressed as Ammonia	Not more than 0.1 mg./1kg.
Free Ammonia expressed as Ammonia	Not more than 0.1 mg./1kg.
Nitrates expressed as Nitrogen	Not more than 4.0 mg./1kg.
Nitrite expressed as Nitrogen	Not more than 0.1 mg./1kg.
Iron	Not more than 0.5 mg./1kg.
Lead	Not more than 0.1 mg./1kg.
Asenic	Not more than 0.05 mg./1kg.
Bacteria Qualification	
Standard plate count	Not more than 500 Colony
Most Probable Number of Coliform Organism per 100 ml (M.P.N.)	Must less than 2.2
E.Coli type 1 (escherichia coli)	None

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QMP PROCEDURE

SUBJECT: GLASS CONTROL PROCEDURE

ISSUED BY	CHECKED BY	APPROVED BY
……/……/……	……/……/……	……/……/……
Department/Section	QMR	Section Manager

GMP Procedures Subject: Glass Control Procedure	Document No.: No. of Revision: Date issued: Page:
Prepared by:	Approved by:

GLASS CONTROL PROCEDURE

1. Objective

To control and prevent the contamination of glass in the product.

2. Scope

Glass in the factory building such as doors, windows, equipment that has parts made up of glass, glass wares or utensils

3. Definition

4. Responsibility

4.1 Supervisor of all departments

4.2 Plant Manager

5. Working Procedures

5.1 Glass Control Policy

5.1.1 All employees are not allowed to bring any ware that made of glass, which is not involves with the production works.

5.1.2 Any beverage contained in glass is not permitted.

5.1.3 Do not change light bulbs, windows, and other glass things. If necessary, the employee must inform supervisor of that department in order to stop working, and keep the products and equipment away, or cover them to prevent contamination. If the glass is broken during changing, no. 5.1.4 must be proceeded.

5.2 The control of parts of building, materials, and equipment that are made of glass

5.2.1 Supervisor of each department lists all windows, doors, materials and equipment that are made of glass. Check their conditions before working and record in the "Glass Registry Report" (see reference).

5.2.2 If there is anything broken or damaged, the employee must inform technical department and record in "Glass Registry Report". In the case that is necessary to install new glass equipment, the employee must inform the supervisor to register the new equipment in the report.

5.3 In the case that there is broken glass found.

5.3.1 Separate products that have glass contamination, including with the products that are possible to be contaminated. Consequently, inform safety supervisor.

5.3.2 Separate the area that has broken glass, and clean it by plastic brooms and vacuum cleaner.

5.3.3 Record in the product hold record.

5.4 When there is any glass brought in the production area, production staffs must record the number of glass brought in and out. If there is any glass broken, proceed as no. 5.3.

5.5 QC staffs are responsible for sampling the products in production line in order to ensure that there is no glass contamination.

5.6 Plant Manager is responsible for verifying all records.

6. References

7. Record

7.1 Glass Registry Report.

Glass Registry Report

Production Line .....Month.....

Lists/Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1. Lamps.....Pcs.																															
2. Windows.....Pcs.																															
3. Light Bulbs.....Pcs.																															
4. Emergency Lights.....Pcs.																															
5. Doors.....Pcs.																															
6. Fluorescent .....Pcs.																															
Inspector																															

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QMP PROCEDURE

SUBJECT: CLEANING PROCEDURE

ISSUED BY	CHECKED BY	APPROVED BY
……/……/……	……/……/……	……/……/……
Department/Section	QMR	Section Manager

GMP Procedures Subject: Cleaning Procedure	Document No.: No. of Correction: Date issued: Page:
Prepared by:	Approved by:

CLEANING PROCEDURE

1. Objective

The objective of this procedure is to ensure that all production areas are clean enough for safe consuming and customer's satisfaction. Moreover, it can help preventing contamination of the products.

2. Scope

Cleaning all areas of factory both inside and outside.
Cleaning equipment, machines, production area, and loading and unloading area.

