



Participant Handbook

Sector
Logistics

Sub-sector
Land Transportation

Occupation
Storage

Reference ID: **LSC/Q1110, Version 3.0**
NSQF Level 2



Loader/Unloader



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Logistics Sector Skill Council

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If we have to move India towards
development then Skill Development
should be our mission. ”

Shri Narendra Modi
Prime Minister of India



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About this Book

This Participant Handbook is designed to facilitate training to the Loader Unloader Qualification Pack (QP). It provides learners with the necessary knowledge and skills required for performing loading, unloading.

This book elaborates how individuals in this position must manage general physical activities in order to load, unload, using basic material handling equipment, how to take control of warehouse operations in case of emergency situations. Many modules have been revised to capture the diversity, varied perspectives, and current spirit of warehousing. The handbook is divided into 6 NOSs. NOSs are Occupational Standards which have been endorsed and agreed to by the industry leaders for various roles. The NOSs are based on the educational, training and other criteria required to form the job/role of a loader unloader.

Key characteristics of this handbook:

- (i) It discusses concept of Loader/ unloader in an easy to learn manner.
- (ii) It presents Loader/unloader concepts in interactive and professional way.
- (iii) It gives opportunity to learners to visualize themselves in a professional set-up.

Key Learning Objectives for the specific NOS mark the beginning of the Units for that NOS. The symbols used in this book are described below.

Symbols Used



Key Learning
Outcomes



Summary



Unit
Objectives



Tips



Notes



Exercise

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9. Employability Skills - 30 hours (DGT/VSQ/N0101)

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1. Introduction to Loader Unloader



Unit 1.1 - Logistics and Supply Chain Management

Unit 1.2 - Sub sectors in Logistics Space – Key Activities

Unit 1.3 - Introduction to Warehousing

Unit 1.4 - Warehouse Organization Structure – Roles and Responsibilities

Unit 1.5 - Equipment used in a Warehouse

Unit 1.6 - Documentation in Warehousing



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Describe supply chain and logistics management.
2. Detail the various sub sectors in the field of logistics.
3. Elaborate the role and importance of the warehouse.
4. Explain various job roles in warehousing.
5. Define the job role of a loader unloader and its interface with other job roles.
6. Identify the various equipment used in warehouses.
7. Describe the various documents used in warehouse operations.

Unit 1.1: Logistics and Supply Chain Management

Unit Objectives

At the end of this unit, participant will be able to:

1. Define supply chain management
2. Define logistics management
3. Explain the important flows in supply chain management

1.1.1 Supply Chain and Logistics Management

“Supply chain is like nature; it is all around us.” Dave Waters.

We start our day with a toothpaste and end with a glass of milk. Everything that we consume throughout the day has underlying supply chain. Raw material is procured and transported to the factories to be converted into finished products. Finished products are then transported and warehoused at various locations till they reach home. Supply chain is a “chain” of organizations, activities, people who manage flow of “material” in the form of raw material, semi-finished-goods and finished goods across various “entities” like suppliers, manufacturers, warehouses, distributors and retailers to move goods from point of origin to point of consumption.



Fig. 1.1.1. Supply Chain Management

SCM is also called the art of management of providing the right product, At the right time, at the right place, at the right cost to the customer, in the right quantity and in the right quality.

Supply chain management is defined as “The movement of materials as they flow from their source to the end customer. Includes purchasing, manufacturing, warehousing, transportation, demand & supply planning and inventory management. It is made up of people, activities, information and resources involved in moving a product from its supplier to customer.”

Supply Chain Council SCOR has given the following lucid depiction of supply chain.

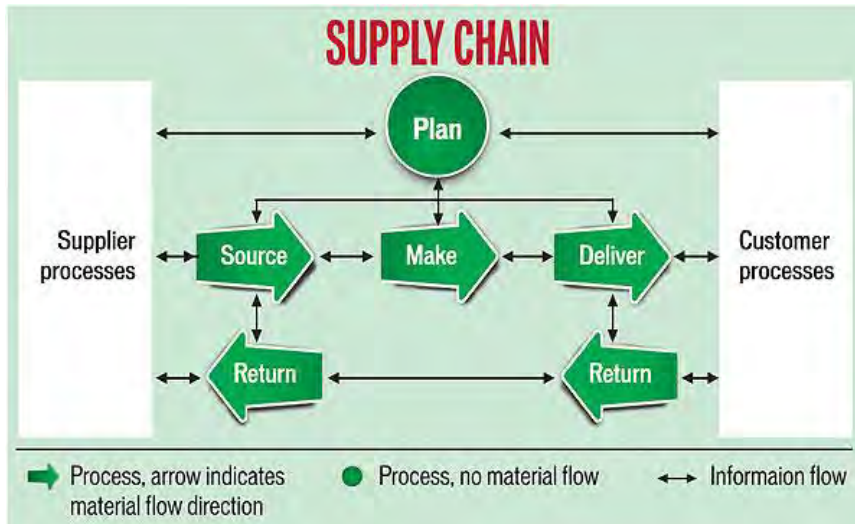


Fig. 1.1.2. Components of Supply Chain Management

As per SCOR, the five important components of supply chain management are -

PLAN - SOURCE- MAKE- DELIVER- RETURN

PLAN: This stage addresses how customer demand will be met through the supply. As can be seen in the picture, plan function interacts with customer to get demand forecast. This gets translated into supply plan and communicated to the supplier for sourcing raw material.

