

QUALIFICATIONS PACK - OCCUPATIONAL STANDARDS FOR LOGISTICS SECTOR

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What are Occupational Standards(OS)?

- OS describe what individuals need to do, know and understand in order to carry out a particular job role or function
- OS are performance standards that individuals must achieve when carrying out functions in the workplace, together with specifications of the underpinning knowledge and understanding

Contact Us:

Logistics Skill Council (LSC)
'Temple Towers',
Ground Floor, No 476
Anna Salai, Nandanam,
Chennai 600 035
Email: dhanab@lsc-india.com



Introduction

Qualifications Pack: Perishable Product Handling Specialist

SECTOR: LOGISTICS

SUB-SECTOR: Cold Chain

OCCUPATION: Operations – Cold Storage

REFERENCE ID: LSC/Q8701

ALIGNED TO: NCO-2015/ NIL

The Perishable Product Handling Specialist is responsible for administering cold storage operations from time of unloading produce till storage and packaging.

Brief Job Description: The individual at work monitors technical functioning of the plant to ensure the required storage parameters specific to product and ensures the plant operating parameters matches the product requirements, in the event of change in environmental conditions/variations in external conditions. Additionally he/she administers activities in grading line, pre-cooling unit and ripening chamber until they are packaged and ready for dispatch

Personal Attributes: The job requires the individual to have: attention to details, ability to work in low temperature conditions, good eye sight, arm-hand steadiness and ability to withstand changing temperature conditions from one facility to another.

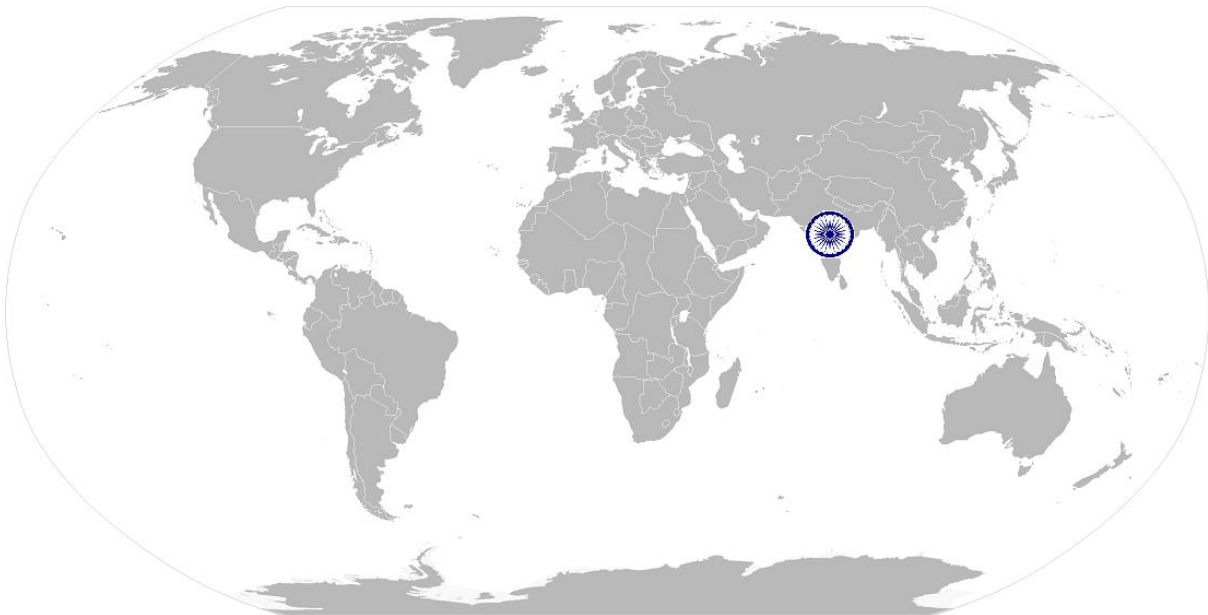
Qualifications Pack Code	LSC/Q8701		
Job Role	Perishable Product Handling Specialist		
Credits(NSQF)	TBD	Version number	1.0
Sector	Logistics	Drafted on	22/08/16
Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations – Cold Storage	Next review date	11/01/20
NSQC Clearance on	NA		

Job Role	Perishable Product Handling Specialist Also known as Assistant Operations Manager/ Processing Supervisor
Role Description	Administering cold storage operations from the time of unloading the produce till storage and packaging.
NSQF	5
Minimum Educational Qualifications	Graduate
Maximum Educational Qualifications	Post Graduate
Training (Suggested but not Mandatory)	Not Applicable
Minimum Job Entry Age	25 years
Experience	Minimum preferable 7 years experience in cold room operations
Applicable National Occupational Standards (NOS)	<p>Compulsory:</p> <ol style="list-style-type: none"> LSC/N8701 Supervise loading and unloading operations LSC/N8702 Oversee inspection of goods at the time of arrival LSC/N8703 Administer grading line operations LSC/N8704 Supervise Pre cooling unit operations LSC/N8705 Administer Ripening chamber operations LSC/N8706 Manage placement of goods in controlled conditions LSC/N8707 Supervise product protection and packaging LSC/N9901 Maintain food and personnel safety, health and hygiene in cold storage plant LSC/N9902 Communicate effectively with colleagues and clients <p>Optional:</p> <ol style="list-style-type: none"> NA
Performance Criteria	As described in the relevant OS units

Keywords /Terms	Description
Core Skills/Generic Skills	Core Skills or Generic Skills are a group of skills that are key to learning and working in today's world. These skills are typically needed in any work environment. In the context of the NOS, these include communication related skills that are applicable to most job roles.
Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of NOS.
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organization.
Knowledge and Understanding	Knowledge and Understanding are statements which together specify the technical, generic, professional and organizational specific knowledge that an individual needs in order to perform to the required standard.
National Occupational Standards (NOS)	NOS are Occupational Standards which apply uniquely in the Indian context
Occupation	Occupation is a set of job roles, which perform similar/related set of functions in an industry.
Organisational Context	Organisational Context includes the way the organization is structured and how it operates, including the extent of operative knowledge managers have of their relevant areas of responsibility.
Performance Criteria	Performance Criteria are statements that together specify the standard of performance required when carrying out a task.
Qualifications Pack(QP)	Qualifications Pack comprises the set of NOS, together with the educational, training and other criteria required to perform a job role. A Qualifications Pack is assigned a unique qualification pack code.
Qualifications Pack Code	Qualifications Pack Code is a unique reference code that identifies a qualifications pack.
Scope	Scope is the set of statements specifying the range of variables that an individual may have to deal with in carrying out the function which have a critical impact on the quality of performance required.
Sector	Sector is a conglomeration of different business operations having similar businesses and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests.
Sub-Sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Sub-functions	Sub-functions are sub-activities essential to fulfil the achieving the objectives of the function.
Technical Knowledge	Technical Knowledge is the specific knowledge needed to accomplish specific designated responsibilities.

Acronyms	Keywords /Terms	Description
	NSQF	National Skills Qualifications Framework
	QP	Qualifications Pack
	OS	Occupational Standards
	OH&S	Occupational Health and Safety
	PPE	Personal Protective Equipment
	HR	Human Resources

National Occupational Standard



Overview

This unit is about verification of vehicle details and ensuring proper loading and unloading of perishable goods when the truck arrives at the cold storage facility

LSC/N8701

Supervise loading and unloading operations

National Occupational Standard

Unit Code	LSC/N8701
Unit Title (Task)	Supervise loading and unloading operations
Description	This OS unit is about verification of vehicle details and ensuring proper loading and unloading of perishable goods when the truck arrives at the cold storage facility.
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Conduct manpower planning for deploying workers for loading or unloading • Verify vehicle details • Supervise proper handling of goods by unloaders <p>Range: Platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, mechanised stacking equipment</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Conducting manpower planning for deploying workers for loading or unloading	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. get details of quantity and type of goods to be loaded or unloaded</p> <p>PC2. decide the number of workers to be deployed for loading or unloading based on the quantity and specification details</p> <p>PC3. ensure appropriate work allocation to workers so that they are available at the time of loading or unloading</p> <p>PC4. ensure workers are given prior information about the truck arrival and dispatch timing</p>
Verifying vehicle details	<p>To be competent, the user/ individual must be able to:</p> <p>PC5. get vehicle details from route controller and truck coordinator</p> <p>PC6. verify vehicle details with the details received from route controller</p> <p>PC7. ensure truck details are entered by data entry operator</p> <p>PC8. update truck coordinator and procurement head in case of discrepancy</p>
Supervising proper handling of goods by unloaders	<p>To be competent, the user/ individual must be able to:</p> <p>PC9. make space to unload inbound goods</p> <p>PC10. understand what handling requirements are appropriate for what types of goods. For eg: Some marine products are richer in aroma and thus should be handled properly to ensure that aroma doesn't spread to other products through hands or other tools used while handling. Baking soda can be used to absorb any odors. Similarly, fish must not be exposed to direct sunlight while unloading and handling of vaccines and other liquids must be done with care to avoid spillage</p> <p>PC11. ensure workers qualified to handle the goods are deployed for unloading</p> <p>PC12. supervise and direct workers for proper handling as per requirements</p> <p>PC13. ensure proper stacking is done in order to facilitate inspection</p> <p>PC14. ensure unloading area is properly shaded and clean to avoid any further damage to goods</p>
Knowledge and Understanding (K)	

LSC/N8701

Supervise loading and unloading operations

<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's reporting structure KA2. individual's role in cold chain process flow KA3. occupational health and safety standards KA4. quality control standards for perishable products KA5. company's work instructions on quality standards KA6. company's policies, standard operating procedures and governance structure KA7. risk and impact of not following defined procedures/work instructions KA8. company's personnel management and incentives rules KA9. clients and suppliers of the company KA10. transport logistics service providers used by the company</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. types of goods in which the company deals KB2. characteristics of the products being handled – odour, texture, size, weight, stickiness etc. This would help to understand if the odour of the product spreads to other products (as for fish, other marine products, etc.), if there is possibility of spillage (as for milk products, vaccines, ice creams etc.), whether it should be handled manually or mechanically, for eg. using bucket elevators for grain and fish etc. KB3. product specific quality control and assurance standards KB4. loading methods that can be used for different types of goods KB5. operational understanding of the safety precautions to be taken for product specific handling techniques KB6. appropriate Material Handling Equipment (MHE) to be used according to the size and quantity of goods for efficient loading KB7. types of workplace hazards that one can encounter in product handling KB8. steps and remedial measures to be taken in case of injury or hazard caused due to improper product handling</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA1. read codes used to label goods SA2. read instructions on workplace hazards and handling requirements for goods SA3. read and verify vehicle details SA4. read and understand quality control standards of goods</p> <p>Writing Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. maintain quantity details of goods unloaded SA6. write appropriate product codes and specifications of goods unloaded</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA7. give clear instructions to unloaders for proper product handling SA8. coordinate with other supervisors and peers in english or accepted workplace language SA9. communicate with vehicle operators, drivers and helpers</p>

LSC/N8701

Supervise loading and unloading operations

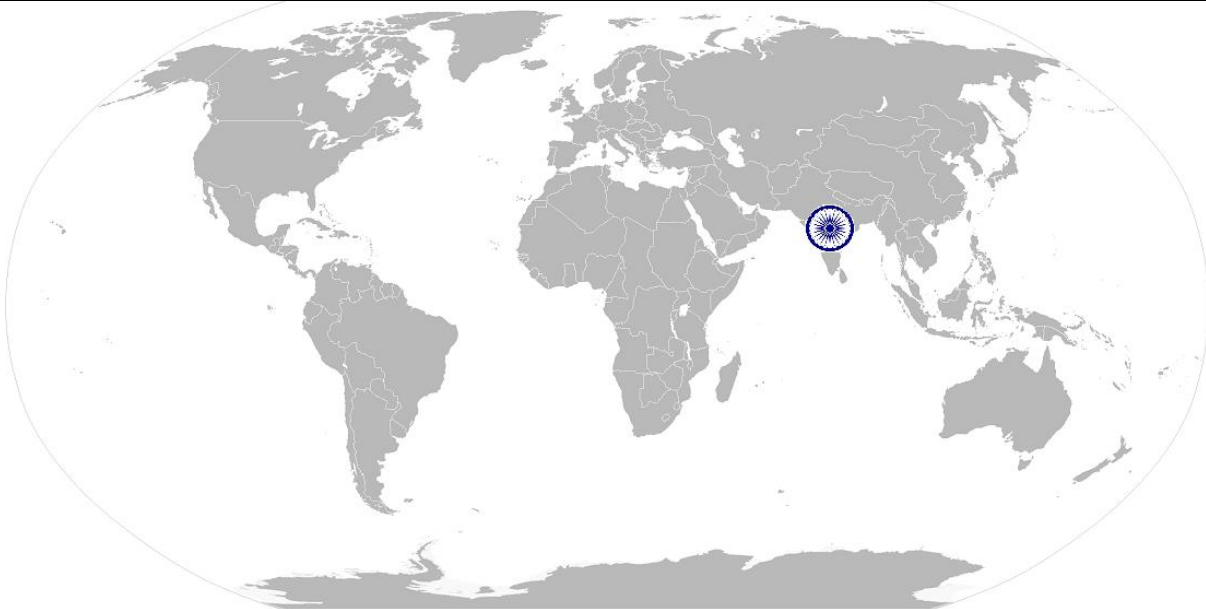
	SA10. clearly communicate types of workplace hazards, safety precautions and remedial measures to be taken by unloaders
B. Professional Skills	Decision Making
	The user/individual on the job needs to know and understand how to: SB1. take non conformance decision on health and safety of loaders and unloaders SB2. decide appropriate unloading container and technique to be used SB3. ensure appropriate stacking to facilitate inspection
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB4. prioritize and execute tasks in an efficient manner SB5. manage space for unloading goods SB6. coordinate time with procurement head and route controller for exchange of details
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB7. customer requirements with respect to quality expectations SB8. goods that are in high demand in market SB9. goods for which high demand is expected to increase in future
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB10. execute remedial measures in case of injury or hazard in handling technique SB11. take appropriate action in case vehicle details do not match SB12. make space arrangement in case delivery of goods is delayed
	Analytical Thinking
	The user/individual on the job needs to know and understand how to: SB13. understand schedule and number of trucks to be used SB14. assess protective equipment to be used based on weather conditions
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB15. take decision on number of workers to be allocated across loading and unloading in case truck arrival and dispatch is scheduled at the same time SB16. balance loading and unloading work based on arrival schedules