3. Definition

4. Responsibility

4.1 Plant Manager
4.2 Production Supervisor
4.3 Assistant Production Supervisor
4.4 Technical Supervisor
4.5 Safety Supervisor
4.6 Quality Control Supervisor

5. Working Procedures

5.1 Separate areas of cleaning into three parts, which are the responsibilities of Technical Supervisor, Production Supervisor, and Safety Supervisor.

5.2 The responsibilities of supervisors are as follows.

- Safety Supervisor is responsible for cleaning floor inside and outside the factory.
- Production Supervisor is responsible for cleaning equipment, products, bag-arrangement area, and loading and unloading area.
- Technical Supervisor is responsible for cleaning machine, and production line (bucket elevator, conveyor, hoppers, and other machines).

GMP Procedures Subject: Cleaning Procedure	Document No.: No. of Correction: Date issued: Page:
Prepared by:	Approved by:

5.3 Cleaning program consists of cleaning methods, frequency, responsibility person, record, and monitoring in accordance with the responsibility.

5.3.1 The Responsibility of Safety Supervisor

Area/Equipment/Machine	Cleaning Methods	Frequency	Done by	Responsibility Person	Record	Monitoring
1. Floor outside the factory.	• Sweep by brooms. • Sweep by brooms and washed by fire pump.	everyday every month	Cleaning operators	Safety Supervisor	Log book no. 1	Plant manager or Quality control Supervisor
2. Floor inside the factory.						
2.1 Packing Lines, Packing Hoppers.	• Sweep by brooms. • Wipe by damp cloths.	everyday every 2 days	Cleaning operators	Safety Supervisor	Log book no. 1	Plant manager or Quality control Supervisor
2.2 Finished Storage Tanks, Control room, and Storage Tanks.	• Sweep by brooms. • Wipe by damp cloths.	everyday every 2 days	Cleaning operators	Safety Supervisor	Log book no. 1	Plant manager or Quality control Supervisor
2.3 Stockpile of raw materials, and Line D	• Sweep by brooms. • Wipe by damp cloths.	everyday every 2 days	Cleaning operators	Safety Supervisor	Log book no. 1	Plant manager or Quality control Supervisor

5.3.2 The Responsibility of Production Supervisor

Area/Equipment/Machine	Cleaning Methods	Frequency	Done by	Responsibility Person	Record	Monitoring
1. Bag-arrangement area						
1.1 Rice bags	• Cover by plastic sheets	Every time after work	On-site operators	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
1.2 Floor	• Sweep by brooms	Every time after work	On-site operators	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
2. Stockpiles of Finished Products						
2.1 Pallets.	• Blow by air pipe.	everyday	Assistant	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
2.2 Plastic sheets.	• Blow by air pipe.	everyday	Assistant	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
3. Unloading area						
3.1 Around the area	• Blow by air pipe and sweep by brooms before and after unloading. • Cover floor by cloth before unloading. • Clean the cloth after use.	every time	2 of unloading operators	Assistant Production Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
3.2 On the unloading holes	• Open the covered cloth before unloading • Blow by air pipe and sweep by brooms before and after unloading. • Cover by cloth after cleaning	every time	2 of unloading operators	Assistant Production Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
3.3 Bucket Elevator (E1, E2)	• Blow by air pipe after cleaning	every time	2 of unloading operators	Assistant Production Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor

3.1 Stockpiles of raw materials	• Remove rice from buckets and blow by air pipe both after unloading and cleaning • Sweep by brooms before unloading	every time	2 of unloading operators	Assistant Production Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
3.2 Pallets	• Sweep by brooms	every time	2 of unloading operators	Assistant Production Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4. Packing Line						
4.1 Platform	• Blow by air pipe • wipe by damp clothes	everyday weekly	Packing operators Assistant	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4.2 Weighing machine	• Blow by air pipe • Clean dashboard by brushes • Wipe externally by damp clothes	weekly	Assistant Packing Line Supervisor	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4.3 Platform Scale, Box tightening machine	• Wipe by dry clothes	weekly	Packing operators	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4.4 Conveyor	• Clean by dry clothes	every time	Packing operators	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4.5 Sewing machine	• Blow by air pipe after work	every time	Packing operators	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4.6 Fans	• Blow by air pipe and wipe by dry clothes	monthly	Assistant	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4.7 Floor	• Blow by air pipe and sweep by brooms after work	every time	Packing operators Assistant	Packing Line Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
4.8 Forklift	• Blow by air pipe and wipe by dry clothes	every time	Driver	Technical Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor
5. Loading Area						
5.1 Floor	• Sweep by brooms	every time before	Assistant, Cleaning	Loading Supervisor,	Log book no. 2	Plant manager or Quality control