SOURCE: This is the step where one must identify the various possible vendors for the raw materials required for the manufacturing. Just identifying suppliers will not be enough. It should also include the availability of products, the cost involved, ease in transporting goods and even the payment terms.

MAKE: The third component involve the activities like designing, producing, testing, packaging and then synchronizing all these activities for delivery. The raw material from suppliers are transformed to finished goods for the customer.

DELIVER: This stage involves the delivering the right product at the right place at the right time in the right quantity and at the right price. Here the supply chain transports the finished goods from factory to the warehouses, warehouse to distributors, distributors to retailers and finally retailers to final consumer.

RETURN: This is the last stage in supply chain which is becoming increasingly important. Here the defective, damaged or even the rejected goods are returned by the customer. The supply chain must respond to the customer quickly and return the goods by optimizing the cost.

Logistics Management

Logistics management is the part of supply chain management that plans, implements, and controls the efficient, effective forward, and reverse flow and storage of goods, services, and related information between point of origin and point of consumption to meet customer's requirements.

Logistics management includes activities such as warehousing, inventory control, and transportation management. Logistics management mainly focuses on the transportation and storage of goods within the supply chain.

Logistics management comprises two main activities:

Inbound logistics: Surrounds the activities related to procurement, storage and transportation of Raw Materials.

Outbound logistics: Involves the storage and delivery of final products to customers.

How is it different from Supply Chain Management?

SCM is an overarching concept and it includes logistics management as one of its components.

Logistics mainly deals with warehousing, inventory management, transportation, import and export management, track and trace and related processes.

SCM is a wider concept and is a tool to create competitive advantage for any company. Besides logistics, it carries various other functions like supply chain planning and strategy, forecasting and demand planning, production and supply planning, procurement and vendor management, collaborations and coordination with upstream and downstream partners, information flow management.

Notes 

Unit 1.2: Sub sectors in Logistics Space - Key Activities

Unit Objectives

At the end of this unit, participant will be able to:

1. List the various sub sectors in logistics
2. Explain various modes of transportation
3. Define warehouse

1.2.1 Sub-Sectors of logistics space

As seen in the previous section, transportation and warehousing are the two key activities in logistics management.

Transportation can be by various modes – air, water and land.

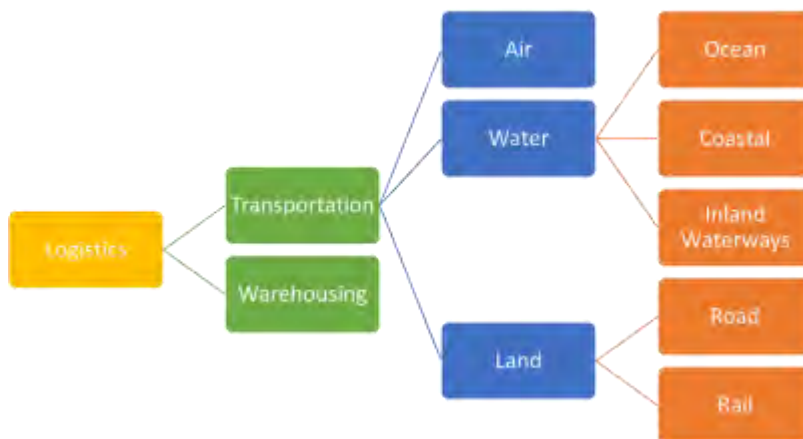


Fig. 1.2.1. Transportation activities

Transportation is the lifeline for any country and keeps its economy going. Transportation can also be international, when goods are exchanged between countries.

Air Transportation

Air transport is the fastest means of transportation. It reduces the distances by minimizing the travel time. Air transport acts as a key enabler in achieving economic progress and growth. Air transport provides vital connectivity within the country and allows the integrations of any country with the global economy. It helps generate trade, promote tourism, and create employment opportunities. Air transportation is most suitable for high value cargo which are susceptible to faster transit times. Air transport is normally used for smaller cargoes, though even big shipments are moved by air depending on its urgency and criticality.

The main activities it undergoes can be divided as:

- a) Activities at the point of origin
- b) Activities at point of discharge.

Point of origin: Once the cargo is ready for shipment, one of the most important aspect is the packing of cargo. Packing should be according to the cargo and designed for its mode and duration of transportation.

The packed cargo is taken to the airport for the customs formalities to be completed and after successful completion it is handed over to respective airlines. Airline does the loading of the cargo as per their loading plan. Each cargo will be accompanied by an individual set of documents which contains all details of this cargo.

Point of destination: On arrival, cargo is handed over to the customs authority who in turn will hand over the cargo to the respective buyers after customs formalities are done. Airlines facilitate this movement by giving necessary assistance in taking delivery of the cargo.



Fig. 1.2.2. Air transportation activities

Water Transportation

Among all modes of transportation, water is the cheapest mode and accounts for the largest share of the international cargo movement. Also known as maritime transportation, water transportation is movement of cargo and passengers over water. Among all modes of transport, water is the most environment friendly with least usage of fuel and emissions. Further there are no highways to be built, rail tracks or airports to be laid to use this mode. Water is naturally available, and just have to float over it.

Water transportation can further be divided into ocean transportation, coastal shipping and inland waterways.