LSC/N8701

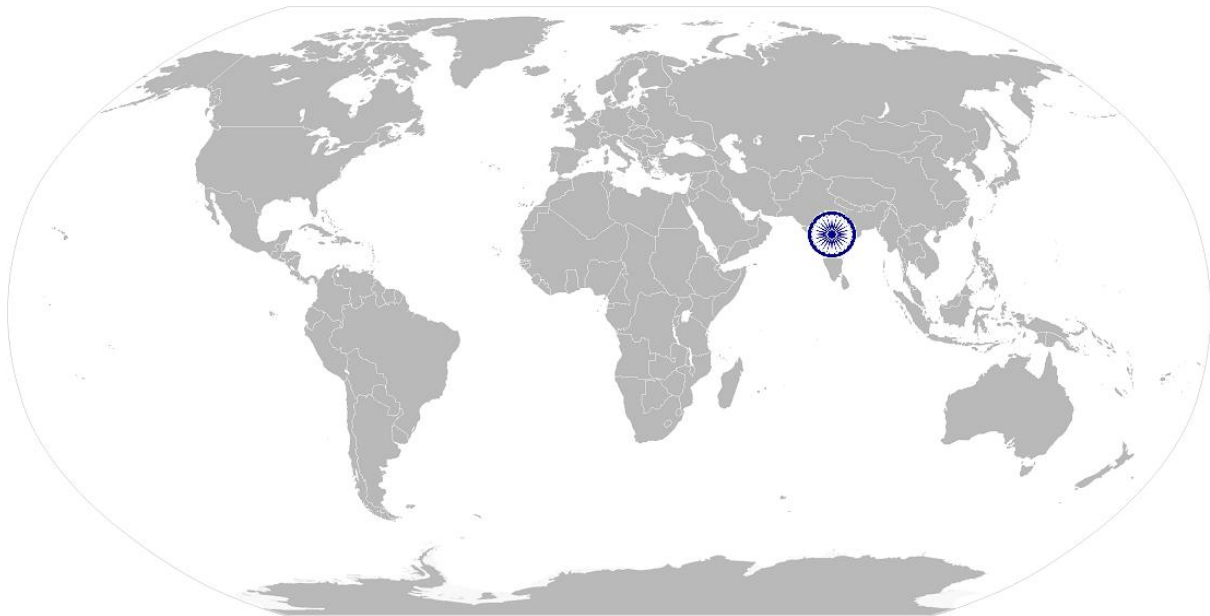
Supervise loading and unloading operations

NOS Version Control

NOS Code	LSC/N8701		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	22/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations- Cold Storage	Next review date	11/01/20



National Occupational Standard



Overview

This OS unit is about overseeing inspection of goods with respect to quality, quantity and extent of spoilage before they enter the cold chain facility

LSC/N8702

Oversee inspection of goods at the time of arrival

National Occupational Standard

Unit Code	LSC/N8702
Unit Title (Task)	Oversee inspection of goods at the time of arrival
Description	This OS unit is about overseeing inspection of goods with respect to quality, quantity and extent of spoilage before they enter into the cold chain facility
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> Inspect the goods for extent of spoilage Inspect the goods w.r.t quality specifications Inspect the goods w.r.t quantity requirements Liaison with procurement head for details of goods and outcome of inspection Ensure goods are properly transferred to grading line after inspection, without undue spoilage <p>Range: Platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, mechanised stacking equipment</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Inspecting the goods for extent of spoilage	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. supervise and direct workers in separating spoiled goods from unspoiled goods</p> <p>PC2. analyze if the extent of spoilage is within acceptable limits</p> <p>PC3. take non conformance decision and reject purchase in case of unhygienic conditions, temperature abuse or any adverse factors that may affect the safety and quality of goods received</p> <p>PC4. ensure non conforming goods are properly segregated from conforming goods</p>
Inspecting the goods w.r.t quality specifications	<p>To be competent, the user/ individual must be able to:</p> <p>PC5. obtain details from quality incharge about criteria of quality specifications such as permissible level of moisture content for eg: pepper should ideally have moisture content between 10 and 11 %, Nitrite radical level for fish paste products (fish sausage and ham) should be according to the food sanitation laws of the respective countries. For eg: it should be 0.05 g/kg or less as per Food Sanitation Law, Japan etc.</p> <p>PC6. ensure proper quality check is carried out by quality chemists based on quality standard/criteria decided for each product. For eg: for marine products the criteria could be viable bacteria count, nitrite radical level, moisture level, permissible temperature etc.</p> <p>PC7. get details about quality specifications of received goods after they are reviewed by quality chemists.</p> <p>PC8. understand the extent to which quality of received goods meets the specifications criteria and permissible level details specified by quality incharge</p> <p>PC9. if quality requirements do not conform, update the same to quality assurance department and procurement head</p>

LSC/N8702

Oversee inspection of goods at the time of arrival

<p>Inspecting the goods w.r.t quantity requirements</p>	<p>To be competent, the user/ individual must be able to:</p> <p>PC10. get the purchase order from procurement head PC11. supervise physical count of inventory done by workers PC12. verify quantity received with the quantity ordered PC13. ensure the inventory count is communicated to storekeeper PC14. ensure data entry operator maintains records of goods in and out</p>
<p>Liaisoning with procurement head for details of goods and outcome of inspection</p>	<p>To be competent, the user/ individual must be able to:</p> <p>PC15. get the purchase order and other documents from procurement head PC16. update procurement head for rejection of goods in case of spoilage due to temperature abuse or unhygienic conditions during transit PC17. communicate/update the procurement head about outcome of inspection PC18. ensure the deviations from specifications and requirements are properly communicated by procurement head to vendors PC19. follow up with procurement head for update in cases of discrepancy</p>
<p>Ensuring goods are properly transferred to grading line after inspection, without undue spoilage</p>	<p>To be competent, the user/ individual must be able to:</p> <p>PC20. make note of quantity of goods transferred to grading line once inspection is completed PC21. ensure quantity details are recorded by data entry operator PC22. ensure sufficient number of workers are available for transferring goods to grading line at required time PC23. ensure proper handling of goods while transferring to crates for grading line operations</p>
<p>Knowledge and Understanding (K)</p>	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's reporting structure KA2. individual's role in cold chain process flow KA3. occupational health and safety standards KA4. quality control standards for perishable products KA5. company's work instructions on quality standards KA6. company's policies, standard operating procedures and governance structure KA7. risk and impact of not following defined procedures/work instructions KA8. company's personnel management and incentives rules KA9. clients and suppliers of the company</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. criteria for acceptability of goods KB2. units of the criteria used for measurement and evaluation of quality of products KB3. changes in spoiled goods with respect to colour, dehydration and protein content KB4. latest techniques for conducting quality checks KB5. codes and specifications used for quality checks KB6. units used for measurement and evaluation of quantity of goods received KB7. inventory management recording system and procedures KB8. measurement units used for recording quantity details of goods KB9. characteristics of goods to be inspected KB10. which crate/ container is appropriate for transferring goods to the grading</p>

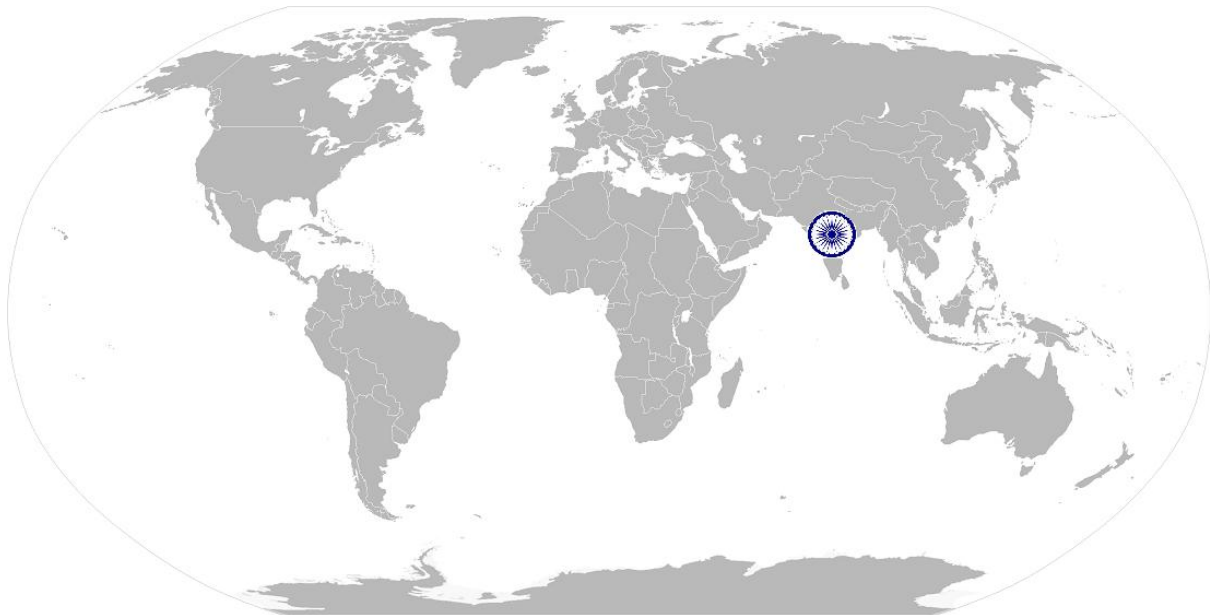
LSC/N8702 Oversee inspection of goods at the time of arrival

	line	
Skills (S)		
A. Core Skills/ Generic Skills	Reading Skills	
	The user/individual on the job needs to know and understand how to: SA1. read quality control standards SA2. read product codes, quantity and specifications provided SA3. check reports for quality, quantity and weight SA4. read forms, inspection checklists pertaining to the inbound deliveries	
	Writing Skills	
	The user/individual on the job needs to know and understand how to: SA5. write down details of goods received for inspection SA6. maintain records of goods that qualified to enter the grading line operations after inspection SA7. mention details of rejected goods, along with reason for rejection	
	Oral Communication (Listening and Speaking skills)	
	The user/individual on the job needs to know and understand how to: SA8. communicate to supervisors about the outcome of inspection SA9. coordinate with peers such as procurement head and quality incharge in case of discrepancy SA10. clearly and precisely communicate to subordinate regarding criteria for acceptance and rejection of goods	
	B. Professional Skills	Decision Making
		The user/individual on the job needs to know and understand how to: SB1. take non conformance decision for rejection of goods SB2. decide number of people to be deployed for inspection
		Plan and Organize
		The user/individual on the job needs to know and understand how to: SB3. segregate conforming goods from non conforming goods SB4. plan the placement and stacking of goods in open space to facilitate inspection
Customer Centricity		
The user/individual on the job needs to know and understand how to: SB5. customer requirements with respect to quality expectations SB6. enforce hygienic conditions as per product handling requirements		
Problem Solving		
The user/individual on the job needs to know and understand how to: SB7. take appropriate action if conforming goods get mixed with non conforming goods SB8. handle day to day problems like delays, staffing shortage etc		
Analytical Thinking		
The user/individual on the job needs to know and understand how to: SB9. the observation and inspection outcome provided by quality chemists		

LSC/N8702

Oversee inspection of goods at the time of arrival

	SB10. the proportion of goods that do not conform to quality requirements
	Critical Thinking
	The user/individual on the job needs to know and understand how to: SB11. evaluate if the extent of spoilage is within acceptable limits SB12. allocate staff across departments and activities

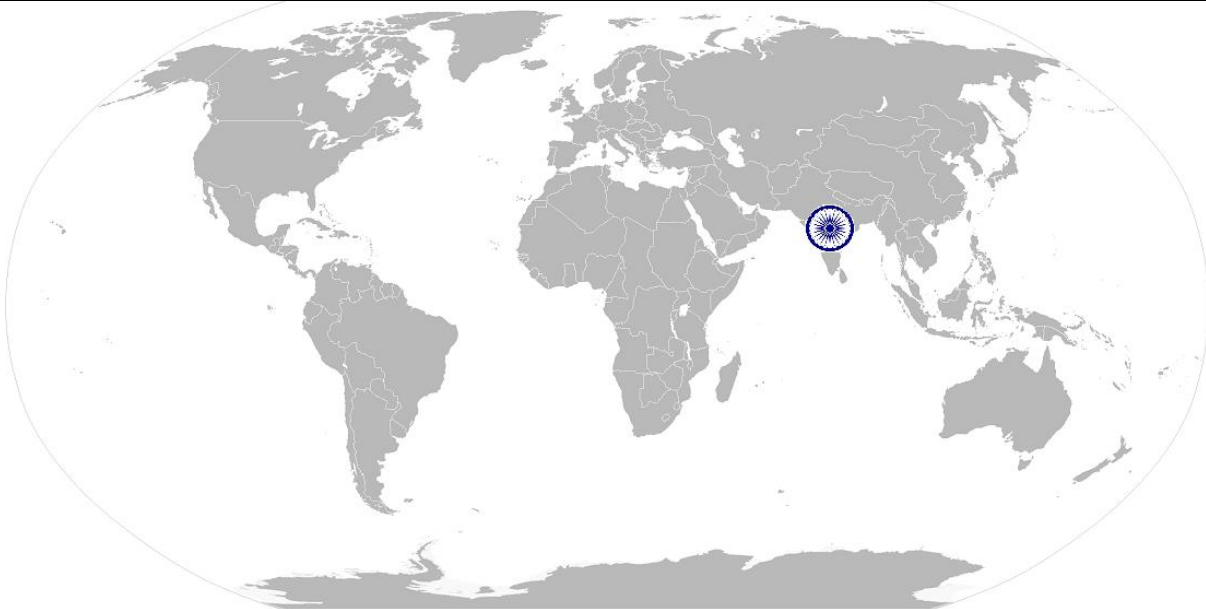


LSC/N8702

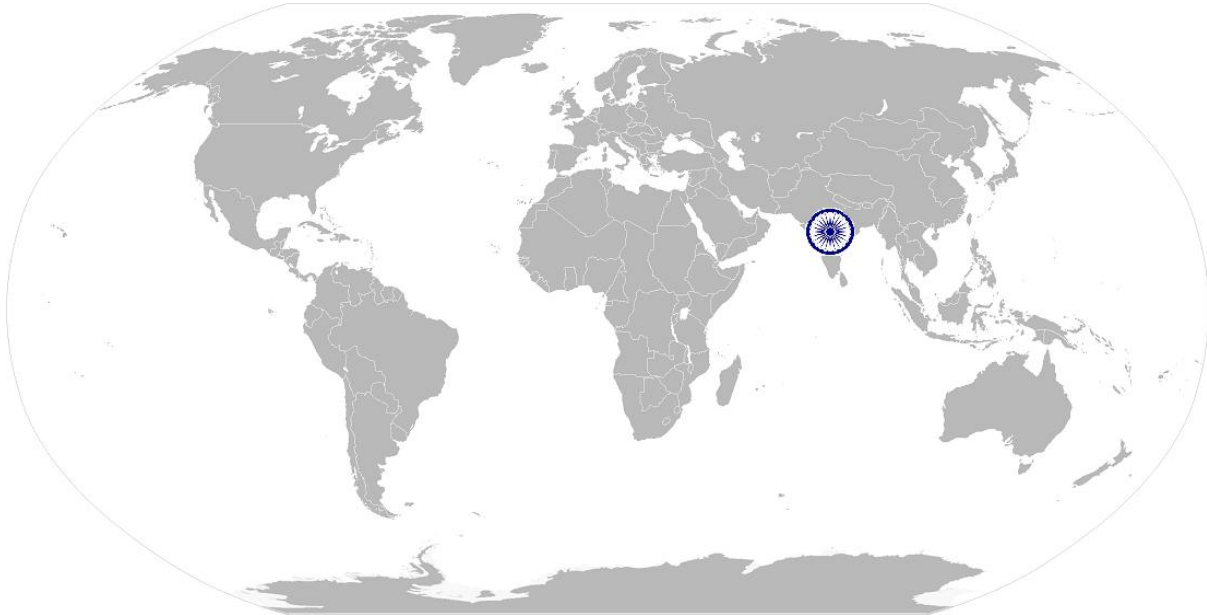
Oversee inspection of goods at the time of arrival

NOS Version Control

NOS Code	LSC/N8702		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	22/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations – Cold Storage	Next review date	11/01/20



National Occupational Standard



Overview

This unit is about administering sorting, grading, washing and drying for those goods that have been inspected and which adhere to quality specifications and requirements.