5.2 Inside the containers	• Blow by air pump, check the leakage and moisture. The use of brooms is prohibited	loading every container	Operators Assistant, Loading Supervisor	Production Supervisor Loading Supervisor, Production Supervisor	Log book no. 2	Supervisor Plant manager or Quality control Supervisor
5.3 Products before loading	• Wipe by dry clothes	every container	Assistant, Loading Supervisor	Loading Supervisor, Production Supervisor	Log book no. 2	Plant manager or Quality control Supervisor

5.3.3 The Responsibility of Technical Supervisor

Area/Equipment/Machine	Cleaning Methods	Frequency	Done by	Responsibility Person	Record	Monitoring
1. Bucket Elevator						
1.1 Floor	• Cover by cloth and use vacuum cleaner.	Weekly	Assistant technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
1.2 Structure	• Blow by air pipe and wipe by cloth	Weekly	Assistant technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
1.3 Top of the machine	• Blow by air pipe both inside and outside.	Weekly	Assistant technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
1.4 Buckets and conveyor	• Blow by air pipe • Operate the machine for 3 min. and check cleanliness.	Weekly	Assistant technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
1.5 Conveyor, motor, chain and other devices.	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
2. Belt Conveyors						
2.1 Conveyor	• Blow by air pipe and wipe by damp cloth.	Weekly	Assistant technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
2.2 Steel frame	• Wipe by damp cloth.	Weekly	Assistant technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
2.3 Rollers	• Wipe by dry cloth.	Weekly	Assistant technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
2.4 Conveyor	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor

			Technicians			
3. Pre-cleaner	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
4. De-stoner	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
5. Rice Polisher	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
6. Airleg Aspirator	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
7. Sieving Machine	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
8. Grader	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
9. Drum Sieve 1,2	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
10. Air Lock	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
11. Weighing Machine	• Blow by air pipe, and wipe externally by clothes, • Follow Preventive Maintenance Program	Weekly	Assistant technicians Electrical & Mechanical Technicians	Technical Supervisor Technical Supervisor	Log book no. 3 Log book no. 3	Plant manager or Quality control Supervisor Plant manager or Quality control Supervisor

12. Forklift	• Blow inside and outside by air pipe • Follow Preventive Maintenance Program	Everyday Weekly	Driver Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
13. Valve	• Blow inside and outside by air pipe • Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
14. Dust bags	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
15. Fans	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
16. Box Control	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
17. Air Com Line A	• Follow Preventive Maintenance Program	Weekly	Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
18. Air Com Line B, C	• Follow Preventive Maintenance Program	Weekly	Electrical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
19. Air Com Packing Line	• Follow Preventive Maintenance Program	Weekly	Electrical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
20. Hoppers	• Blow outside by air pipe, and clean inside by broom. • Follow Preventive Maintenance Program	Weekly Weekly	Assistant technicians Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
21. Storage Tanks	• Wipe the Inner supports by	Weekly	Assistant	Technical Supervisor	Log book no. 3	Plant manager or Quality control

	damp cloth, and clean inside by broom. • Follow Preventive Maintenance Program	Weekly	technicians Electrical & Mechanical Technicians			Supervisor
22. Finished Product Storage Tanks	• Wipe the inner supports by damp cloth, and clean the top by brooms. • Follow Preventive Maintenance Program	Weekly Weekly	Assistant technicians Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor
23. Packing Hoppers	• Wipe the inner supports by damp cloth, and clean the top by brooms. • Follow Preventive Maintenance Program	Weekly Weekly	Assistant technicians Electrical & Mechanical Technicians	Technical Supervisor	Log book no. 3	Plant manager or Quality control Supervisor