Ocean Transportation: This is the transportation over long distance across seas and oceans. They are realized through ships and vessels and mainly used for international Trade. They can further be classified as bulk and containerized.

Bulk: In case of bulk ocean movement, bulk commodities like ore, gas, crude oil, chemicals, steel are stored in bulk in the vessel and moved over long distances.

Containerized transportation: In this case, cargo is stored in standardized containers and containers are moved using specialized container carrying vessels. This mode of transportation has made a huge progress in the last 50 years and now accounts for one of the largest shares of international transportation.

Coastal Shipping: Also known as short sea transportation, this is a transportation within a country using its coastal lines. For example, movement from Kolkata to Chennai using the Bay of Bengal or from Mumbai to Cochin using Arabian Sea. This can again be in bulk or containerized. This is mainly used for low value commodities where the cost of moving by road or rail is much higher.

Inland Waterways: This is the movement of cargo using rivers and canals. Wherever this mode is available, is the most economical mode of transportation. India has 111 official national waterways and out of them, two on Ganga and Brahmaputra are the longest.

Port and Port Yard: Cargoes are received at the Sea port. This is the place where the cargo is handed over to the shipping lines, loaded on to the vessel after completing all customs formalities. At the port of destination, the buyer can receive their cargoes from the port after completing all necessary formalities.

In land locked destinations or due to any other reasons the authorities can designate a separate place for handling of cargoes. These places are known as Internal Container Depot (ICD), Container Freight Station (CFD) or just a port yard. These port yards also undertake all activities of a port.

Land Transport: Land transport is the transport or movement of people and goods from one location to another location on land. The two main forms of land transport are rail transport and road transport.

Road Transportation: As the name suggests, it is the transportation using roads. It is used for transportation of goods and people. Cargo can be transported using roads by trucks, trailers, vans, auto, bikes and even animals. Various classes of roads exist from a local two-lane to state highways to national highways to freeways. Modern roads carry lanes and signages to manage the traffic. There are trucking companies which mainly specialize in road transportation.

Rail Transportation: Rail transport is a means of transporting passengers and goods on wheeled vehicles running on rails, which are located on tracks. In contrast to road transport, where vehicles run on a prepared flat surface, rail vehicles (rolling stock) are directionally guided by the tracks on which they run. Rail is an extraordinarily strong means of mass transportation, both cargo and passenger.

Warehousing: An important component of logistics management is warehousing. Warehouses are commercial buildings used by manufacturers and traders to store raw material, finished goods, work in process inventory or spares till they are either consumed or sold. Warehouse provides the buffer between demand and supply. Wheat is harvested in April but consumed throughout the year. This is only possible through storage in the warehouses. There are other goods where demand is once a year and supply/production is throughout the year. Winter clothes, air conditioners, diwali goods are required only during a time period but produced throughout the year. This is again possible only through warehouses which house them till they are sold.

Unit 1.3: Introduction to Warehousing

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the role of warehousing in supply chain
2. List the various activities carried inside a warehouse

1.3.1 Warehouse Activities

Warehouses play a pivotal role in supply chain management. As the word indicates, supply chain consists of various links and warehouse is one of its strongest links. As mentioned earlier, the biggest challenge of supply chain is the ever-widening gap between the demand and supply. Warehouse plays the role of a stabilizer during these fluctuations. Warehouse can be called as a place for everything and everything in its place.

Some of the major roles of warehouse are:

1. **Facilitating regular and constant flow of goods:** This is done by balancing between the demand forecast and supply constraints.
2. **Provide safe custody of goods:** In supply chain goods are always exposed to various risks. A warehouse can mitigate these risks by playing the role of an intermediary.
3. **Consolidation of cargo:** Volume always provides cost benefit. The goods can be procured from various sources. Warehouse is a place where these goods can be stored for maximization of various cost benefits.
4. **Break bulk point:** While consolidation can be one advantage, then even breaking the bulk can also provide much benefit. In this case, bigger shipments can be customized thus making it easier for the supplier and the customer.
5. **Value added services:** The strength of supply chain is in adding value at every step in the process. It is difficult to add value while the goods are in motion or in transit. Warehouse is an ideal place for many value additions for the goods.
6. **Managing seasonal supplies:** This is one big challenge many of the stake holders face. Seasonal goods demand many facilities which will vary from season to season. A warehouse can act as a transshipment point where all such facilities can be tailor made.
7. **Product Mixing:** Product mixing gives great cost benefit to the supplier who in turn can pass on this benefit to the end user. Warehouse is a place where different products can be gathered and stored. Thus, it becomes the ideal place for the companies to mix their products for maximization of profits.
8. **Defining the time to market:** Markets always demand the right product at right place in right quantity for the right price. The unreliable production, unpredictable transits and unforeseen constraints during movement of goods makes this a difficult task. However, this can be easily achieved by holding the right amount of inventory at the warehouse.
9. **Specialized services:** Warehouse also provide many specialized services like customs bonding and so on.

Unit 1.4: Warehouse Organization Structure - Roles and Responsibilities

Unit Objectives

At the end of this unit, participant will be able to:

1. Details the various job roles which exist inside a warehouse
2. Describe the roles and responsibility of a loader unloader and it's interface with other job roles

1.4.1 Warehouse People Management

Warehouse is all about the people who manage it. Staffing the warehouse with right number of people with right set of skills ensures the most efficient and effective warehouse operations. The following section discusses in brief, the job description for the various positions inside the warehouse.