LSC/N8703

Administer grading line operations

National Occupational Standard

Unit Code	LSC/N8703
Unit Title (Task)	Administer grading line operations
Description	This OS unit is about administering sorting, grading, washing and drying for those goods that have been inspected and which adhere to quality specifications and requirements
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Supervise sorting and grading of goods • Supervise washing and drying of goods • Schedule and monitor activities and progress through the grading line <p>Range: Platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, mechanised stacking equipment</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Supervising sorting and grading of goods	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. supervise primary sorting of goods for removal of spilled over, improperly sized, severely damaged, over mature or deformed units</p> <p>PC2. ensure appropriate disposal of rejected goods</p> <p>PC3. decide the criteria for grading of goods based on end user requirements- by quality, shelf-life, weight or market value, etc.</p> <p>PC4. ensure workers are well educated about the categories in which the goods have to be sorted/graded</p> <p>PC5. ensure the graded units are properly separated as per grades</p>
Supervising washing and drying of goods	<p>To be competent, the user/ individual must be able to:</p> <p>PC6. ensure washing facility is clean and hygienic</p> <p>PC7. ensure water used for washing is appropriately chlorinated and is of good quality</p> <p>PC8. ensure water temperature is appropriate relative to farm produce being washed</p> <p>PC9. supervise waste water disposal is done in proper manner</p> <p>PC10. ensure excessive drying of goods is avoided to prevent wilting, shrinking and water loss</p>
Scheduling and monitoring activities and progress through the grading line	<p>To be competent, the user/ individual must be able to:</p> <p>PC11. plan the appropriate number of workers to be deployed in grading line operations</p> <p>PC12. ensure areas are properly covered and clean</p> <p>PC13. ensure proper positioning and posture of workers while working on the conveyor belt</p> <p>PC14. execute sample inspections/checks of the graded/sorted units</p> <p>PC15. ensure movement of goods from one stage to another is as per the planned schedule</p> <p>PC16. take corrective action in case of discrepancy</p>

LSC/N8703
Administer grading line operations

Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KA1. company's reporting structure KA2. individual's role in cold chain process flow KA3. occupational health and safety standards KA4. quality control standards for perishable products KA5. company's work instructions on quality standards KA6. company's policies, standard operating procedures and governance structure KA7. risk and impact of not following defined procedures/work instructions KA8. company's personnel management and incentives rules KA9. clients and suppliers of the company
B. Technical Knowledge	The user/individual on the job needs to know and understand: <ul style="list-style-type: none"> KB1. appropriate grading criteria for goods KB2. extent of chlorination required for washing of fruits KB3. technique for measurement of hydration levels KB4. identification of goods based on grading categories KB5. appropriate oxygen and carbon-dioxide levels to be maintained in the grading line facility KB6. appropriate water temperature used for washing, for eg: it is recommended that fruit temperature is at least 5 °C lower than liquid KB7. waste water recycling, reuse and disposal procedure KB8. time for which washed goods should be dried, in order to avoid shrinking and water loss KB9. appropriate time required for each stage of grading line operations KB10. correct posture and positioning of workers to ensure efficient execution of activities
Skills (S)	
A. Core Skills/ Generic Skills	Reading Skills
	The user/ individual on the job needs to know and understand how to: <ul style="list-style-type: none"> SA1. read product codes, quantity and specifications provided SA2. read instructions for safety precautions and material handling
	Writing Skills
	The user/ individual on the job needs to know and understand how to: <ul style="list-style-type: none"> SA3. maintain records of goods passing through each stage of grading line SA4. mention details of rejected goods, along with reason for rejection
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: <ul style="list-style-type: none"> SA5. communicate clear instructions to workers about handling techniques SA6. give instructions about the identification of goods for different categories
B. Professional Skills	Decision Making
	The user/ individual on the job needs to know and understand how to: <ul style="list-style-type: none"> SB1. decide criteria for grading of goods, whether based on market value, weight

LSC/N8703
Administer grading line operations

	etc.
	SB2. dispose waste water after washing of goods
	Plan and Organize
	The user/ individual on the job needs to know and understand how to:
	SB3. time schedule for activities in each stage of grading line
	SB4. re-schedule and re-allocate workers across activities in case of requirement
	Customer Centricity
	The user/ individual on the job needs to know and understand how to:
	SB5. customer requirements with respect to quality expectations
	SB6. enforce hygienic conditions as per product handling requirements
SB7. segregate goods as per customer requirements	
Problem Solving	
The user/ individual on the job needs to know and understand how to:	
SB8. handle delays in one stage of grading line operations so that it doesn't affect the other stage	
SB9. handle the situation if units of one grade get mixed with units of other grade	
Analytical Thinking	
The user/ individual on the job needs to know and understand how to:	
SB10. plan the appropriate number of workers to be deployed in grading line operations	
SB11. make changes in grading line temperature conditions based on climatic changes	
SB12. decide appropriate time period for which goods should be dried in order to avoid excessive water loss	
Critical Thinking	
The user/ individual on the job needs to know and understand how to:	
SB13. decide extent of chlorination required in water used for washing	
SB14. treat the waste water after washing; whether it should be disposed or recycled or reused	

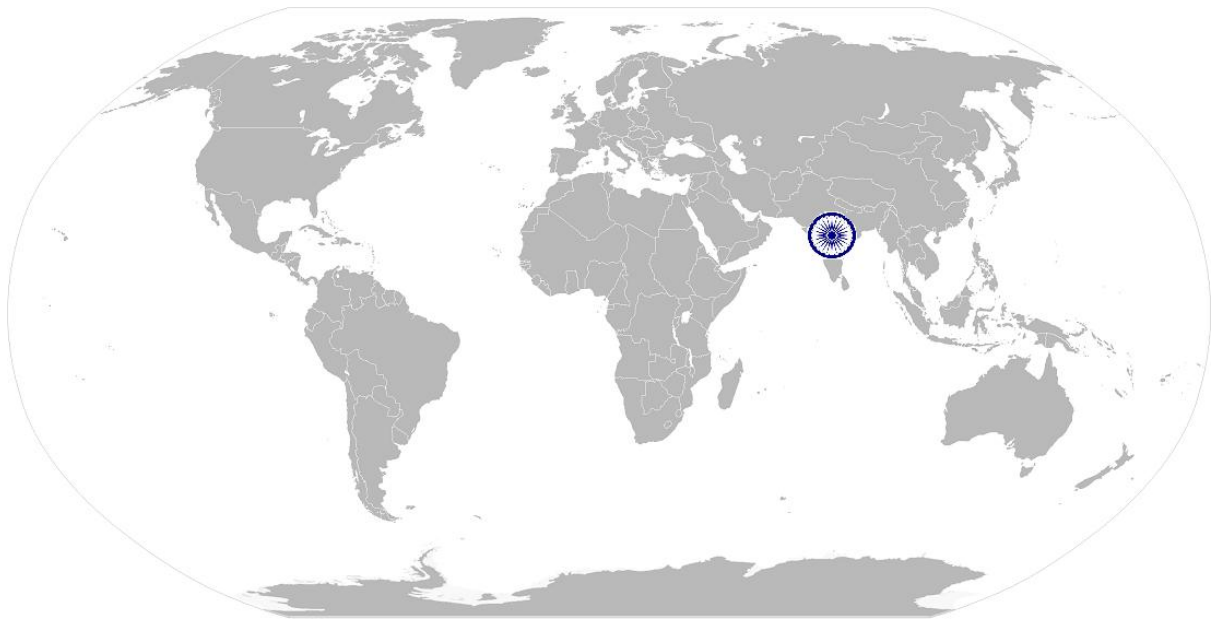
LSC/N8703
Administer grading line operations

NOS Version Control

NOS Code	LSC/N8703		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	22/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations – Cold Storage	Next review date	11/01/20



National Occupational Standard



Overview

This unit is about overseeing product placement, storage conditions and space management within the pre-cooling unit

LSC/N8704

Supervise pre-cooling operations

National Occupational Standard

Unit Code	LSC/N8704
Unit Title (Task)	Supervise pre-cooling operations
Description	This OS unit is about overseeing product placement, storage conditions and space management within the pre-cooling unit
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Maintain proper storage conditions in the pre-cooling unit • Supervise placement of goods in pre-cooling chambers • Manage space efficiently within the pre-cooling unit <p>Range: Platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, mechanised stacking equipment</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Maintaining proper storage conditions in the pre-cooling unit	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. ensure appropriate pre-cooling technology is used for the products</p> <p>PC2. ensure use of insulated panels suitable for pre-cooling temperature</p> <p>PC3. ensure doors are leak proof</p> <p>PC4. ensure electrical control panel for refrigeration rack system is working properly</p>
Supervising placement of goods in pre-cooling chambers	<p>To be competent, the user/ individual must be able to:</p> <p>PC5. ensure goods of different grades are properly segregated in pre cooling chamber</p> <p>PC6. ensure goods requiring lesser pre-cooling time should be placed in the front of the chamber</p> <p>PC7. oversee proper placement and stacking of goods so as to ensure uniform pre-cooling of each stored unit</p>
Managing space efficiently within the pre-cooling unit	<p>To be competent, the user/ individual must be able to:</p> <p>PC8. ensure timely removal of goods from pre-cooling unit to temporary staging space in order to free the space for sequential batch of harvested produce</p> <p>PC9. ensure staging area is clean</p> <p>PC10. ensure proper handling of goods in order to avoid undue spoilage</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. company's reporting structure</p> <p>KA2. individual's role in cold chain process flow</p> <p>KA3. occupational health and safety standards</p> <p>KA4. quality control standards for perishable products</p> <p>KA5. company's work instructions on quality standards</p> <p>KA6. company's policies, standard operating procedures and governance structure</p> <p>KA7. risk and impact of not following defined procedures/work instructions</p> <p>KA8. company's personnel management and incentives rules</p>

LSC/N8704
Supervise pre-cooling operations

B. Technical Knowledge	<p>KA9. clients and suppliers of the company</p> <p>The user/individual on the job needs to know and understand:</p> <p>KB1. different types of pre-cooling techniques. for eg: a pre cooling unit can be in the form of forced-air cooling, hydro cooling, vacuum cooling, room cooling, icing, etc.</p> <p>KB2. safety and security precautions required in each type of pre-cooling technique</p> <p>KB3. time required for each type of pre-cooling technique</p> <p>KB4. which pre-cooling technique is appropriate for which types of goods</p> <p>KB5. correct pre-cooling temperature based on maturity level of goods. for eg: grapes are cooled to 1-4°C, potato to 5–9°C etc.</p> <p>KB6. velocity of refrigerating medium</p> <p>KB7. appropriate humidity levels in the air used for pre-cooling, in order to avoid excessive water loss</p> <p>KB8. cost and expenditure involved in the pre-cooling techniques</p> <p>KB9. adjustment required in pre-cooling conditions based on climatic changes</p> <p>KB10. appropriate time gap between harvesting of produce and pre-cooling</p>
Skills (S)	
A. Core Skills/ Generic Skills	<p>Reading Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read instructions on handling requirements</p> <p>SA2. read details of goods entering the pre-cooling unit</p> <p>SA3. read quality control and assurance standards</p> <p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA4. maintain details of goods placed inside the pre-cooling unit</p> <p>SA5. make improvements to instructions based on requirements and climatic changes</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA6. interface effectively with internal team across departments</p> <p>SA7. work as a team and deliver frame to next work process on time resolve customer's concerns satisfactorily within timeframe stipulated by the company or as agreed with customer or colleague</p>
B. Professional Skills	<p>Decision Making</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SB1. take decision on appropriate temperature for pre-cooling of goods</p> <p>SB2. take decision on number of workers to be deployed in pre-cooling unit and fitness levels of workers</p> <p>Plan and Organize</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SB3. appropriate placement and stacking of goods to ensure uniform pre-cooling</p> <p>SB4. pre-cooling conditions to be maintained for appropriate duration</p>

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Supervise pre-cooling operations

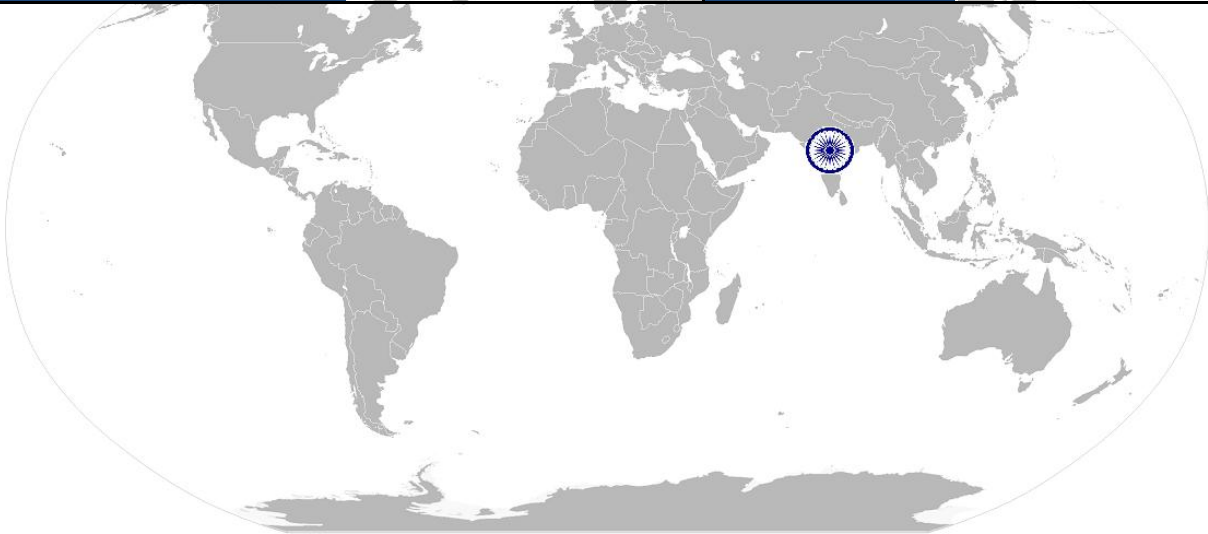
	Customer Centricity
	The user/ individual on the job needs to know and understand how to: SB5. customer demand and quality requirements SB6. maintain quality and hygienic conditions to the extent expected by customers
	Problem Solving
	The user/ individual on the job needs to know and understand how to: SB7. resolve basic problems in walls, roofing etc. SB8. take action in case of injury or workplace hazard
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to: SB9. analyze situation in case of over-cooling or under cooling of goods SB10. assess whether the product meets the required specification
	Critical Thinking
The user/ individual on the job needs to know and understand how to: SB11. spot process disruptions and delays SB12. appropriate pre-cooling technique to be used based on product characteristics, time and expenditure involved in each technique	