GMP Procedures **Subject: Cleaning Procedure**	Document No.: No. of Correction: Date issued: Page:
Prepared by:	Approved by:

6. References

7. Records

List of records	Responsibility	Time for keeping
Log book no. 1	Safety Supervisor	3 months
Log book no. 2	Production Supervisor	2 years
Log book no. 3	Technical Supervisor	2 years

ABC CO., LTD.

QMP PROCEDURE

SUBJECT: IDENTIFICATION AND TRACEABILITY PROCEDURE

ISSUED BY	CHECKED BY	APPROVED BY
…… ……/……/……	…… ……/……/……	…… ……/……/……
Department/Section	QMR	Section Manager

GMP Procedures **Subject: Identification and Traceability Procedure**	Document No.: No. of Correction: Date issued: Page:
Prepared by:	Approved by:

IDENTIFICATION AND TRACEABILITY PROCEDURE

1. Objective

This procedure is used to identify products' lot number in each lot of production in order to trace back which storage tack, production line, and finished product storage tank the products came from when that lot of products is found to be risky to consumers. Subsequently, cause of the problem shall be investigated, and the corrective action must be done.

2. Scope

2.1 The identification of lot number inside (e.g. plastic bags and inner bags) and outside (e.g. polypropylene bags and boxes) the packaging.

2.2 Record the flow from raw materials, production processes to finished goods in order to use as the reference for trace back the products.

3. Definition

4. Responsibility

4.1 Plant Manager

4.2 Marketing Director

4.3 Production Supervisor

4.4 Assistant Production supervisor

4.5 Technical Supervisor

5. Procedures

5.1 Plant manager procures the lot number printer for installing at all packing lines.

5.2 Plant manager is responsible for determining the coding system of the product. The code shall represent the date of production, production line.

5.3 Production supervisor shall set up the code in each packing line before starting operations in accordance with the determined coding system.

5.4 The products that are already packaged shall be printed the code outside, and shall be recorded in the packing record.

5.5 In order to trace back the affected product according to the customer complaint, marketing director shall inform the information of product and problem to the plant manager.

6. References

ABC CO., LTD.

QMP PROCEDURE

SUBJECT: HOLD AND RELEASE PROCEDURE

ISSUED BY	CHECKED BY	APPROVED BY
…… ……/……/…… Department/Section	…… ……/……/…… QMR	…… ……/……/…… Section Manager

GMP Procedures Subject: Hold and Release **Procedure**	Document No.: No of Correction: Date issued: Page:
Prepared by:	Approved by:

HOLD/RELEASE PROCEDURE

1. Objective

The objective of this procedure is to provide a formal working procedure for holding and release products when they are contaminated or do not conform to the requirements.

2. Scope

This procedure is used to hold raw materials or products in the production line and finished goods in case that the products are positively found to be harmful to consumers. Furthermore, it involves keeping those contaminated products in the restricted area and releasing them after the inspection and investigation complete.

3. Definition

4. Responsibility

4.1 Plant Manager
4.2 Quality Control Supervisor
4.3 Production Supervisor
4.4 Assistant Production Supervisor
4.5 Technical Supervisor
4.6 Safety Supervisor

5. Procedures

5.1 When something unusual or contamination of the products, which may occur from the production process or the condition of the factory, are found, the supervisor of that area is responsible to stop the work temporarily and must inform the plant manager suddenly. Consequently, the supervisor must send the report to the plant manager.
5.2 Plant manager shall inspect and investigate at the problem area to see whether the information from the report is similar to the real incident. If it tends to be harmful to

consumers, the plant manager shall hold the products according to the report in No. 5.1.

5.3 To hold the products, the area where the products are kept must be isolated from the other clean products. Consequently, the safety supervisor shall label these products as defected products.