A. Warehouse Manager (Site in charge)

Key objective of this position: This position is focused on the management of warehouse operations with "Delivery of Promise".

B. Warehouse inventory & Transport manager

Key objective of this position: This position is responsible for managing all outbound transportations from the warehouse to the delivery location

C. Inventory, Materials Manager

Key objective of this position: This position is responsible for all the inventory inside the warehouse. This position needs to ensure that inventory is properly stacked, counted and always matching with system stock.

D. Warehouse Executive

Key objective of this position: This position operates on the computer and is responsible for system entries and Management Information System (MIS) of the warehouse operations including operating Warehouse Management System (WMS).

E. Warehouse Picker

Key objective of this position : Warehouse Picker in the Logistics industry is also known as Picker, Floor Staff, Warehouse Associate. Individuals in this role need to pick items from storage. Individuals are responsible for picking items according to an inventory list. Additional

responsibilities could at times include loading and unloading cargo, labeling, re-packaging items and documenting cargo that has been moved. The difference in tasks performed under the picker role thus varies according to the volume of operations, however the core function of the role is to pick items from storage and ensure they are ready to be sent out.

F. Warehouse Packer

Key objective of this position : Warehouse Packer in the Logistics industry is also known as Packer, Floor Staff, Warehouse Associate. Individuals in this role need to pack items that have been picked or require binning. Individuals are responsible for packing items that require additional pre-packing or outbound packaging. Additional responsibilities could at times include loading and unloading cargo, labeling, re-packaging items and documenting cargo that has been moved. The difference in tasks performed under the Packer role thus varies according to the volume of operations, however the core function of the role is to pack items according to the nature of the product either for storage or transportation.

G. Warehouse Binner

Key objective of this position : Warehouse Binner in the Logistics industry is also known as Binner, Floor Staff, Warehouse Associate. Individuals in this role need to bin items to put away into storage. Individuals are responsible for binning items according to an inventory list. Additional responsibilities could at times include moving cargo, repackaging items and documenting cargo that has been moved. The difference in tasks performed under the Binner role thus varies according to the volume of operations, however the core function of the role is to bin items and put away into storage

H. Kitting and Labelling Executive

Key objective of this position : Kitting and Labelling Executive in the Logistics industry is also known as Kitter, Labeller, Warehouse Associate and Kitting Executive. Individuals in this role need to collect components required to make one complete product, verify this with the bill of materials and pack them. Their responsibilities include labelling the packed kit for easy identification.

I. Loader Unloader

Key objective of this position: Loader/Unloader in the Logistics industry is also known as Loader, Transport Associate. Individuals in this role need to identify goods based on the product code, unload them from the truck onto the inbound area and move them to the staging area. A similar sequence is done for loading. Their responsibilities include identifying damaged goods and moving goods safely

Unit 1.5 - Equipment used in a Warehouse

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss the classification of warehouse equipment
2. Identify the different types of material, storage and safety handling equipment and its uses

1.5.1 Warehouse Handling Equipment

Warehouse equipment are used for storage, movement, protection and control of material and people throughout the end to end process of the warehouse. Materials handling includes moving, packaging, and storing all the materials used inside the warehouse. The different kinds of equipment which are used in a warehouse can be broadly classified into three categories, viz, storing equipment, material handling equipment and safety equipment. A judicious selection of different store equipment is a key to the successful operation of a storeroom

Forklifts, reach stackers, pallet trucks, heavy duty racks, slotted angle racks, cranes, hoists, handrails, bollards, wire partitions are all example of warehouse handling equipment.

Warehouse equipment are used to increase output, control costs, and maximize productivity. A well-designed handling system attempts to achieve the following:



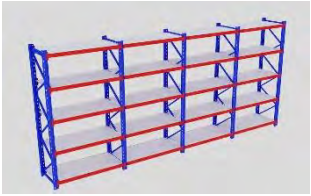



- Improve the efficiency of the warehouse with less efforts.
- Allow handling of several types of goods which cannot be manually handled or lifted.
- Cut down on manual efforts and labor costs.
- Reduce potential damage to material during storage and handling.
- Maximize the utilization of the cube space inside the warehouse.
- Minimize the accidents inside the warehouse.
- Reduce the overall cost of operations of the warehouse.
- Improve service levels of the warehouse



Following are the ways, warehouse equipment may be classified.

Fig. 1.5.1. Warehouse Equipment Classification

Storage Equipment

Name	Picture	Description
Selective Pallet Racking	 A photograph of a warehouse interior showing selective pallet racking. The racks are blue and orange, with several pallets stacked on the shelves.	Selective Pallet Racking is the simplest & economical racking system which allows 100% accessibility to each pallet. This racking is suitable for large variety of SKU's irrespective of quantity.
Heavy Duty Racks	 A photograph of heavy-duty shelving racks in a warehouse. The racks are blue and orange, with multiple levels of shelving.	Heavy duty shelving is a simple storage solution which facilitates storage of non-palletized items. Ideal for large variety of medium to big sized items that can be handled manually.
Longspan Shelving Racks	 A photograph of longspan shelving racks. The racks are blue and orange, with a wide span and multiple levels of shelving.	Longspan Shelving is ideally suited for items which are light/medium in weight and voluminous in nature. This types of racking is used for Auto, Retail, Engineering Sectors
Bin Racking	 A photograph of bin racking. The racks are blue and orange, with multiple levels of shelving and blue bins attached to the shelves.	Usually used in Spares part storage for storing smaller items.
Slotted Angle Racks	 A photograph of slotted angle racks. The racks are made of metal slotted angle and have multiple levels of shelving.	This shelving is a versatile system best suited for storage of small components, bins, cartons having light loads up to (300 kgs) level.
Mezzanine Flooring	 A photograph of a mezzanine floor system. It consists of a steel frame with a wooden floor and a staircase leading up to the mezzanine level.	Column based Mezzanine floor system is a light weight steel flooring system provided at a suitable height above the ground. The system can be configured to suit the layout of the room, taking into account pillar positions, door positions etc.