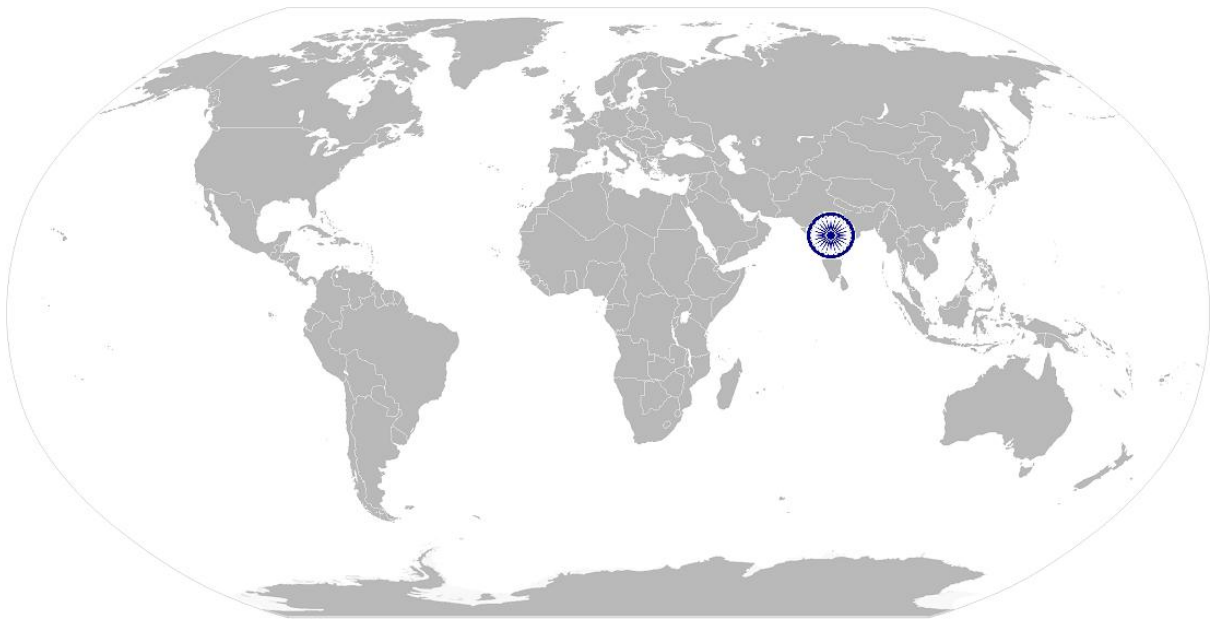
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Supervise pre-cooling operations

NOS Version Control

NOS Code	LSC/N8704		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	22/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations – Cold Storage	Next review date	11/01/20



National Occupational Standard



Overview

This unit is about management and supervision of goods from the time they enter the ripening chamber till the time they complete the ripening cycle and are transferred to cold storage

LSC/N8705

Administer ripening chamber operations

National Occupational Standard

Unit Code	LSC/N8705
Unit Title (Task)	Administer ripening chamber operations
Description	This OS unit is about management and supervision of goods from the time they enter the ripening chamber till the time they complete the ripening cycle and are transferred to cold storage
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Ensure placement of goods in the ripening chamber • Supervise chamber conditions during the ripening cycle • Ensure space management in the ripening chamber <p>Range: Platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, mechanised stacking equipment</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Ensuring placement of fruits in the ripening chamber	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. ensure ripening gas level (ethylene) is maintained at appropriate level</p> <p>PC2. ensure appropriate level of oxygen and carbon d-oxide are maintained (low oxygen and high carbon di-oxide levels slow the ripening process, stop the development of some storage disorders such as scald in apples, and slows the growth of decay organisms)</p> <p>PC3. supervise air path control mechanism for even distribution of chilled air</p> <p>PC4. supervise temperature maintenance inside the ripening chamber</p> <p>PC5. ensure exhaust fans are working properly</p> <p>PC6. ensure ripening chamber operator is aware of changes required to be made to chamber conditions over the ripening cycle</p>
Supervising chamber conditions during the ripening cycle	<p>To be competent, the user/ individual must be able to:</p> <p>PC7. supervise measurement and evaluation of maturity stage of goods</p> <p>PC8. ensure products of appropriate maturity are transferred to ripening chamber</p> <p>PC9. ensure produce is loaded into the refrigerated room or transportation truck without undue spoilage</p> <p>PC10. supervise maintenance of pre-engineered building panels for walls and roofing, material handling equipments and refrigeration system</p> <p>PC11. ensure appropriate crates are used to ensure uniform ripening</p>
Ensure space management in the ripening chamber	<p>To be competent, the user/ individual must be able to:</p> <p>PC12. ensure refrigerated fans are appropriately placed to ensure uniform circulation of cold air within the room and around the produce</p> <p>PC13. identify appropriate number of days for which goods should be kept in ripening chambers</p> <p>PC14. ensure alternate use of ripening chamber is done in case of availability of space</p>
Knowledge and Understanding (K)	

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Administer ripening chamber operations

A. Organizational Context (Knowledge of the company / organization and its processes)	The user/individual on the job needs to know and understand: KA1. company's reporting structure KA2. individual's role in cold chain process flow KA3. occupational health and safety standards KA4. quality control standards for perishable products KA5. company's work instructions on quality standards KA6. company's policies, standard operating procedures and governance structure KA7. risk and impact of not following defined procedures/work instructions KA8. company's personnel management and incentives rules KA9. clients and suppliers of the company
B. Technical Knowledge	The user/individual on the job needs to know and understand: KB1. appropriate level of ethylene or any other ripening gas required based on ripening maturity KB2. units used for measurement and identification of maturity level, for eg: brix is the unit used to measure sugar content and ripening maturity of fruits KB3. appropriate maturity level at which fruits should enter the ripening chamber KB4. changes required in the temperature, humidity and gas level over the ripening cycle KB5. variations in the duration of ripening cycle across varieties of products. For eg: for fruits, the ripening cycle is of 4-6 days KB6. which crates are suitable to enable uniform ripening KB7. proper placement of refrigeration fans to ensure air circulation throughout the chamber KB8. basic engineering requirements for walls and roofing, material handling equipments and refrigeration system KB9. proper height of stack of crates to be maintained for proper ripening.
Skills (S)	
A. Core Skills/ Generic Skills	Reading Skills The user/ individual on the job needs to know and understand how to: SA1. instructions on handling requirements SA2. details of goods entering the ripening chamber
	Writing Skills The user/ individual on the job needs to know and understand how to: SA3. maintain details of goods placed inside the ripening chamber SA4. record details of goods transferred out of the ripening chamber
	Oral Communication (Listening and Speaking skills) The user/ individual on the job needs to know and understand how to: SA5. interface effectively with internal team across departments SA6. negotiate time frame and deliver goods to next work process on time
B. Professional Skills	Decision Making The user/individual on the job needs to know and understand how to: SB1. take decision of ripening maturity of goods SB2. take decision on number of workers to be deployed in ripening chamber and

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Administer ripening chamber operations

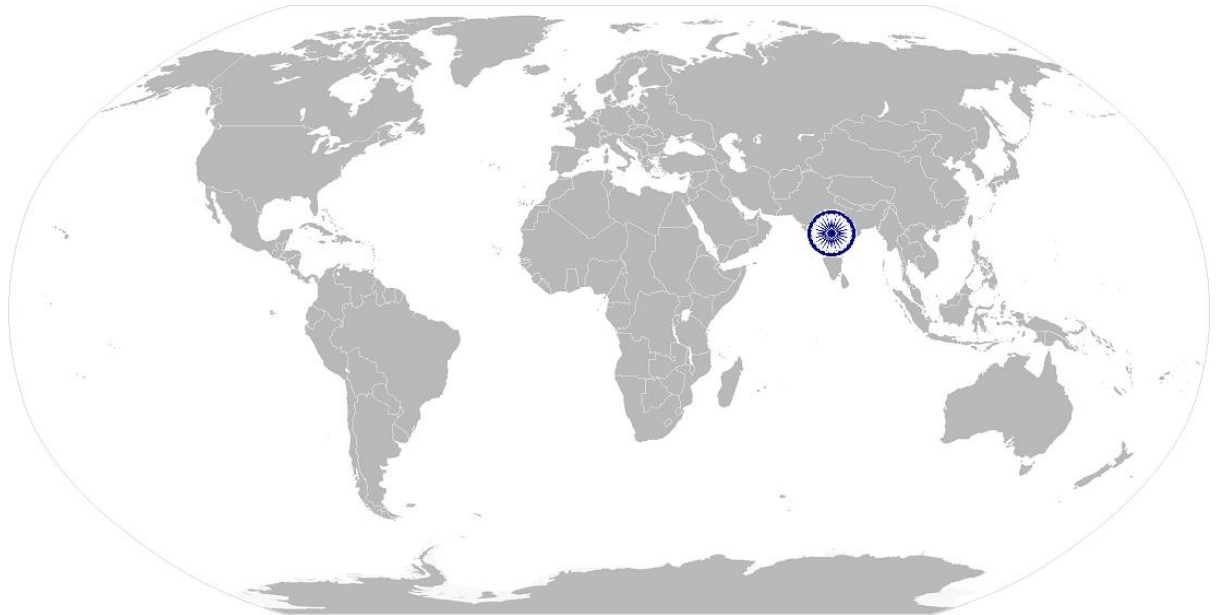
	fitness levels
	Plan and Organize
	The user/individual on the job needs to know and understand how to: SB3. appropriate placement and stacking of goods to ensure uniform ripening SB4. chamber conditions to be maintained in every stage of ripening cycle for required duration
	Customer Centricity
	The user/individual on the job needs to know and understand how to: SB5. customer demand and quality requirements SB6. maintain quality and hygienic conditions to the extent expected by customers
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB7. resolve basic problems in walls, roofing etc. SB8. take action in case of over ripening or under ripening of goods
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to: SB9. estimate the value of the delivered goods SB10. assess whether the product meets the required specification
	Critical Thinking
	The user/ individual on the job needs to know and understand how to: SB11. spot process disruptions and delays SB12. make variations with every passing stage of ripening cycle



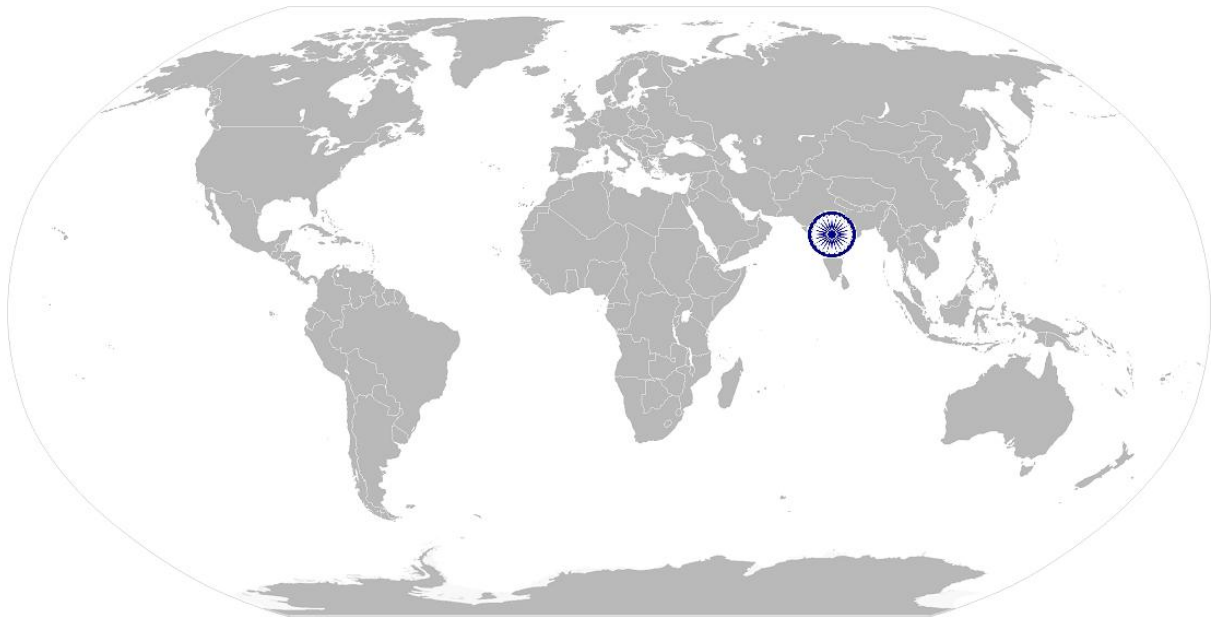
LSC/N8705
Administer ripening chamber operations

NOS Version Control

NOS Code	LSC/N8705		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	22/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations- Cold Storage	Next review date	11/01/20



National Occupational Standard



Overview

This unit is about administering safe movement of goods and overseeing proper storage within the cold room facility

LSC/N8706

Manage placement of goods in controlled conditions

National Occupational Standard

Unit Code	LSC/N8706
Unit Title (Task)	Manage placement of goods in controlled conditions
Description	This OS unit is about administering safe movement of goods and overseeing proper storage within the cold room facility
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Ensure maintenance of safety conditions inside the cold storage • Supervise appropriate placement and stocking of goods • Oversee movement of goods in trolley in the cold store <p>Range: Platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, mechanised stacking equipment</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Ensuring maintenance of safety conditions inside the cold storage	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. identify appropriate temperature, humidity and refrigerant conditions at which the goods should be stored</p> <p>PC2. ensure that storage conditions are maintained and adjusted based on climatic changes</p> <p>PC3. ensure that access to the cold store is restricted to authorised, trained persons only</p> <p>PC4. supervise handling operations and fitness levels of workers deployed for cold storage operations</p> <p>PC5. ensure that any work on the system where there is a potential for gas leaks or any other danger is allocated to appropriate workers under supervision of a senior and experienced worker</p> <p>PC6. execute monthly checks on vapour detectors and alarms</p> <p>PC7. ensure appropriate PPE such as jacket, gloves, caps, shoes, etc is worn by cold room operators</p>
Supervising appropriate placement and stocking of goods	<p>To be competent, the user/ individual must be able to:</p> <p>PC8. chart a layout plan for palletization to control stock placement</p> <p>PC9. ensure racking selected is according to the operating temperature and is to SEMA (Storage Equipments Manufacturers Association) standard</p> <p>PC10. supervise appropriate placement of fans to ensure sufficient circulation of air</p> <p>PC11. coordinate with storekeeper for stock rotation in case required</p> <p>PC12. ensure stacking follows exactly the layout prescribed, respecting loading limits and allowing space between the stacks and walls, and below the pallets</p>
Overseeing movement of goods in trolley in the cold store	<p>To be competent, the user/ individual must be able to:</p> <p>PC13. ensure walkways are clearly marked by yellow lines, railings, etc</p> <p>PC14. ensure proper instructions are available for pedestrians to keep away from moving trolleys</p> <p>PC15. ensure the cold store is well lit and has mirrors at the end of aisles</p> <p>PC16. supervise selection of vehicles to minimise risk for movement of goods within</p>

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Manage placement of goods in controlled conditions

	<p>the cold room</p> <p>PC17. ensure all trolley operators are trained and follow daily pre-use vehicle checks</p>
Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. company's reporting structure</p> <p>KA2. individual's role in cold chain process flow</p> <p>KA3. occupational health and safety standards</p> <p>KA4. quality control standards for perishable products</p> <p>KA5. company's work instructions on quality standards</p> <p>KA6. company's policies, standard operating procedures and governance structure</p> <p>KA7. risk and impact of not following defined procedures/work instructions</p> <p>KA8. company's personnel management and incentives rules</p> <p>KA9. clients and suppliers of the company</p>
<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. appropriate PPE such as jacket, gloves, cap, shoes etc to be worn by operators</p> <p>KB2. areas of potential gas leaks within the cold storage</p> <p>KB3. how to operate and read vapour detectors and alarms</p> <p>KB4. different types of trolleys used within the cold storage facility. for eg: trolleys can be of following types two-wheeled trolleys - manual platform trolleys, self-propelled platform trolleys, manual or self-propelled pallet trucks, belt, chain or roller conveyors, either gravity or self-propelled.</p> <p>KB5. equipments used for vehicle handling, namely platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, various types of mechanized stacking equipment etc.</p> <p>KB6. maintenance schedule and functional understanding of equipments</p> <p>KB7. appropriate size of packages or blocks that can be readily palletized</p> <p>KB8. requirements laid down in national codes of practice, insurance companies, as well as international recommendations (ISO R1662) (BS 4434 1989/) etc that the refrigeration equipment should comply to</p> <p>KB9. precautionary measures and safety standards to be followed inside cold room facility</p> <p>KB10. product characteristics and appropriate placement on racks so that they are not crushed</p> <p>KB11. appropriate stack alignment and positioning of stacks, for eg: in a partly filled room the stack alignment must be perpendicular to the direction of air movement and the stacks placed close to the cooler, fans must be operating when the refrigeration system is running and it is advisable to stop them only during the defrosting period. two-speed fans should be used to adjust to air circulation needs in the room</p>
Skills (S)	
A. Core Skills/	Reading Skills