5.4 Plant manager shall inform the event to Quality Control Department to inspect and test the products in detail. Then, the quality control supervisor shall report the conclusion in the product hold record and submit to the plant manager.

5.5 After examining causes and conditions of goods in accordance with the product hold report, the plant manager shall make a decision whether the products should be reworked, thrown away, or destroyed, and he must record and keep the results for references.

5.6 In the case that the products must be thrown away, it means that the products will be sold for unsanitary rice for feeding animals.

6. References

GMP Procedures Subject: Hold and Release Procedure	Document No.: No. of Correction: Date issued: Page:
Prepared by:	Approved by:

PRODUCT HOLD RECORD

Date _____

Part A Informer From _____(Position)

- ❑ Receive raw materials from _____
- ❑ Storage Tank No. _____
- ❑ Production Line (A, B, or C) _____
- ❑ Finished Product Storage Tank No. _____
- ❑ Product's Name _____
- ❑ Volume of Product _____

Description of Problem_____

_____

_____(Signature)

Part B Plant Manager

- ❑ Inspection at the problem area
- ❑ Hold
- ❑ Not Hold

Part C Quality Control Supervisor (In case that the detailed inspection is necessary)

Result of Inspection _____

_____

Causes of Problem _____

_____

Approve to

- ❑ Release
- ❑ Hold
- ❑ Rework

_____(Signature)

Part D Approval From Plant Manager

_____(Signature)

ABC CO., LTD.

QMP PROCEDURE

SUBJECT: RECALL PROCEDURE

ISSUED BY	CHECKED BY	APPROVED BY
……/……/……	……/……/……	……/……/……
Department/Section	QMR	Section Manager

GMP **Procedures** **Subject: Recall Procedure**	Document No.: No. of Correction: Date issued: Page:
Prepared by:	Approved by:

RECALL PROCEDURE

1. Objective

The objective of this procedure is to recall all products that may be contaminated with microbiological, chemical, and physical hazards, and are harmful to consumers.

2. Scope

The company must recall all contaminated products from the factory area, importers, retailers, and end consumers.

3. Definition

4. Responsibility

4.1 Top Management
4.2 Plant Manager
4.3 Marketing Director
4.4 Production Supervisor
4.5 Technical Supervisor
4.6 Quality Control Supervisor

5. Working Procedures

5.1 In the case that a problem is found in the products, all supervisors must collect the information including with lot number, record and submit to the plant manager.
5.2 In the case that a problem is found by a customer, the marketing director shall send the detail of problem to the plant manager after receiving the customer's complaint. If possible, the sample of defected products should be requested.
5.3 The plant manager shall inform and set up a meeting of all departments in the factory; then, the problem identification and analysis shall be carried out.

5.4 All staffs shall bring the information to find the causes of the problem whether it came from the production processes. The quality control supervisor is responsible for writing meeting report, including with the conclusion of the analysis.

5.5 Quality control department shall inspect and test the samples of the products, and record the results.

5.6 The plant manager and the marketing director shall bring all information together and submit to the top management.

5.7 If the problem is a result of the production and transportation of the company and the problems are very severe to consumers, the company must recall all the products.