Cantilever Racking System		Generally used where the need is to hang the products like tyre.
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Table. 1.5.2. Storage Equipment

Material Handling Equipment (MHE)

Name	Picture	Description
Hand Pallet Truck (HPT)		One of the most important equipment in the Warehouse. Used to lift and move pallet within the warehouse.
Battery Operated Pallet Truck (BOPT)		This is Battery Operated version of Hand Pallet Truck. Used in large warehouses for fast movement of Material.
Integrated Dock Levelers		Aids loading and unloading of goods by acting as bridge between truck and Loading Bay edge.
Forklifts		Another very important equipment in the Warehouse. A forklift is a powered industrial truck used to lift and move materials over short distances. It can pick up goods a height with HPT or BOPT cannot do.
Reach Trucks		Reach trucks are designed for 'reaching' extreme heights. They are used for highly racked warehouses for lifting of Pallets.














Stackers		Suitable for stacking, double pallet handling, order picking and horizontal transport. Available both in Manual and Electric version.
Chain Pulleys and Hoists		These are used to lift and lower heavy loads in the warehouse. Again, available in Electric or Manual versions.
Dollies		Used to move heavy equipment, boxes, and other bulky items within the warehouse.
Trucks		Can be made wooden, steel, aluminium, or plastic, used for movement within the warehouse.
Utility Carts		Movement of material like Garments and tools inside the warehouse.

Table. 1.5.3. Material Handling Equipment (MHE)

Safety Equipment

Name	Picture	Description
Emergency Wash Station		Used in Chemical Warehouses for body and Eye Wash in case of any spillage or leak.

Anti-fatigue Mats		Used in the warehouses which deal with oil, grease and other slippery material.
Barrier Rails		These barricades protect valuable equipment and workers from hazards in the workplace.
Bollards		Heavy-duty bollards provide a physical barrier between fork trucks and valuable equipment.
Column Protectors		Universal rack protectors protect rack columns from damaging impact that can be caused by forklifts or heavy machinery.
Wire Partitions		Wire enclosures work well as tool rooms, security cage, or to store hazardous material.
Traffic Visibility Mirrors		Wide angle convex mirrors designed to increase surveillance, provide security, and promote safety.
Handrails		Safety guardrails make overhead walkways and mezzanines safe with easy to install guardrails.

Unit 1.6 - Documentation in Warehousing

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the importance of documentation in warehousing.
2. Detail the various documents used in warehousing operations.

1.6.1 Types of Warehouse Documents

Documentation is another vital part of warehousing operations. The way, bank is the custodian of depositor's money, warehouse is also the custodian of the value in the form of inventory. Any loss to inventory is a loss of money.

Documentation carries following purposes in a warehouse:

Operations Management: Documents like pick list, Goods Receipt Check List (GRCL), Bill of Material (BOM) are several others which are essential to conduct warehousing operations on day to day basis. They facilitate the allocation of work, picking and put away of right quantities in a timely manner and correct processing of customer orders.

Record Keeping: The inventory stored in the warehouse carries economic value. One of the basic functions of stores is to account for every material received in stores by maintaining proper records of all the incoming, stored and outgoing materials so that proper accounting and audit trail is maintained.

Transit Documentation: Whenever the goods are transported from the warehouse to the consignee, they need to carry the transit documentation. Transit documents meet the regulatory requirements during transit in India and establish the consignor, consignee and nature of the goods being transported.

Audits: Warehousing are subject to frequent audits for inventory reconciliations, adherence to Standard Operating Procedures (SOP) and regulatory compliances. Documentation provide the complete history and trail of all the transactions which happened in the warehouse.

In section 1.4, the five stages in the warehousing operations is explained. Following are the key documents used during these five stages.

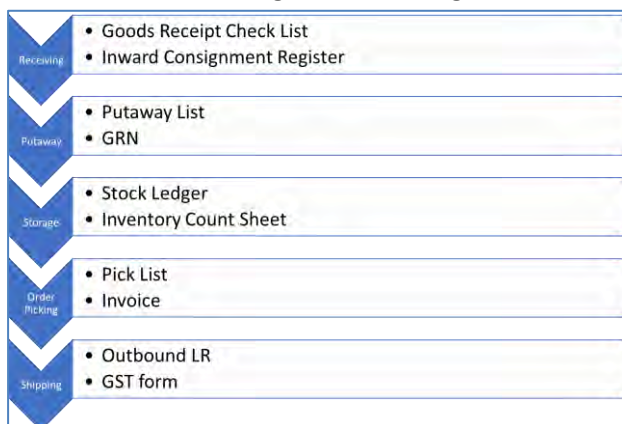


Fig. 1.6.1. Documentation in Warehouse

Inward Consignment Register

This is a register which is used to record all the incoming shipments into the warehouse.