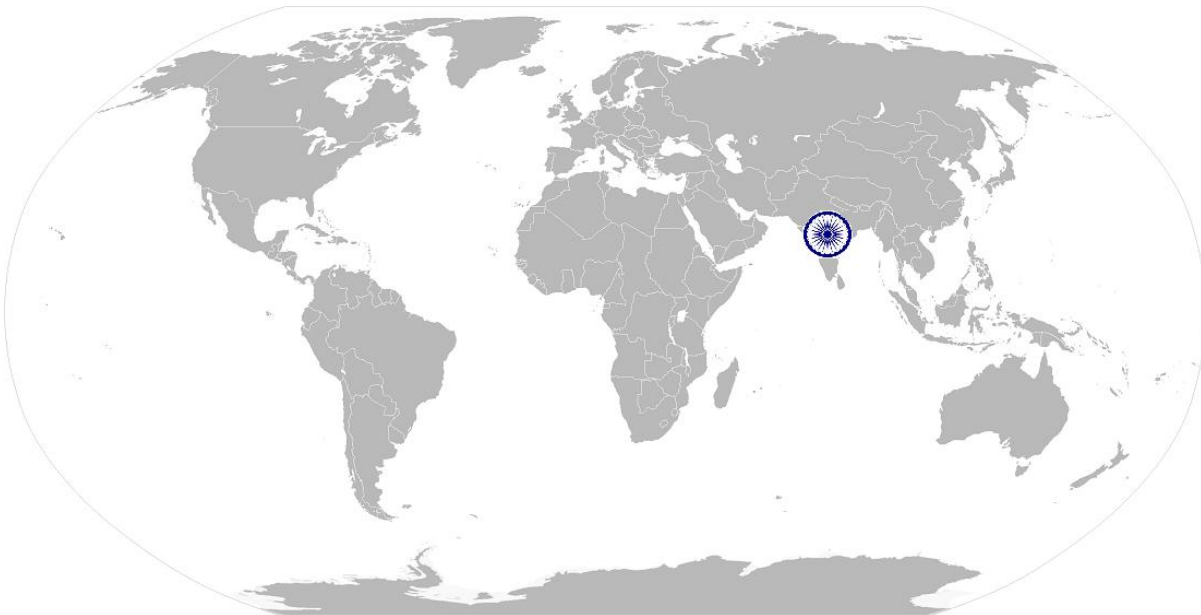
LSC/N8706

Manage placement of goods in controlled conditions

Generic Skills	The user/ individual on the job needs to know and understand how to: SA1. read workplace instructions, safety hazards and operating procedures SA2. read details of goods stored in the cold room, and records maintained by storekeeper
	Writing Skills
	The user/ individual on the job needs to know and understand how to: SA3. write details of goods entering the cold storage SA4. make corrections and improvements in workplace instructions based on technological requirements
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to: SA5. maintain effective relationships and communicate clearly and precisely with sub ordinate SA6. obtain information and grasp its meaning SA7. discuss issues, clarify doubts and seek solutions
B. Professional Skills	Decision Making
	The user/ individual on the job needs to know and understand how to: SB1. placement of goods in the cold room based on product characteristics SB2. stack alignment and palletization pattern
	Plan and Organize
	The user/ individual on the job needs to know and understand how to: SB3. rectify on use of hazardous materials and do continuous checks SB4. worker allocation based on areas of potential gas leaks
	Customer Centricity
	The user/ individual on the job needs to know and understand how to: SB5. customer demand and quality requirements SB6. maintain quality and hygienic conditions to the extent expected by customers
	Problem Solving
	The user/ individual on the job needs to know and understand how to: SB7. correct issues with vapour detector and alarms SB8. solve workplace issues with respect to delays in trolley transport and storage SB9. resolve issues related to leakages and temperature abuse within the cold storage SB10. initiate action in case of injury or hazard
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to: SB11. analyze the storage space based on average duration of storage, nature of goods, stacking height, product movement on trolleys etc. SB12. coordinate activities based on size of the room, number of door openings, protection of door openings, traffic through the doors, cold and warm air temperatures and humidity
	Critical Thinking

LSC/N8706**Manage placement of goods in controlled conditions**

	<p>The user/ individual on the job needs to know and understand how to:</p> <p>SB13. decide the appropriate cold room temperature and humidity conditions based on climatic changes</p> <p>SB14. appropriate vehicle to be used for movement of goods within the cold room</p>
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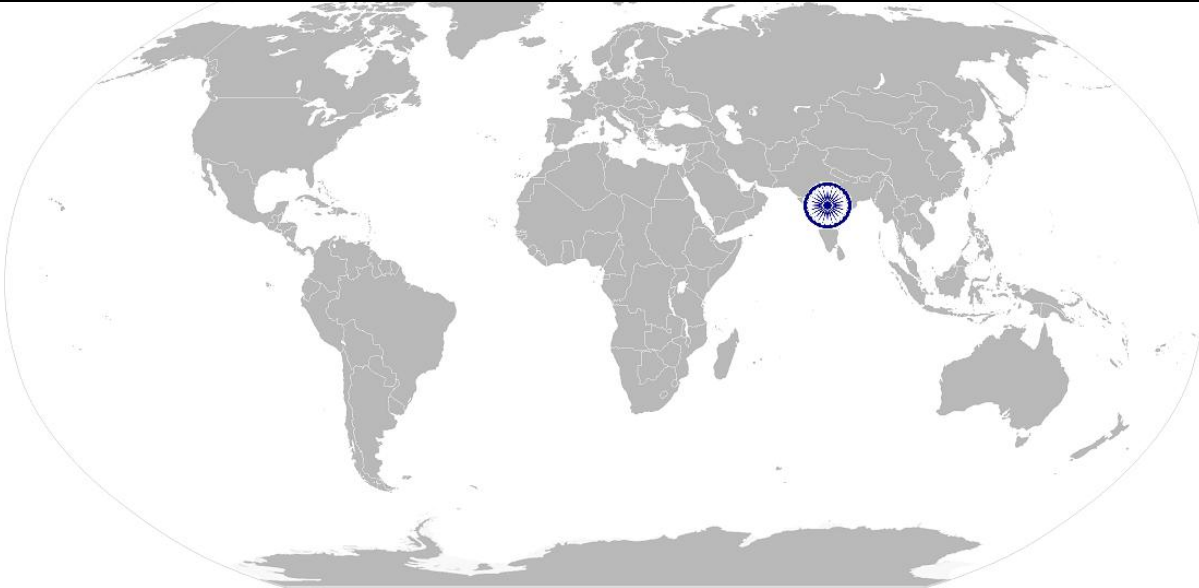


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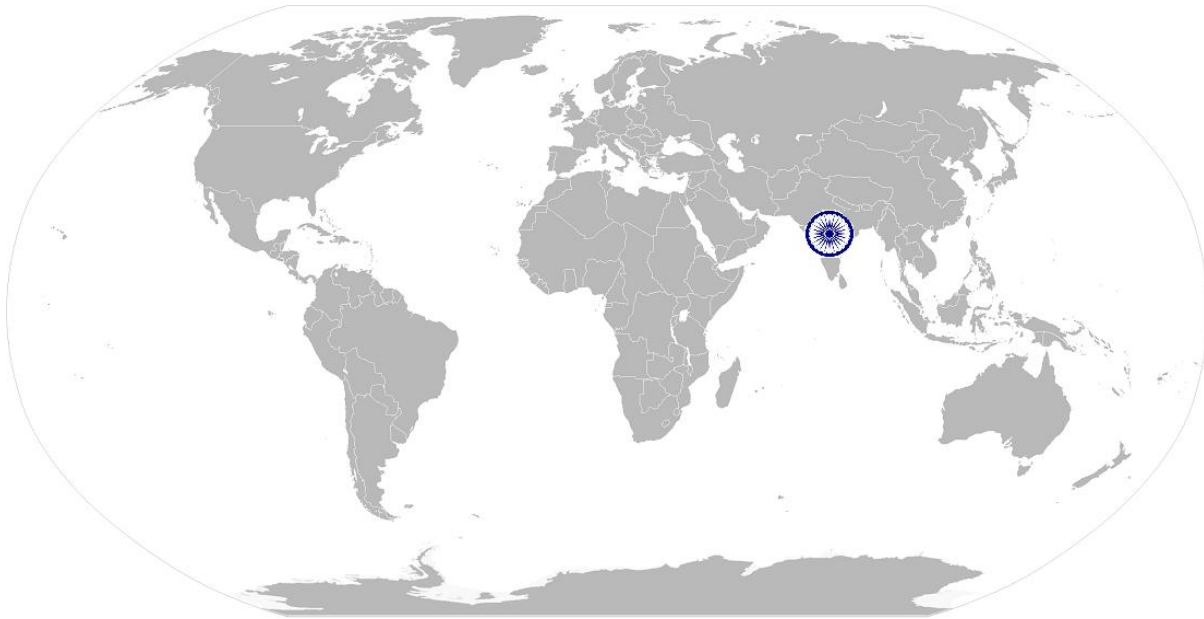
Manage placement of goods in controlled conditions

NOS Version Control

NOS Code	LSC/N8706		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	22/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations – Cold Storage	Next review date	11/01/20



National Occupational Standard



Overview

This unit is about executing final quality checks and overseeing product packaging operations before they are dispatched from the cold storage facility

LSC/N8707

Supervise product protection and packaging

National Occupational Standard

Unit Code	LSC/N8707
Unit Title (Task)	Supervise product protection and packaging
Description	This OS unit is about executing final quality checks and overseeing product packaging operations before they are dispatched from the cold storage facility
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Execute final inspection of QC/QA checks • Supervise packaging activities and tools used • Execute Pre dispatch QC check <p>Range: Platform elevators, cranes, gantries, hand-stacking equipment, fork lift trucks, mechanised stacking equipment</p>
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Executing final inspection of QC/QA checks	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. supervise passage of goods through metal detector</p> <p>PC2. inspect samples to check for conformance to quality standards</p> <p>PC3. discard non conforming units</p> <p>PC4. supervise physical count of units to be packaged</p> <p>PC5. update packaging incharge with final number of units to be packaged</p>
Supervising packaging activities and tools used	<p>To be competent, the user/ individual must be able to:</p> <p>PC6. ensure appropriate packaging material is used by pack-house incharge based on product specifications and end user requirement</p> <p>PC7. ensure packaging is appropriate to allow ease of loading, unloading and sales</p> <p>PC8. supervise container sterilization, filling and closing</p> <p>PC9. ensure sufficient stock of packing material is maintained</p>
Executing Pre dispatch QC check	<p>To be competent, the user/ individual must be able to:</p> <p>PC10. ensure packaging is strong enough to protect and carry the produce</p> <p>PC11. supervise weighing, sealing and labelling of cartons</p> <p>PC12. supervise online numbering of cartons</p> <p>PC13. ensure stock maintenance register is updated</p>
Knowledge and Understanding (K)	
A. Organizational Context (Knowledge of the company / organization and its processes)	<p>The user/individual on the job needs to know and understand:</p> <p>KA1. company's reporting structure</p> <p>KA2. individual's role in cold chain process flow</p> <p>KA3. occupational health and safety standards</p> <p>KA4. quality control standards for perishable products</p> <p>KA5. company's work instructions on quality standards</p> <p>KA6. company's policies, standard operating procedures and governance structure</p> <p>KA7. risk and impact of not following defined procedures/work instructions</p> <p>KA8. company's personnel management and incentives rules</p> <p>KA9. clients and suppliers of the company</p>

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Supervise product protection and packaging

<p>B. Technical Knowledge</p>	<p>The user/individual on the job needs to know and understand:</p> <p>KB1. different types of packaging material available</p> <p>KB2. inspection checks to be conducted at the pre-dispatch stage</p> <p>KB3. how to operate metal detector and other inspection equipments</p> <p>KB4. customer quality requirements with respect to packaging</p> <p>KB5. characteristics of packaging material used. For eg: it's susceptibility to corrosion, breakage, wear and tear etc.</p> <p>KB6. characteristics of the products being packaged. For eg: the product's texture, size, odor, susceptibility to corrosion, effect of exposure to low temperature, water etc.</p> <p>KB7. appropriate packaging material to be used based on product characteristics, for eg: the materials used for the package must be new, clean and of such a quality as to avoid causing any external or internal damage to the produce</p> <p>KB8. procedure for weighing, sealing and labelling of goods</p> <p>KB9. codes, standards and symbols used for weighing and labeling</p> <p>KB10. the instructions and readings on equipments used for weighing and labeling and sealing</p>
<p>Skills (S)</p>	
<p>A. Core Skills/ Generic Skills</p>	<p>Reading Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA1. read instructions on handling requirements and packaging materials</p> <p>SA2. read details of goods required to be packed</p> <p>SA3. read quality control and assurance standards</p> <p>SA4. read labels and product codes mentioned on the packages</p> <p>Writing Skills</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA5. maintain details of goods received and goods dispatched</p> <p>SA6. make records of outcome of inspection done before dispatch</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SA7. maintain effective relationships and communicate clearly and precisely with sub ordinate</p> <p>SA8. discuss issues, clarify doubts and seek solutions</p>
<p>B. Professional Skills</p>	<p>Decision Making</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SB1. take non conformance decision in case the goods do not qualify inspection checks</p> <p>SB2. what material is suitable for packaging the goods</p> <p>Plan and Organize</p> <p>The user/ individual on the job needs to know and understand how to:</p> <p>SB3. appropriate placement and stacking of goods to ensure packaging is safe until dispatch</p> <p>SB4. space required to carry out packaging activities and stacking of goods when they are ready for dispatch</p>

LSC/N8707

Supervise product protection and packaging

	Customer Centricity
	The user/ individual on the job needs to know and understand how to: SB5. customer demand and quality requirements in terms of packaging quality SB6. maintain quality and hygienic conditions to the extent expected by customers
	Problem Solving
	The user/ individual on the job needs to know and understand how to: SB7. take action if enough stock of packaging material is not maintained SB8. take action if packaging is destroyed while handling
	Analytical Thinking
	The user/ individual on the job needs to know and understand how to: SB9. analyze if the packaging material purchased is as per required specification SB10. analyze process disruptions and delays
	Critical Thinking
The user/ individual on the job needs to know and understand how to: SB11. appropriate packaging material based on changing climatic conditions SB12. check if the metal detectors and other electronic devices are working properly	