5.8 Top management shall contact to the customer for recalling contaminated products from the market.

6. References

Appendix B

Examples of records

EXAMPLE B1 RECORD OF INCOMING MATERIALS

ปริมาณข้าวถังสำเร็จ

วัน/เดือน/ปี	ถังสำเร็จ											
	A1	A2	A3	A4	B1	B2	B3	C1	C2	C3	C4	
5/1/42	1500 กก	1800 กก	1400 กก	1500 กก	-	510 กก	-	-	-	346 กก	-	C3 - SPECIAL GRADE 1*1
6/1/42	1600 กก	1800 กก	1500 กก	1500 กก	-	610 กก	-	-	300 กก	-	-	C2 - FIRST GRADE
7/1/42	1800 กก	1800 กก	1300 กก	1500 กก	-	610 กก	-	-	300 กก	-	-	
8/1/42	700 กก	1800 กก	1300 กก	550 กก		170 กก	-	-	200 กก	-	-	
10/1/42	1500 กก	1800 กก	1300 กก	180 กก	-	510 กก	-	-	200 กก	-	-	
11/1/42	1800 กก	300 กก	1300 กก	600 กก		590 กก	-	-	200 กก	-	- *	A3, A4 มีสีน้ำตาล ต้องทำเครื่องหมาย
12/1/42	1800 กก	1500 กก	950 กก	-	-	510 กก	-	-	200 กก	-	- *	
13/1/42	1800 กก	1600 กก	950 กก	-	-	110 กก	160 กก	-	200 กก	-	- *	
14/1/42	1800 กก	500 กก	450 กก	-	-	950 กก	-	-	200 กก	-	- *	
15/1/42	1800 กก	700 กก	-	650 กก	-	900 กก	-	-	200 กก	-	- *	A1
24/1/42	1500 กก	1800 กก	1800 กก	1800 กก	-	430 กก	-	-	-	300 กก	1500 กก	C3 = SPECIAL GRADE 1*1
25/1/42	1500 กก	1800 กก	1400 กก	1500 กก	-	590 กก	-	-	-	-	500 กก	
26/1/42	1500 กก	700 กก	1800 กก	600 กก		590 กก	-	-	-	60 กก	350 กก	
27/1/42	1500 กก	700 กก	1800 กก	1800 กก		510 กก	-	-	-	60 กก	210 กก	
29/1/42	1500 กก	1800 กก	1800 กก	1800 กก		510 กก	-	-	-	48 กก	-	
29/1/42	1500 กก	1800 กก	600 กก	750 กก	-	510 กก	-	-	340 กก	48 กก	-	- C2 = FIRST GRADE 1*1
31/1/42	1800 กก	1800 กก	1800 กก	1800 กก	-	550 กก	-	-	340 กก	48 กก	-	
1/2/42	1500 กก	1800 กก	1800 กก	1600 กก		-	-	-	340 กก	48 กก	-	
2/2/42	1500 กก	1800 กก	1800 กก	1800 กก	-	130 กก	-	-	-	48 กก	-	
3/2/42	1500 กก	1800 กก	1800 กก	1800 กก	-	100 กก	120 กก	-	-	48 กก	-	
4/2/42	1000 กก	1800 กก	1800 กก	400 กก	-	430 กก	180 กก	-	-	48 กก	-	
8/2/42	1800 กก	1800 กก	1800 กก	450 กก	-	430 กก	120 กก	-	-	48 กก	-	
9/2/42	1400 กก	1800 กก	1400 กก	1200 กก	-	310 กก	120 กก	-	-	48 กก	-	

บันทึกการอบยาในถังวัดฤดิบที่ 3

วันที่ออกเอกสาร 1/11/42

หน้า 1

วันและเวลาที่เริ่มอบยา		จำนวนข้าวในถัง	จำนวนยาที่ใช้	วันและเวลาที่อบแล้วเสร็จ		ลายเซ็น	เริ่มผลิตจริง		ลายเซ็น
วันที่	เวลา	(ตัน)		วันที่	เวลา	ผู้ทำการอบยา	วันที่	เวลา	ผู้เริ่มการผลิต
2/11/42	14.00น	2100 กก.	420 เม็ด	5/11/42	14.00น	เอมอิ่ม	10/11/42	14.00น.	พัฒน์ธนดิ์
12/11/42	14.00น	2100กก	420 เม็ด	15/11/42	14.00น	เอมอิ่ม	17/11/42	8.00น	มนต์ชัย.