Gate Inward Register										
Sl no.	Material Receiving Date	Invoice Number	Invoice Date	Supplier Name	Name of Place / City	Material Description	Qty Received	Qty Delivered	Material Deliver's name	Invoice Details

Fig. 1.6.2. Inward Consignment Register

Put away List

This list also called as Binning list; guides binner to the appropriate bin of location where the incoming goods must be kept.

Putaway List					
Warehouse	_____			Date	_____
Supplier Invoice No.	_____			Time	_____
Sr No.	Item Code	Item Description	UOM	Quantity	Bin Location

Fig. 1.6.3. Put away List

Goods Receipt Check List (GRCL)

It is a check list to be followed at the time of receipt of material at the warehouse.

Sample Goods Receipt Check List				
Date and Time of Reporting		To be filled by Warehouse Associate/ Supervisor		
Vehicle Number				
Consignor Name				
Invoice No.				
Allowed for Unloading	Yes / No - If no, why:-			
Remarks				
Name				
Signature				
Security				
Gate Entry #		To be filled by Security		
Signature				
Date				
Time				
Blind Count				
Item Name		Quantity		To be filled by the person did blind count
		TOTAL QTY: -		
Blind Count Remarks				
Damage Remarks				
Name, Signature				
Date & Time				
Sample Quality and Compliance Check				
Legal Metrology Check	Yes / No			
Any Unit Damaged	Yes / No			
Any Unit Leaking	Yes / No			
Labels Check	Yes / No			
Packaging Check	Yes / No			
Sample Weight Check				
No. of Boxes				
Remarks				
Name, Signature				
Date & Time				
Scanning				
Qty.		To be filled by person who did Scanning		
Remarks				
Name, Signature				
Date & Time				
SAP Updation				
		Date	Time	Filled by person who did Data entry
GRN				
Remarks				
Sign and Signature				
(WAREHOUSE ASSOCIATE)				(SUPERVISOR)

Fig. 1.6.4. Goods Receipt Checklist

Goods Receipt Note (GRN)

When the incoming shipment details are entered into the system, the computer system generates a document called Goods Receipt Note (GRN).

eZee Technosys Pvt. Ltd.

International Trade Center
Majura Gate

Goods Receipt Note

GRN #	CSGRN20	Vendor	Seven Eleven
Voucher No	123	Reg. No.	12
Date	29-03-2019	Print Date	29-03-2019 12:27:39
Receiving Store	Central Store	Print By	Admin
Purchase Order#	CSON22		

Item Name	Quantity	Unit	Rate	Dis. Amount	Tax	Amount
Ajwaan	2.000	Kgs	120.0000	0.0000	48.0000	288.0000
Action	10.000	Pair	6.8100	0.0000	0.0000	68.1000
Total	Amount	Tax	Discount %	DiscountAmount	Add/Less	Bill Amount
	308.1000	48.0000	0.0000	0.0000	0.0000	356.1000 \$

Purchasing Clerk	_____	Store	_____
Director / Manager	_____	Security	_____

Fig. 1.6.5. Goods Receipt Note (GRN)

Stock Ledger

This is a ledger which maintains the inwards and outward entries of various products and indicates the current stock level at any point of time.

STORE STOCK LEDGER								
								Facility Code
								Item code
								Unit of issue
Date	Received From/Issued to:	Delivery note/ Issue V. No.	Batch no.	Expiry Date	Qty Received	Qty issued	Stock balance	Signature

Fig. 1.6.6. Stock Ledger

Inventory Count Sheet

This is a sheet used to count the physical stock of the warehouse, tally with the system stock and identify shortages or excess.

STOCK COUNT SHEET									
Date									
Name of facility									
Sl No.	Product Code	Product Description	Unit of Measurement	Physical Good Stock	Physical Damage Stock	Total Physical Stock	Stock Balance as per System	Excess / Shortage	Remarks if Any
				A	B	C=A + B	D	C-D	10
Name & Signature of Associate			Signature Of Verifying Officer			Signature of WH Manager			

Fig. 1.6.7. Inventory Count Sheet

Pick List

This document indicates the various products, their quantities and locations to process a customer order.

Pick List							
Warehouse	_____				Date	_____	
Order No.	_____				Time	_____	
Sr No.	Item Code	Item Description	UOM	Required Quantity	in Hand	Location	Picked Quantity
1	ABCD01234	Plastic Pots	No.s	7	84	BIN 365	
2	XYZ78910	Compost	Kgs	10	95	BIN 789	

Fig. 1.6.8. Pick List

Sale Invoice

This is an important document evidencing the sale and transfer of ownership of the goods from the warehouse to the buyer.