LSC/N8707

Supervise product protection and packaging

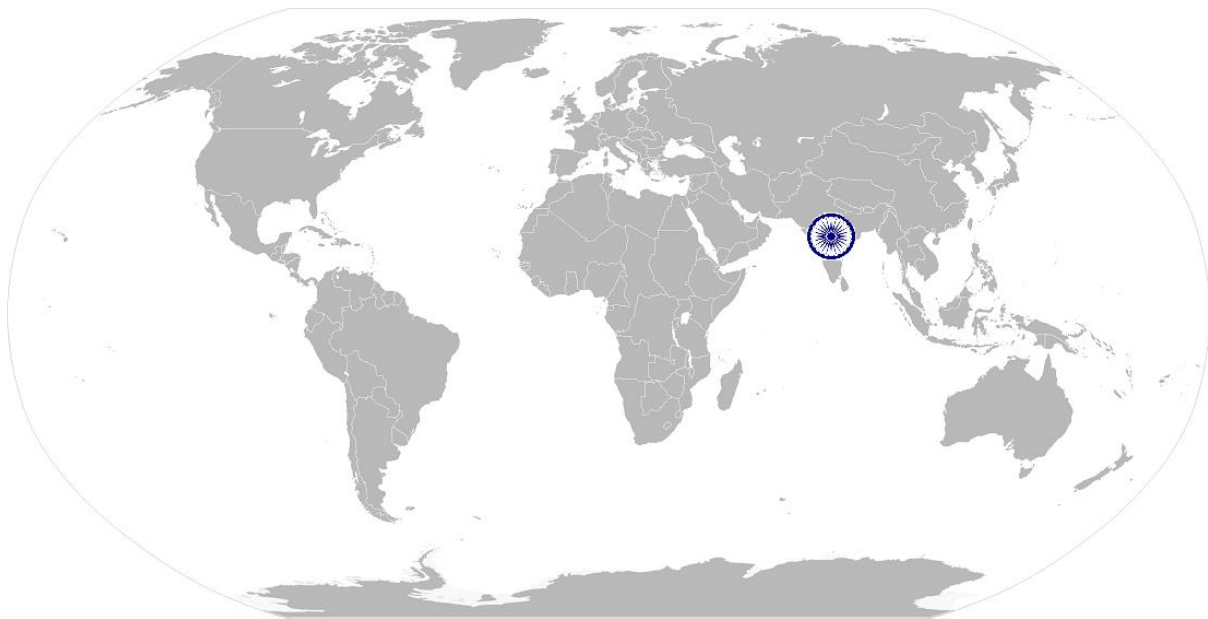
NOS Version Control

NOS Code	LSC/N8707		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	22/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations - Cold Storage	Next review date	11/01/20



LSC/N9901 Maintain food and personnel safety, health and hygiene in cold storage plant

National Occupational Standard



Overview

This unit is about complying with safety, health and hygiene at the workplace to have a hazard-free environment and avoid downtime.

LSC/N9901 Maintain food and personnel safety, health and hygiene in cold storage plant

Unit Code	LSC/N9901
Unit Title (Task)	Maintain food and personnel safety, health and hygiene in cold storage plant
Description	This OS unit is about complying with safety, health and hygiene at the workplace to have a hazard-free environment and avoid downtime
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Take precautionary measures to avoid work hazards • Follow standard health, safety and hygiene procedures
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Taking precautionary measures to avoid work hazards	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. assess the various health, safety and environmental hazards in the cold storage</p> <p>PC2. take necessary steps to eliminate or minimize the hazards</p> <p>PC3. analyze the causes of accidents at the workplace</p> <p>PC4. take preventive measures to avoid risk of cold burns and other injury due to contact with hot surfaces, gas, fire, hot fluids/ liquids, etc.</p> <p>PC5. ensure the employees have access to first aid kit when needed</p> <p>PC6. ensure to use personal protective equipment and safety gear such as gloves, jacket, footwear etc. for loading and unloading material in cold rooms to protect themselves from hypothermia, frostbite etc</p> <p>PC7. ensure to display safety signs at places where necessary for people to be cautious</p> <p>PC8. use rubber mats in the places where floors are constantly wet</p> <p>PC9. ensure electrical precautions such as insulated clothing, adequate equipment insulation, dry work area, switch off the power supply when not required, etc</p> <p>PC10. display emergency exit plan at prominent places and have emergency assembly area earmarked as a grid for easy counting of on duty associates and workers.</p> <p>PC11. unplug the control panel, compressor, condensor etc before performing maintenance</p> <p>PC12. report to the superior on any problems and hazards identified</p> <p>PC13. install fire alarms (electrical/manual) in cold store/deep freeze and keep other safety devices like hammer/mallet in the storage area</p>
Following standard health, safety and hygiene procedures	<p>To be competent, the user/individual must be able to:</p> <p>PC14. maintain appropriate ventilation in the cold rooms to avoid unacceptable accumulation of heat, condensation or odours</p> <p>PC15. check and review the cold storage areas frequently</p> <p>PC16. stack items in an organized way and use safe lifting techniques to reduce risk of injuries from handling procedures at the storage areas</p> <p>PC17. ensure no sign of pest infestation and install rodent traps, fly glues and insectocutors wherever needed</p> <p>PC18. follow hygiene & sanitation standards of Government bodies like FSSAI, APEDA and /or EIA or importing countries like FAO, EU standards after PC 20</p>

**LSC/N9901
plant**

Maintain food and personnel safety, health and hygiene in cold storage

	<p>PC19. use effective loading and unloading systems PC20. proper stock rotation (First in First out) to be practised PC21. segregate damaged/ non-conforming products from other products to designate area for appropriate disposition PC22. fumigate containers depending upon product and contamination or as per customers' requirement PC23. avoid smoking, spitting, eating etc near food storage area PC24. ensure reefers are covered, clean, free from pest infestation & other contaminants PC25. dispose cold storage plant waste in the designated areas safely as per company's policies and rules PC26. ensure to be safe while handling machines(generator, compressor, condensor etc), gas (ammonia) and chemicals(ethylene, refrigerants etc) PC27. keep the floors free from oil, water and grease to avoid slippery surface PC28. cut nails regularly and avoid applying nail paint. Avoid wearing bangles, rings, and chains in cold storage PC29. wash hands with soap solution and dry under a dryer as they enter for duty or after using wash room PC30. periodic examination of protective devices, pressure vessels and pipelines, and parts of pipework by a competent person to prevent defect that may give rise to danger PC31. ensure workers suffering from abscess, boils etc should be relieved from food handling PC32. develop personal hygiene habits like brushing teeth, taking shower everyday, wearing clean and tidy clothes after ironing etc</p>
Knowledge and Understanding (K)	
<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. company's HR policies on personnel management KA2. company's reporting structure KA3. occupational health and safety standards KA4. cold storage plant inspection checklist KA5. company's sanitary standard operating procedures KA6. procedures to follow during emergency maintenance issues KA7. technical standards for design and construction of cold storages: Bureau of Indian standards(BIS), International standard(ISO) etc</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. the purpose and usage of protective gears such as gloves , jackets etc. while working KB2. use of first aid at workplace KB3. cold storage order 1980 KB4. food safety and standards act 2006 KB5. reporting procedure or heirarchy for signs of damage and potential hazards</p>

**LSC/N9901
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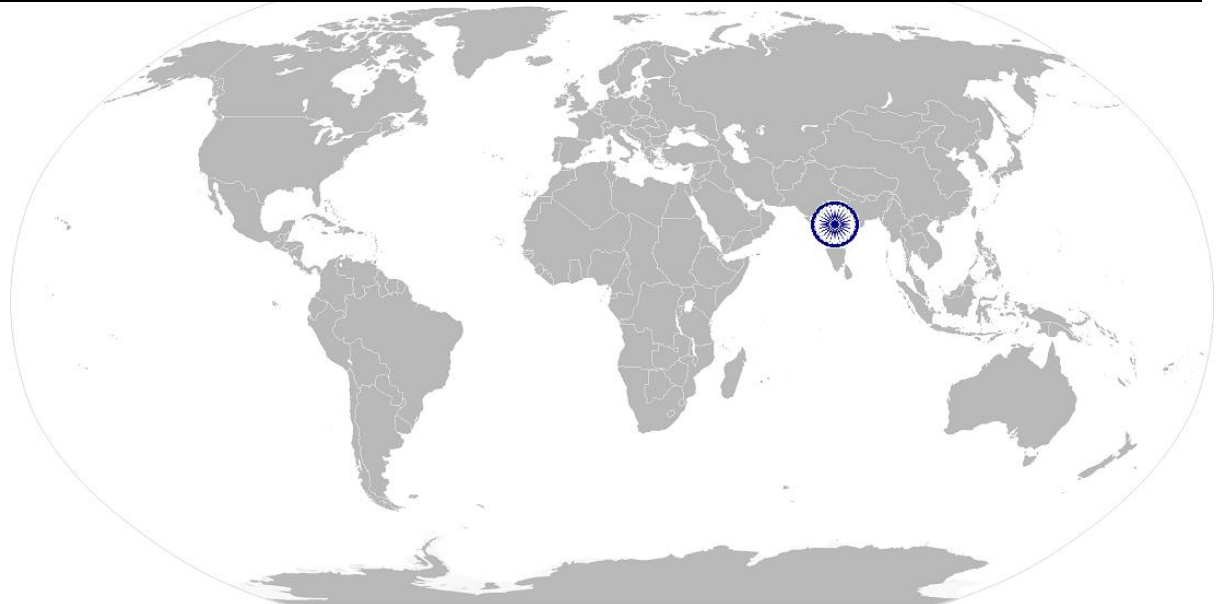
Maintain food and personnel safety, health and hygiene in cold storage

	<p>KB6. methods to minimize accidental risks</p> <p>KB7. safe storage and handling of chemicals like refrigerants, ammonia, ethylene etc</p> <p>KB8. loading and unloading systems</p> <p>KB9. standard operating procedure for safety drills and equipment maintenance</p> <p>KB10. operation of machines: compressor, condenser, evaporator etc</p> <p>KB11. emergency procedures to be followed in case of an mishap such as fire, accidents, etc. and communication of safety instructions to subordinate staff</p> <p>KB12. emergency responses in case of malfunctioning of refrigeration equipment as a whole or its components like evaporator, condenser or compressor</p> <p>KB13. solid, liquid and gaseous waste disposal, treatment norms and equipment</p> <p>KB14. necessary action to be taken for the hazards identified</p> <p>KB15. knowledge of Quality systems like BRC, FSSAI, ISO, FSSC, HACCP etc</p>
Skills (S)	
A. Core Skills/ Generic Skills	<p>Reading Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA1. read and interpret the relevant organisation policies, procedures and diagrams that identify health, safety and safe environmental practices.</p> <p>SA2. read job sheets, company policy documents and information displayed at the workplace for health, safety and environment.</p> <p>SA3. read notes/comments from the senior</p> <p>Writing Skills</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA4. fill up documentation related to health, safety and environmental standards, if required</p> <p>Oral Communication (Listening and Speaking skills)</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SA5. verbally report health, safety and environmental hazards and poor organisation practice.</p> <p>SA6. communicate to the supervisor about the work health, safety and environmental issues</p> <p>SA7. receive instructions from supervisor on minimizing the risks</p> <p>SA8. communicate with co-workers about the precautions to be taken for hazards free work</p>
B. Professional Skills	<p>Decision Making</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB1. take preventive measures for the identified hazards</p> <p>SB2. select appropriate hand tools and personal protection equipment</p> <p>SB3. identify first aid needs in case of an injury</p> <p>Plan and Organize</p> <p>The user/individual on the job needs to know and understand how to:</p> <p>SB4. formalize and display evacuation plan at strategic locations</p>

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plant**

Maintain food and personnel safety, health and hygiene in cold storage

	Customer Centricity
	The user/ individual on the job needs to know and understand how to: SB5. ensure targeted product delivery by practicing stipulated standards of occupational health safety and environmental measures
	Problem Solving
	The user/individual on the job needs to know and understand how to: SB6. take care of personal and equipment protection SB7. identify the hazards and suggest possible solutions
	Analytical thinking
	The user/individual on the job needs to know and understand how to: SB8. use safety equipment such as fire extinguisher during fire accidents SB9. store tools in a safe way SB10. analyse the seriousness of the hazards
Critical thinking	
The user/individual on the job needs to know and understand how to: SB11. evolve smooth workflow by avoiding hazards at workplace SB12. evaluate and apply the possible solutions for the hazards, as necessary	

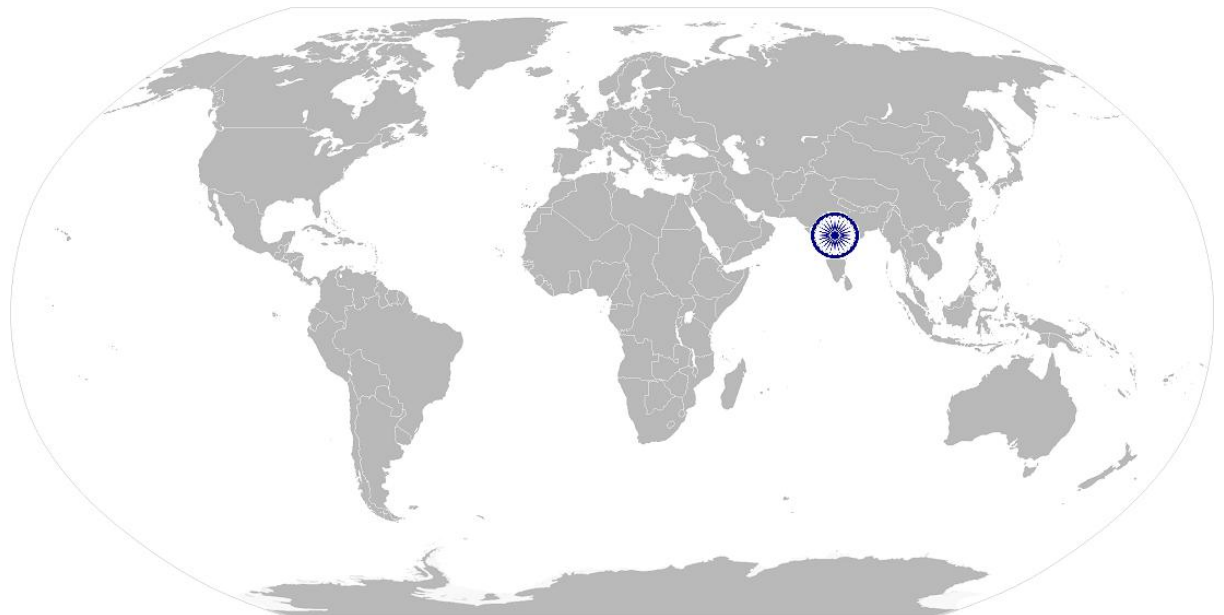


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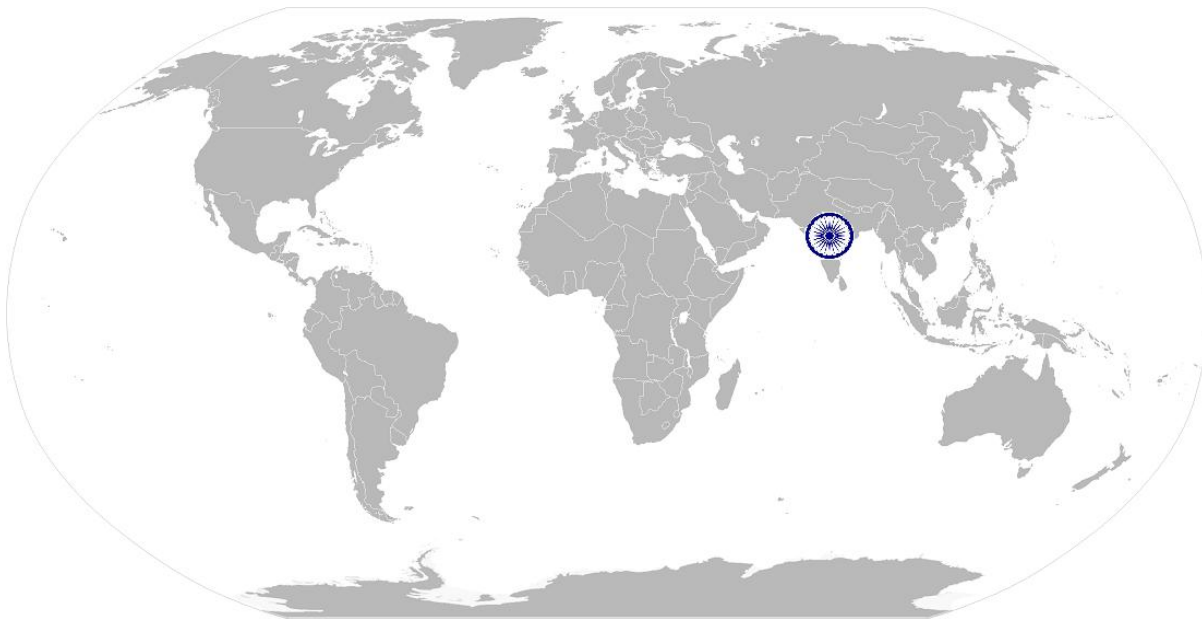
Maintain food and personnel safety, health and hygiene in cold storage

NOS Version Control

NOS Code	LSC/N9901		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	26/08/16
Industry Sub-sector	Cold chain	Last reviewed on	11/01/17
Occupation	Operations – Cold Storage	Next review date	11/01/20



National Occupational Standard



Overview

This unit is about coordinating and communicating effectively with seniors, colleagues and clients to achieve a smooth workflow.