EXAMPLE B2 FUMIGATION RECORD

หมายเลขเอกสาร HACCP DS-01
แก้ไขครั้งที่
วันที่ออกเอกสาร 1/11/42
หน้า 1

บันทึกการปล่อยหินจากเครื่องแยกหิน MA2 - A

กำหนด ทุก 2 ชม / 1 ครั้ง

วัตถุดิบถังที่	วันที่	เวลา	ช่างเทคนิคข้าว	หมายเหตุ	
# 3	16-11-42	17.00 น.	[illegible]	ทดสอบ60ตัว	
# 3	16-11-42	19.00 น.	[illegible]	มีหินหน่อยๆ Reject เพิ่มเอง	ก:ผ่าน
# 3	16-11-42	20.55 น.	[illegible]	ปกติ	
# 3	16-11-42	23.15 น.	[illegible]	ปกติ	
# 3	16-11-42	01.00 น.	กฤษฎากร	มีหินccดมาน่ากลัว	
# 3	16-11-42	03.05 น.	ทรงศักดิ์	มีหินออกมาน่ากลัว	ก:ดึก
# 3	16-11-42	05.00 น.	ทรงศักดิ์	มีหินccดมาน่ากลัว	
# 3	16-11-42	07.10 น.	ทรงศักดิ์	มีหินccดมาน่ากลัว	
# 3	17-11-42	10.32 น.	มนตรี	มีหินปกติ	
# 3	17-11-42	12.30 น.	มนตรี	มีหินปกติ	
# 5	17-11-42	14.30 น.	มนตรี	เปลี่ยนหินก้า 5 14.00 น.	ก:เช้า
# 5	17-11-42	16.30 น.	มนตรี	ปกติ	
# 5	17-11-42	19.00 น.	[illegible]	OFF Line A	

EXAMPLE B3 RECORD OF RELEASING STONE

เครื่องเผาถ่าน

DE-STONER

MACHINE MA2A, MA2B, MA2C, MB2, MC2

DATE	PERIOD	CALL OUT	ACTION TAKEN	RESULT			ACTED BY
				YES	NO	N/A	
	WEEK	PM	ทำความสะอาด SOLENOID				
	WEEK	BM	เคลื่อนย้ายออกจากตัวเครื่อง				
	WEEK	BM	ทำความสะอาดเครื่องจักร				
	WEEK	BM	ทำความสะอาดแผ่นสะท้อน				
	WEEK	BM	นำข้าวออกจากถังเครื่องข้าวกระเด็น				
	WEEK	PM	ตรวจจับเสียงผิดปกติที่เกิดขึ้นใน BEARING				
	WEEK	PM	ตรวจจับเสียงผิดปกติที่เกิดขึ้นใน MOTOR และ GEAR				
	WEEK	BM	ตรวจดูสายพานให้อยู่ในสภาพดี ไม่มีรอยแตกลึก				
	WEEK	BM	ตรวจดูความตึงหย่อนของสายพาน ปรับตั้งใหม่				
	WEEK	PM	ตรวจวัดระดับความดับลม .....mm.				

DATE	CALL OUT	ACTION TAKEN	TIME		Acted by
			From	TO	

Remark: PM = PREVENTIVE MAINTENANCE

CM = CORRECTIVE MAINTENANCE

BM = BREAKDOWN MAINTENANCE

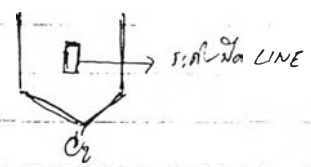
EXAMPLE B4 PREVENTIVE MAINTENANCE PROGRAM OF DE-STONER MACHINE

วันที่ 14/11/41

1. เดินเครื่อง A ขนาด/ชม ผลิตภัณฑ์ข้าวถุงขนาด # 5 ตรานกแก้วใหม่ เก็บตัวอย่างที่ A1. ส่ง Color Master

หมายเหตุ เก็บตัว A1 ที่ LINE

2. เดินเครื่อง C ขนาด/ชม ผลิตภัณฑ์ข้าวถุงขนาด # 13+16 FIRST GRADE 2:1 เก็บตัวอย่างที่ C2 ส่ง Scan Master LINE B



3. ที่ผลการตรวจ ตัว Color Master ตรวจหลังเครื่องจักร (ถ้าหัวเฟืองตรวจเครื่องแล้ว)