TAX INVOICE					
ABC ENTERPRISES 123 B 20/8 XXXXXX PUSA ROAD, NEW DELHI-110005 GSTIN No 07APAFD8245XXXX					
Bill to	Place of Supply			INVOICE No	Dated
RK Electrical Works A-10 Rajouri Garden, New Delhi GSTIN No: -07BBUPS5252XXXX	RK Electrical Works A-10 Rajouri Garden, New Delhi			DD-TI-01	1-Jul-17
Description of Goods	HSN CODE	QTY	Units	RATE	Amount
LED LIGHTS	8501	50	pcs	200	10000
Bulbs	8501	5	Dozens	3000	15000
Total					25000
Less Discount 20%					5000
Taxable Value					20000
ADD CGST 6%				6%	1200
ADD SGST 6%				6%	1200
Total					22400.00
Amount Chargeable (in words) Rupees Twenty Two Thousand Four Hundred only Company's PAN: AAKFD6723D Note-Please make cheques in favor of "DD Enterprises"				For ABC ENTERPRISES Authorised Signatory 	

Fig. 1.6.9. Sale Invoice

Lorry Receipt (L/R)

It is an acknowledgement of goods given by the lorry owners (transport companies) to the persons who are sending the goods, in this case the warehouse.

PICK UP TYPE		DELIVERY TYPE	CONSIGNEE NAME AND ADDRESS:- DRIVEINDIA ENTERPRISE SOLUTIONS LTD / CONTACT NO 9320141284 16J7 & 18,GUNDALPOC HAMPALLY VILLAGE, MEDCHAL MANDAL R R DIST SECUNDERABAD		VEHICLE TYPE :- TATA 1109	OCTROI PAID BY:-	
FROM	400559	MUMBAI_MAROL BAZAR	DIESEL TRADING Pickup Address: R J GUEST WORLD,201 AWAS APARTMENT SAHARA PIPELINE RD ANDHERI (E) MUMBAI MAHARASHTRA		VEHICLE NO - MH04F72988	FREIGHT	TBB AT ORIGIN
VIA	500003	SECUNDERABAD_SE CUNDERABAD	CONSIGNOR'S NAME AND ADDRESS:- a/c : 160900131- DIESEL TRADING Pickup Address: R J GUEST WORLD,201 AWAS APARTMENT SAHARA PIPELINE RD ANDHERI (E) MUMBAI MAHARASHTRA		DATE - 22-05-2013	BILLED AT	PAY AT
PACKAGE NO. CONSUMER_GOODS		SAID TO CONTAINS (DESCRIPTION): CONSUMER_GOODS		DOCUMENT ENCLOSED			
FROM	L	TO	SHIPMENT VALUE: 565053.48		INVOICE STN NO - 13-14/2258	RATE	
	B	H	TOTAL NO OF PACKAGES 133		DATE 22-MAY-2013	PER KG	
TYPE OF PACKING :-LARGE BOX		CONSIGNMENT NOTE NO:- MH101413B00024		PERMIT NO		PER PKG	
ACTUAL WEIGHT	1955 KG		RECEIVER COMMENTS:-		VALID UPTO :	FIXED	
CHARGED WEIGHT			RECEIVER COMMENTS:-		SALES TAX FORM	CMT	
SERVICE TAX PAYABLE BY CONSIGNOR CONSIGNEE (As per GTA calculation)		TRUCK ARRIVED ON		TRUCK UNLOADED		OTHER	CFT
INSURANCE PAYABLE BY <input type="checkbox"/> CONSIGNOR <input type="checkbox"/> DIESEL		DATE	DATE	TERMINAL ADDRESS - MH1014 DIESEL WAREHOUSE BHANDUP DRIVE INDIA ENTERPRISE SOLUTIONS LTD BTM COMPOUND, NORTH SHED, BEHIND SBI BANK, LBS MARG, BHANDUP (WEST), MUMBAI, 400078.		TOTAL FREIGHT	AMOUNT IN WORDS
		TIME	TIME	STAFF NAME , CODE		DO NOT PAY CASH TO LORRY DRIVER	
		RECEIVER SIGNATURE AND STAMP		SIGNATURE			

Fig. 1.6.10. Lorry Receipt

Transit Documents

These are regulatory documents which are required during transit in India. These could be documents such as filled GST Transit forms.

Tips



To be a successful Loader/unloader

- Carry Achievement motivation
- Keen to learn.
- Train yourself to finish what you started.
- Dream big.
- Do not hesitate to ask for Help.
- Do not be afraid to make mistakes.
- Do not limit your working hours during the learning phase

Notes

Summary

The basics of Supply chain management is discussed at the ground level and the importance of logistics linkage in managing an efficient supply chain. Three main flows of supply chain management is clearly explained in this chapter. You will be able to understand the main roles of the individual as a loader unloader with the set targets. This unit also discusses the necessity of a warehouse and different activities carried inside the warehouse.

Exercise

Multiple Choice Questions

1. The correct sequence of supply chain process is
 - A. Plan – Make - Source – Make - Return
 - B. Plan – Source – Make – Deliver – Return
 - C. Plan – Make – Deliver – Source - Return
 - D. Plan – Source – Deliver - Make – Return
2. Which of the following is not a classification of equipment being used in the warehouse?
 - A. Storage
 - B. Safety
 - C. Earth moving
 - D. Material handling
3. Which of the following activity is part of the shipping activity in the warehouse process?
 - A. Order processing
 - B. Unload vehicle
 - C. Cycle count
 - D. Filling bill of transport

4. Which of the following is not a role played by the warehouse?
 - A. Consolidation hub
 - B. Break bulk
 - C. Value added services
 - D. None of the above

Fill in the Blanks

1. The movement of cargo over river and canals is called _____.
2. This position responsible for managing all outbound transportation from the warehouse is _____.
3. _____ is an acknowledgement of goods given by the transporter to the warehouse at the time of dispatch of goods.
4. The document used to gather the material as demanded by the customer is called the _____.