LSC/N9902

Communicate effectively with colleagues and clients

Unit Code	LSC/N9902
Unit Title (Task)	Communicate effectively with colleagues and clients
Description	This OS unit is about coordinating and communicating effectively with seniors, colleagues and clients to achieve a smooth workflow
Scope	<p>This unit/task covers the following:</p> <ul style="list-style-type: none"> • Interact with seniors • Communicate with colleagues • Communicate effectively with clients
Performance Criteria(PC) w.r.t. the Scope	
Element	Performance Criteria
Interacting with seniors	<p>To be competent, the user/ individual must be able to:</p> <p>PC1. understand the work output requirements, targets, performance indicators and incentives</p> <p>PC2. deliver quality work on time and report any anticipated reasons for delays</p> <p>PC3. escalate unresolved problems or complaints to the relevant superior</p> <p>PC4. communicate project progress proactively to the superior</p> <p>PC5. receive feedback on work standards</p> <p>PC6. document the completed work schedule and handover to the superior</p>
Communicating with colleagues	<p>To be competent, the user/ individual must be able to:</p> <p>PC7. exhibit trust, support and respect to all the colleagues in the workplace</p> <p>PC8. aim to achieve hassle free cold chain operation</p> <p>PC9. help and assist colleagues with information and knowledge</p> <p>PC10. seek assistance from the colleagues when required</p> <p>PC11. identify the potential and existing conflicts with the colleagues and resolve</p> <p>PC12. pass on essential information to other colleagues on timely basis</p> <p>PC13. maintain the etiquette, use polite language, demonstrate responsible and disciplined behaviors to the colleagues</p> <p>PC14. interact with colleagues from different departments: ripening chamber, cold storage, transport, packhouse etc to effectively carry out the work among the team and understand the nature of their work</p> <p>PC15. put team over individual goals and multi task or share work where necessary supporting the colleagues</p> <p>PC16. highlight any errors of colleagues, help to rectify and ensure quality output</p> <p>PC17. work with cooperation, coordination, communication and collaboration, with shared goals and supporting each others performance</p>
Communicating effectively with clients	<p>To be competent, the user/ individual must be able to:</p> <p>PC18. ask relevant questions to the client and identify their needs</p> <p>PC19. possess strong knowledge on market and cold chain operation</p> <p>PC20. brief the client clearly on potential costs and challenges involved in the cold chain industry</p> <p>PC21. communicate with the client in a polite, professional and friendly manner</p> <p>PC22. build effective but impersonal relationship with the client</p> <p>PC23. ensure the appropriate language and tone are used with clients</p>

LSC/N9902

Communicate effectively with colleagues and clients

	<p>PC24. listen actively and have a two way communication</p> <p>PC25. be sensitive to the gender, cultural and social differences such as modes of greeting, formality, etc.</p> <p>PC26. understand the client expectations correctly and provide the appropriate products and services</p> <p>PC27. understand the client dissatisfaction and address or escalate their complaints effectively</p> <p>PC28. maintain a positive, sensible and cooperative manner all time</p> <p>PC29. ensure to maintain a proper body language, dress code, gestures and etiquettes towards the client</p> <p>PC30. avoid interrupting the client while they talk</p> <p>PC31. ensure to avoid negative questions and statements to the client</p> <p>PC32. inform the client on any issues or problems before hand and also on the developments involving them</p> <p>PC33. ensure to respond back to the client immediately for their voice messages, e-mails, apps, etc.</p> <p>PC34. develop good rapport with the client and promote other products and services</p> <p>PC35. seek feedback from the client on their understanding to what was discussed</p> <p>PC36. explain the terms and conditions clearly</p>
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Knowledge and Understanding (K)

<p>A. Organizational Context (Knowledge of the company / organization and its processes)</p>	<p>The individual on the job needs to know and understand:</p> <p>KA1. vision, mission and values of the company</p> <p>KA2. business and performance of the company</p> <p>KA3. company's policies on personnel management, effective team work at workplace</p> <p>KA4. company's HR policies</p> <p>KA5. company's reporting structure</p> <p>KA6. company's documentation policy</p> <p>KA7. company's customer profile</p> <p>KA8. occupational health and safety standards</p> <p>KA9. company's policy on business ethics and code of conduct</p>
<p>B. Technical Knowledge</p>	<p>The individual on the job needs to know and understand:</p> <p>KB1. methods for effective communication with various categories of people and the different departments in the organization</p> <p>KB2. significance of team coordination and productivity targets of the organisation</p> <p>KB3. how to record the job activity as required on various types of documents</p> <p>KB4. how to use computer or smartphone to communicate effectively and productively</p> <p>KB5. significance of helping colleagues with specific issues and problems</p> <p>KB6. importance of meeting quality and time standards as a team</p> <p>KB7. how to practice effective listening and talking</p> <p>KB8. effective use of voice tone and pitch for communication</p> <p>KB9. how to demonstrate ethics and convey discipline to the clients</p> <p>KB10. how to build effective working relationship with mutual trust and respect</p>

LSC/N9902

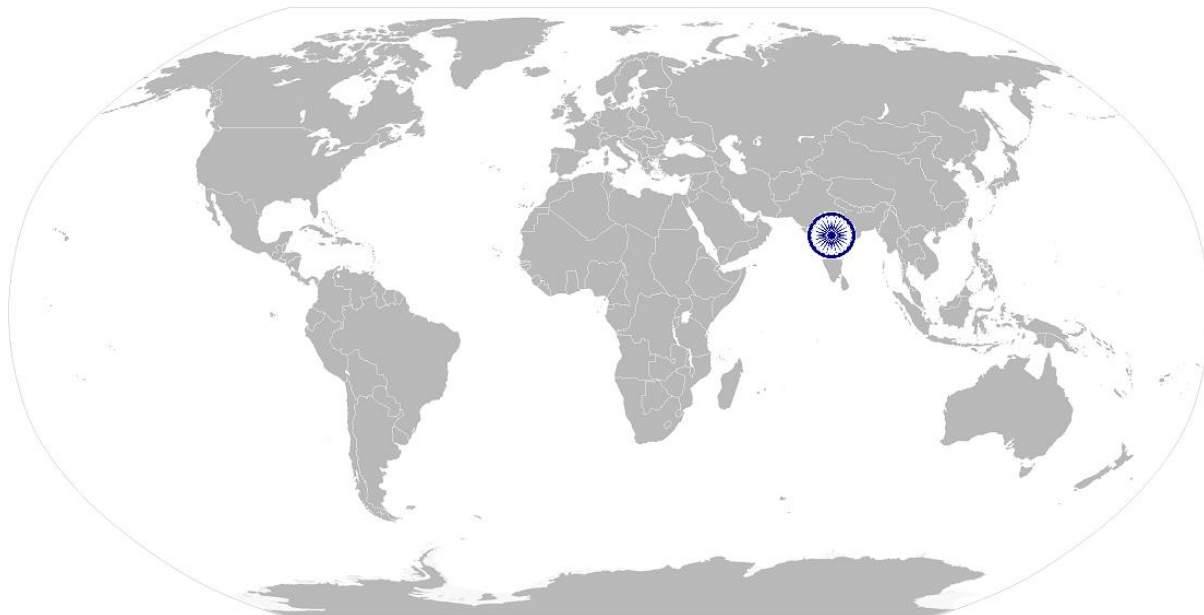
Communicate effectively with colleagues and clients

	<p>within the team</p> <p>KB11. importance of dealing with grievances effectively and in time</p>
Skills (S)	
A. Core Skills/ Generic Skills	Reading Skills
	The user/ individual on the job needs to know and understand how to:
	SA1. read job sheets, company policy documents and information displayed at the workplace
	SA2. read notes/comments from the senior
	Writing Skills
	The user/ individual on the job needs to know and understand how to:
	SA3. fill up documentation pertaining to job requirement
	Oral Communication (Listening and Speaking skills)
	The user/ individual on the job needs to know and understand how to:
	SA4. interact with team members to work efficiently SA5. communicate effectively with senior to achieve smooth workflow SA6. communicate effectively with the clients to build a good rapport with them SA7. use language that the client or colleague understands SA8. use the communication systems of the company, e.g., telephone, fax, public announcement systems SA9. E-mail and use Internet for communicating SA10. use of audio-visual aids to communicate complex issues
B. Professional Skills	Decision Making
	The user/ individual on the job needs to know and understand how to:
	SB1. spot and communicate potential areas of disruptions to work process and report the same
	SB2. report to supervisor and deal with a colleague individually, depending on the type of concern
	Plan and Organize
	The user/ individual on the job needs to know and understand how to:
	SB3. plan communication strategy in order to avoid conflicts and work disruption
	Customer Centricity
	The user/ individual on the job needs to know and understand how to:
	SB4. practice patient listening, careful talking and paraphrasing in order to avoid misunderstanding
Problem Solving	
The user/ individual on the job needs to know and understand how to:	
SB5. coordinate with different departments and multi-task as necessary SB6. contribute to quality of team work and achieve smooth workflow SB7. share work load as required SB8. delegate work in consultation with senior or as necessary instead of allowing work to pile up	
Analytical thinking	
The user/ individual on the job needs to know and understand how to:	

LSC/N9902

Communicate effectively with colleagues and clients

	SB9. resolve recurring inter-personal conflicts by clear and two-way dialogue
	Critical thinking
	The user/ individual on the job needs to know and understand how to: SB10. improve work processes by interacting with others and adopting best practices



LSC/N9902

Communicate effectively with colleagues and clients

NOS Version Control

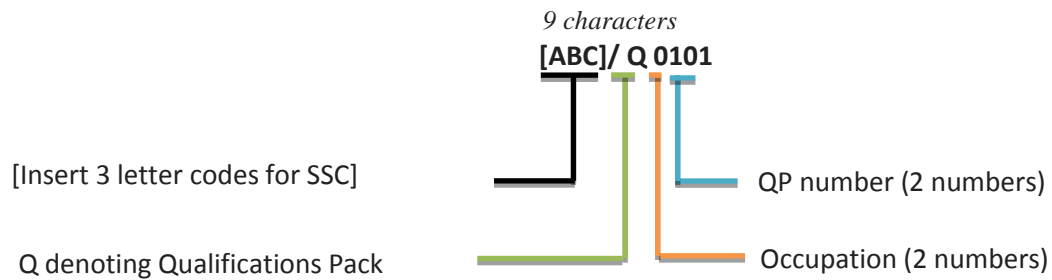
NOS Code	LSC/N9902		
Credits(NSQF)	TBD	Version number	1.0
Industry	Logistics	Drafted on	26/08/16
Industry Sub-sector	Cold Chain	Last reviewed on	11/01/17
Occupation	Operations – Cold Storage	Next review date	11/01/20



Annexure

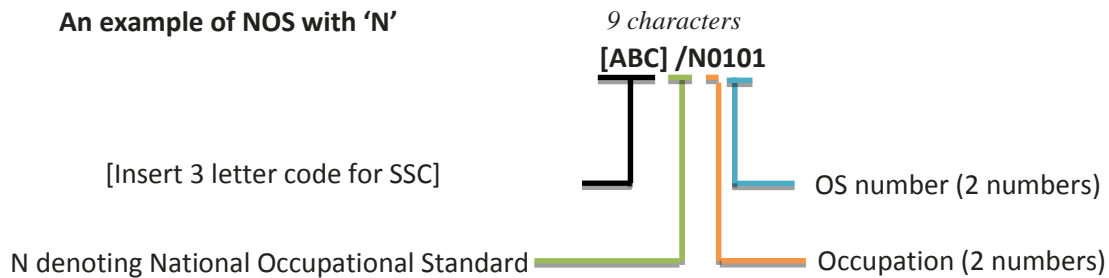
Nomenclature for QP and NOS

Qualifications Pack



Occupational Standard

An example of NOS with 'N'



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The following acronyms/codes have been used in the nomenclature above:

Sub-sector	Range of Occupation numbers
Land Transportation	11,14
Shipping Transportation	12,14
Air Transportation	13
Warehousing Storage	21,23
Warehouse Packaging	22,23
Courier and Mail Services	30
Shipping / Port Operation	46 – 60
Air cargo operation	61 – 75
EXIM logistics	76 – 85
Cold Chain Logistics	86 - 95
Generic Occupations	96 – 99

Sequence	Description	Example
Three letters	Industry name	LSC
Slash	/	/
Next letter	Whether QP or NOS	Q / N
Next two numbers	Occupation code	01
Next two numbers	OS number	01

CRITERIA FOR ASSESSMENT OF TRAINEES

Job Role Perishable Product Handling Specialist

Qualification Pack LSC/Q8701

Sector Skill Council Logistics

Guidelines for Assessment

1. Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC
2. The assessment for the theory part will be based on knowledge bank of questions created by the SSC
3. Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below)
4. Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/training center based on this criteria
5. To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS
6. In case of successfully passing only certain number of NOS's, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
LSC/N8701 Supervise loading and unloading operations	PC1. get details of quantity and type of goods to be loaded or unloaded	50	3	1	2
	PC2. decide the number of workers to be deployed for loading or unloading based on the quantity and specification details		4	1	3
	PC3. ensure appropriate work allocation to workers so that they are available at the time of loading or unloading		4	1	3
	PC4. ensure workers are given prior information about the truck arrival and dispatch timing		2	1	1
	PC5. get vehicle details from route controller and truck coordinator		4	1	3
	PC6. verify vehicle details with the details received from route controller		4	1	3
	PC7. ensure truck details are entered by data entry operator		2	1	1
	PC8. update truck coordinator and procurement head in case of discrepancy		4	1	3
	PC9. make space to unload inbound goods		3	1	2