1. Control Line

⇒ Line A 8 t/hr ผลิตภัณฑ์ข้าวถุงขนาด # 5 ตรานกแก้วใหม่ เก็บตัวอย่างที่ A1 ส่ง Color Master ข้อมูลไม่มีบันทึก KB 2 ตัว ส่ง MA & C

Color Master ⇒ Flow control Monitoring 80, Sensivity 86

Background 79, ⇒ OFF Line A 18.00 น. ที่ A1 ส่ง

⇒ Line C 2.5 t/hr ผลิตภัณฑ์ข้าวถุงขนาด # 13+16 frist Grade 2:1 เก็บตัวอย่างที่ C2 ส่ง Scan Master Line B, feeder 100, dock 750. ข้อมูลที่ Water Level 22-21 l/hr

2. Quality

- Good quality Rice

3. Clean & Clear

- Color Master Clearing Line A

4. Obstacle

- ผลผลิตยังทำไม่เต็มตามกำลังโรงงาน เนื่องจากวัตถุดิบไม่เต็มตามที่ต้องการ
- ทำการเอาออกมาทางด้านหลังเครื่อง MC 1 ลงไปที่การตรวจสอบว่า ข้าวหรือสิ่งเจือปน ข้าวเสีย สิ่งเจือปน (Line C)
- KB Line C over load 2 ครั้ง ผลผลิตไม่เต็ม

5. Remark

-

ผู้ตรวจ

ปฏิบัติงานประจำวันที่ 26 กุมภาพันธ์ พ.ศ. 2542

ลำดับ	รายการทำความสะอาด	หมายเหตุ	ผู้ตรวจ	ผู้ปฏิบัติ
1	- กรองฝุ่น SA_1 - SA_7			
2	- กรองฝุ่น SC_1 - SC_7	เส้น LINE	เรียบร้อย	สุรพล เพ็ชร
3	- ท่อดูดฝุ่น TA_1 - TA_8			สิริพงษ์ เพ็ชร
4	- ตัว PACK PC_1 - PC_3	ล้างน้ำ		
5	- เครื่องยนต์ PC_1 - PC_3			
6	- ตู้กรองฝุ่น No. S1 - S4	เปลี่ยนถุงใหม่		
7	- ตู้กรองฝุ่นไลน์ LINE A	ล้าง		
8	- แผ่นกรอง SA_1, BA_1, B_2, B_3	ล้าง		
	O. T.			
	- อบยางอบ			
	- ลมจากตัว PACK PC_1 - PC_3			
	- อบจากถังสำรอง C 4			
1	หม้อรับ 1	ปรับเพิ่มเติม		

ปฏิบัติงานประจำวันที่ 28 กุมภาพันธ์ พ.ศ. 2542

ลำดับ	รายการทำความสะอาด	หมายเหตุ	ผู้ตรวจ	ผู้ปฏิบัติ
1	- เครื่องยนต์ - ถัง			
2	- ตัวกรอง PACK No. 13 - 16		เรียบร้อย	สุรพล เพ็ชร
3	- แผ่นกรอง SB_1 - BB_2			สิริพงษ์ เพ็ชร
4	- แผ่นกรอง SC_1 - BC_2			
6	- ท่อ SCAN Master			
6	- ถังสำรอง B_1 - B_3			
7	- ถังดักฝุ่นไลน์ LINE D			
8	- กรองฝุ่น SC_1 - SC_7			
9	- ท่อดูดฝุ่น TC_4 - TC_7			
	O. T.			
	- อบยางอบ			
	- แผ่นกรอง C 16 - C 20			

EXAMPLE B6 LOGBOOK OF TECHNICAL ASSISTANTS

VITA

Mr. Adisai Athiphanumphai was born on April 07, 1974 in Bangkok, Thailand. He got Bachelor Degree in Civil Engineering from Chulalongkorn University in Acedemic Year of 1995. Then he continue further study in Engineering in Engineering Management at Chulalongkorn University, The Regional Center for Manufacturing Systems Engineering in Acedemic Year of 1998. At present he worked as a Plant Manager at Vudhichai Produce Co.,Ltd.