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
	PC10. understand what handling requirements are appropriate for what types of goods. For eg: Some marine products are richer in aroma and thus should be handled properly to ensure that aroma doesn't spread to other products through hands or other tools used while handling. Baking soda can be used to absorb any odors. Similarly, fish must not be exposed to direct sunlight while unloading and handling of vaccines and other liquids must be done with care to avoid spillage		5	2	3
	PC11. ensure workers qualified to handle the goods are deployed for unloading		3	1	2
	PC12. supervise and direct workers for proper handling as per requirements		4	1	3
	PC13. ensure proper stacking is done in order to facilitate inspection		4	1	3
	PC14. ensure unloading area is properly shaded and clean to avoid any further damage to goods		4	1	3
	POINTS		50	15	35
	TOTAL POINTS			50	

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
LSC/N8702 Oversee inspection of goods at the time of arrival	PC1. supervise and direct workers in separating spoiled goods from unspoiled goods		3	1	2
	PC2. analyze if the extent of spoilage is within acceptable limits ; take non conformance decision and reject purchase in case of unhygienic conditions, temperature abuse or any adverse factors that may affect the safety and quality of goods received; ensure non conforming goods are properly segregated from conforming goods		4	1	3
	PC3. obtain details from quality in-charge about criteria of quality specifications such as permissible level of moisture content for eg: pepper should ideally have moisture content between 10 and 11 %, Nitrite radical level for fish paste products (fish sausage and ham) should be according to the food sanitation laws of the respective countries. For eg: it should be 0.05 g/kg or less as per Food Sanitation Law, Japan etc.		4	1	3
	PC4. ensure proper quality check is carried out by quality chemists based on quality standard/criteria decided for each product. For eg: for marine products the criteria could be viable bacteria count, nitrite radical level, moisture level, permissible temperature etc. ; get details about		5	1	4
		50			

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
	quality specifications of received goods after they are reviewed by quality chemists; understand the extent to which quality of received goods meets the specifications criteria and permissible level details specified by quality incharge; if quality requirements do not conform, update the same to quality assurance department and procurement head				
	PC5. get the purchase order from procurement head		3	1	2
	PC6. supervise physical count of inventory done by workers; verify quantity received with the quantity ordered; ensure the inventory count is communicated to storekeeper; ensure data entry operator maintains records of goods in and out		4	1	3
	PC7. get the purchase order and other documents from procurement head		3	1	2
	PC8. update procurement head for rejection of goods in case of spoilage due to temperature abuse or unhygienic conditions during transit		3	1	2
	PC9. communicate/update the procurement head about outcome of inspection		3	1	2
	PC10. ensure the deviations from specifications and requirements are properly communicated by procurement head to vendors		3	1	2
	PC11. follow up with procurement head for update in cases of discrepancy		3	1	2
	PC12. make note of quantity of goods transferred to grading line once inspection is completed		3	1	2
	PC13. ensure quantity details are recorded by data entry operator		3	1	2
	PC14. ensure sufficient number of workers are available for transferring goods to grading line at required time		3	1	2
	PC15. ensure proper handling of goods while transferring to crates for grading line operations		3	1	2
	POINTS		50	15	35
	TOTAL POINTS				50

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
LSC/N8703 Administer grading line	PC1. supervise primary sorting of goods for removal of spilled over, improperly sized, severely damaged, over mature or deformed units	50	3	1	2
	PC2. ensure appropriate disposal of rejected goods		3	1	2

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical	
operations	PC3. decide the criteria for grading of goods based on end user requirements- by quality, shelf-life, weight or market value, etc.		4	1	3	
	PC4. ensure workers are well educated about the categories in which the goods have to be sorted/graded		3	1	2	
	PC5. ensure the graded units are properly separated as per grades		3	1	2	
	PC6. ensure washing facility is clean and hygienic		3	1	2	
	PC7. ensure water used for washing is appropriately chlorinated and is of good quality		3	1	2	
	PC8. ensure water temperature is appropriate relative to farm produce being washed		3	1	2	
	PC9. supervise waste water disposal is done in proper manner		3	1	2	
	PC10. ensure excessive drying of goods is avoided to prevent wilting, shrinking and water loss		3	1	2	
	PC11. plan the appropriate number of workers to be deployed in grading line operations		4	1	3	
	PC12. ensure areas are properly covered and clean		3	1	2	
	PC13. ensure proper positioning and posture of workers while working on the conveyor belt		3	1	2	
	PC14. execute sample inspections/checks of the graded/sorted units		4	1	3	
	PC15. ensure movement of goods from one stage to another is as per the planned schedule; take corrective action in case of discrepancy		5	1	4	
	POINTS			50	15	35
	TOTAL POINTS					50

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
LSC/N8704 Supervise pre-cooling operations	PC1. ensure appropriate pre-cooling technology is used for the products	50	5	2	3
	PC2. ensure use of insulated panels suitable for pre-cooling temperature		5	2	3
	PC3. ensure doors are leak proof		5	2	3
	PC4. ensure electrical control panel for refrigeration rack system is working properly		5	2	3
	PC5. ensure goods of different grades are properly segregated in pre cooling chamber		5	2	3
	PC6. ensure goods requiring lesser pre-cooling time should be placed in the front of the chamber		5	1	4
	PC7. oversee proper placement and stacking of goods so as to ensure uniform pre-cooling of each		5	1	4

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
	stored unit				
	PC8. ensure timely removal of goods from pre-cooling unit to temporary staging space in order to free the space for sequential batch of harvested produce		5	1	4
	PC9. ensure staging area is clean		5	1	4
	PC10. ensure proper handling of goods in order to avoid undue spoilage		5	1	4
	POINTS		50	15	35
	TOTAL POINTS			50	

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
LSC/N8705 Administer ripening chamber operations	PC1. ensure ripening gas level (ethylene) is maintained at appropriate level	50	4	1	3
	PC2. ensure appropriate level of oxygen and carbon d-oxide are maintained (low oxygen and high carbon di-oxide levels slow the ripening process, stop the development of some storage disorders such as scald in apples, and slows the growth of decay organisms)		4	1	3
	PC3. supervise air path control mechanism for even distribution of chilled air		4	2	2
	PC4. supervise temperature maintenance inside the ripening chamber		4	1	3
	PC5. ensure exhaust fans are working properly		3	1	2
	PC6. ensure ripening chamber operator is aware of changes required to be made to chamber conditions over the ripening cycle		4	1	3
	PC7. supervise measurement and evaluation of maturity stage of goods		3	1	2
	PC8. ensure products of appropriate maturity are transferred to ripening chamber		4	1	3
	PC9. ensure produce is loaded into the refrigerated room or transportation truck without undue spoilage		3	1	2
	PC10. supervise maintenance of pre-engineered building panels for walls and roofing, material handling equipments and refrigeration system		4	1	3
	PC11. ensure appropriate crates are used to ensure uniform ripening		3	1	2
	PC12. ensure refrigerated fans are appropriately placed to ensure uniform circulation of cold air within the room and around the produce		3	1	2

	PC13. identify appropriate number of days for which goods should be kept in ripening chambers		4	1	3
	PC14. ensure alternate use of ripening chamber is done in case of availability of space		3	1	2
	POINTS		50	15	35
	TOTAL POINTS				50

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
LSC/N8706 Manage placement of goods in controlled conditions	PC1. identify appropriate temperature, humidity and refrigerant conditions at which the goods should be stored; ensure that storage conditions are maintained and adjusted based on climatic changes	50	5	1	4
	PC2. ensure that access to the cold store is restricted to authorised, trained persons only		3	1	2
	PC3. supervise handling operations and fitness levels of workers deployed for cold storage operations		3	1	2
	PC4. ensure that any work on the system where there is a potential for gas leaks or any other danger is allocated to appropriate workers under supervision of a senior and experienced worker; execute monthly checks on vapour detectors and alarms		5	1	4
	PC5. ensure appropriate PPE such as jacket, gloves, caps, shoes, etc is worn by cold room operators		2	1	1
	PC6. chart a layout plan for palletization to control stock placement		5	1	4
	PC7. ensure racking selected is according to the operating temperature and is to SEMA (Storage Equipments Manufacturers Association) standard		3	1	2
	PC8. supervise appropriate placement of fans to ensure sufficient circulation of air		3	1	2
	PC9. coordinate with storekeeper for stock rotation in case required		3	1	2
	PC10. ensure stacking follows exactly the layout prescribed, respecting loading limits and allowing space between the stacks and walls, and below the pallets		3	1	2
	PC11. ensure walkways are clearly marked by yellow lines, railings, etc		3	1	2
	PC12. ensure proper instructions are available for pedestrians to keep away from moving trolleys		3	1	2

	PC13. ensure the cold store is well lit and has mirrors at the end of aisles		3	1	2
	PC14. supervise selection of vehicles to minimise risk for movement of goods within the cold room		3	1	2
	PC15. ensure all trolley operators are trained and follow daily pre-use vehicle checks		3	1	2
	POINTS		50	15	35
	TOTAL POINTS				50

	Performance Criteria	Total Marks (450)	Out of	Theory	Skills Practical
LSC/N8707 Supervise product protection and packaging	PC1. supervise passage of goods through metal detector	50	4	1	3
	PC2. inspect samples to check for conformance to quality standards		4	2	2
	PC3. discard non conforming units		4	2	2
	PC4. supervise physical count of units to be packaged		3	1	2
	PC5. update packaging incharge with final number of units to be packaged		3	1	2
	PC6. ensure appropriate packaging material is used by pack-house incharge based on product specifications and end user requirement		4	1	3
	PC7. ensure packaging is appropriate to allow ease of loading, unloading and sales		4	1	3
	PC8. supervise container sterilization, filling and closing		4	1	3
	PC9. ensure sufficient stock of packing material is maintained		4	1	3
	PC10. ensure packaging is strong enough to protect and carry the produce		4	1	3
	PC11. supervise weighing, sealing and labelling of cartons		4	1	3
	PC12. supervise online numbering of cartons		4	1	3
	PC13. ensure stock maintenance register is updated		4	1	3
	POINTS		50	15	35
	TOTAL POINTS				50

	Performance Criteria	Total Marks (450)	out of	Theory	Practical
LSC/N9901 Maintain food and personnel safety,	PC1. assess the various health, safety and environmental hazards in the cold storage; take necessary steps to eliminate or minimize the hazards; analyze the causes of accidents at the workplace; take preventive measures to avoid risk of burns and other	50	5	2	3

	Performance Criteria	Total Marks (450)	out of	Theory	Practical
health and hygiene in cold storage plant	injury due to contact with hot surfaces, gas, fire, hot fluids/ liquids, etc				
	PC2. ensure the employees have access to first aid kit when needed; ensure to use personal protective equipment and safety gear such as gloves, jacket, footwear etc. for loading and unloading material in cold rooms to protect themselves from hypothermia, frostbite etc;		2	1	1
	PC3. ensure to display safety signs at places where necessary for people to be cautious; use rubber mats in the places where floors are constantly wet; ensure electrical precautions such as insulated clothing, adequate equipment insulation, dry work area, switch off the power supply when not required, etc; practice correct emergency procedures: operating fire extinguishers, emergency exits, etc; unplug the control panel, compressor, condensor etc before performing maintenance; report to the superior on any problems and hazards identified		5	2	3
	PC4. install fire alarms (electrical/manual) in cold store/deep freeze and keep other safety devices like hammer/mallet in the storage area		3	1	2
	PC5. maintain appropriate ventilation in the cold rooms to avoid unacceptable accumulation of heat, condensation or odours; check and review the cold storage areas frequently		5	2	3
	PC6. stack items in an organized way and use safe lifting techniques to reduce risk of injuries from handling procedures at the storage areas; use effective loading and unloading systems; proper stock rotation (First in First out) to be practised; segregate damaged/ non-conforming products from other products to designate area for appropriate disposition		5	2	3
	PC7. ensure no sign of pest infestation and install rodent traps, fly glues and insectocutors wherever needed; follow hygiene & sanitation standards of Government bodies like FSSAI, APEDA and /or EIA or importing countries like FAO, EU standards; fumigate containers depending upon product and contamination or as per customers' requirement		5	2	3
	PC8. avoid smoking, spitting, eating etc near food storage area; cut nails regularly and avoid applying nail paint. Avoid wearing bangles, rings, and chains in cold storage; develop personal hygiene habits like brushing teeth, taking shower everybody, wearing clean and tidy clothes after ironing etc; wash hands with soap solution and dry under a dryer as they enter for duty or after using wash room		2	1	1
	PC9. ensure reefers are covered, clean, free from pest infestation & other contaminants		3	1	2

	Performance Criteria	Total Marks (450)	out of	Theory	Practical
	PC10. dispose cold storage plant waste in the designated areas safely as per company's policies and rules		5	2	3
	PC11. ensure to be safe while handling machines(generator, compressor, condensor etc), gas (ammonia) and chemicals(ethylene, refrigerants etc); keep the floors free from oil, water and grease to avoid slippery surface		3	1	2
	PC12. periodic examination of protective devices, pressure vessels and pipelines, and parts of pipework by a competent person to prevent defect that may give rise to danger		5	2	3
	PC13. ensure workers suffering from abscess, boils etc should be relieved from food handling		2	1	1
	POINTS		50	20	30
	TOTAL POINTS			50	

	Performance Criteria	Total Marks (450)	out of	Theory	Practical
LSC/N9902 Communicate effectively with colleagues and clients	PC1. understand the work output requirements, targets, performance indicators and incentives	50	4	2	2
	PC2. deliver quality work on time and report any anticipated reasons for delays; escalate unresolved problems or complaints to the relevant superior; receive feedback on work standards; document the completed work schedule and handover to the superior		4	2	2
	PC3. exhibit trust, support and respect to all the colleagues in the workplace		3	1	2
	PC4. aim to achieve hassle free cold chain operation		4	2	2
	PC5. help and assist colleagues with information and knowledge; seek assistance from the colleagues when required ; pass on essential information to other colleagues on timely basis; highlight any errors of colleagues, help to rectify and ensure quality output		3	1	2
	PC6. identify the potential and existing conflicts with the colleagues and resolve		4	1	3
	PC7. maintain the etiquette, use polite language, demonstrate responsible and disciplined behaviors to the colleagues		3	1	2
	PC8. interact with colleagues from different departments: ripening chamber, cold storage, transport, packhouse etc to effectively carry out the work among the team and understand the nature of their work; put team over individual goals and multi task or share work where necessary supporting the colleagues; work with cooperation, coordination, communication and collaboration, with shared goals		3	1	2

	Performance Criteria	Total Marks (450)	out of	Theory	Practical
	and supporting each others performance				
	PC9. ask relevant questions to the client and identify their needs; brief the client clearly on potential costs and challenges involved in the cold chain industry		4	2	2
	PC10. possess strong knowledge on market and cold chain operation		4	2	2
	PC11. communicate with the client in a polite, professional and friendly manner; build effective but impersonal relationship with the client; ensure the appropriate language and tone are used with clients; listen actively and have a two way communication; be sensitive to the gender, cultural and social differences such as modes of greeting, formality, etc.; maintain a positive, sensible and cooperative manner all time ; ensure to maintain a proper body language, dress code, gestures and etiquettes towards the client; avoid interrupting the client while they talk		6	2	4
	PC12. understand the client expectations correctly and provide the appropriate products and services; understand the client dissatisfaction and address or escalate their complaints effectively; ensure to avoid negative questions and statements to the client; ensure to respond back to the client immediately for their voice messages, e-mails, apps, etc. ; develop good rapport with the client and promote other products and services; inform the client on any issues or problems before hand and also on the developments involving them; seek feedback from the client on their understanding to what was discussed		6	2	4
	PC13. explain the terms and conditions clearly		2	1	1
	POINTS		50	20	30
	TOTAL POINTS			50	
	GRAND TOTAL	450			