True or False

1. Logistics management is part of supply chain management.
2. Among all modes, water is the cheapest mode of transport.
3. Audit is not one of the requirements for conducting documentation in the warehouse.



2. Preparation for Unloading



Unit 2.1 - MHE and PPE required for Unloading Process

Unit 2.2 – Steps before Unloading Process



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Identify the MHE equipment used for unloading for various types of goods.
2. Identify the PPE to be used for unloading.
3. Demonstrate usage of hand pallet trolley, ropes/chains to secure product/crate.
4. List the various information to be collected before unloading
5. Discuss the steps to be undertaken before unloading of goods

UNIT 2.1: MHE and PPE required for Loading and Unloading Process

Unit Objectives

At the end of this unit, participant will be able to:

1. Identify the MHE equipment used for loading/unloading for various types of goods.
2. Identify the PPE to be used for loading/unloading.
3. Demonstrate usage of hand pallet truck and chain pulley block.

2.1.1 Material Handling Equipment

As seen in Unit 1, MHE are critical for warehouse operations. The two most fundamental operations in the warehouse are loading and unloading. Warehouse is a flow through place, where inventory comes, stays for some time and moves out. Unloading and loading are continuous and everyday activities.

Loader unloader needs to understand which MHE to be used for which kind of products.

1. Carton and Pallets



Pallets



Hand Pallet Truck



Forklift



Dock Leveler



Pallet Strapping Belt



Lashing Belts

Fig. 2.1.1. MHE for Cartons and Pallets

2. Drums



Pallets



Hand Pallet Truck



Forklift with Drum Clamp



Dock Leveler



Drum Trolley



Drum Strapping Belts

3. White Goods or Consumer Durables



Pallets



Hand Pallet Truck



Forklift



Dock Leveler



Hand Trolley



Strapping Belts

4. Heavy Products



Pallets



Chain Pulley Block



Forklift



Dock Leveler



Slings

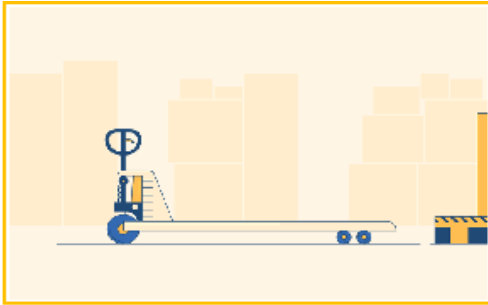


Hoists

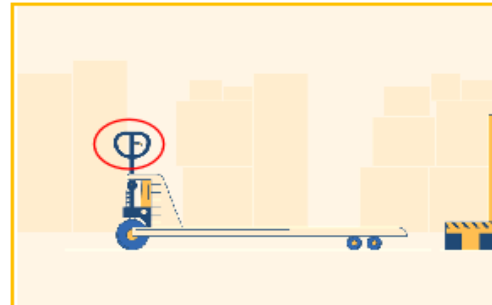
Fig. 2.1.2. MHE for different types of products

One of the most frequently used MHE in warehouse to unload, move and load cartons and pallets is hand pallet truck.

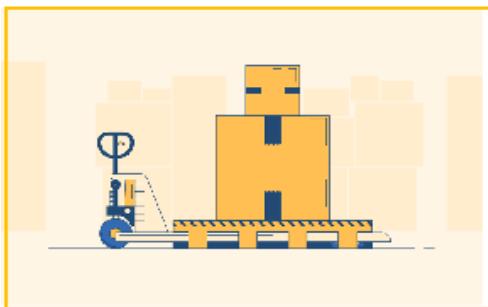
The following are the steps of using an HPT:



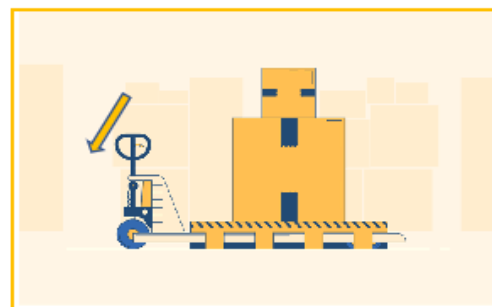
Step 1: Inspect the HPT before use. Ensure it is fully functional. Take it close to the Pallet. Check that the load to be lifted on the Pallet is within the capacity of the HPT.



Step 2: Stand behind the pallet jack with the hands on the metal steering handle. Press the lever to lower the prongs.



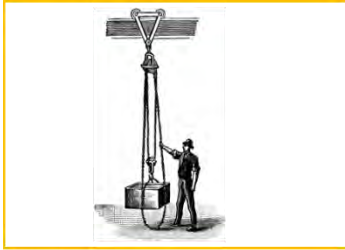
Step 3: Once the prongs have been completely lowered, insert them completely underneath the pallet which needs to be moved.



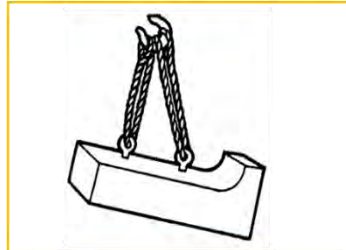
Step 4: Once the prongs are positioned underneath the pallet, pull the metal handle and the entire center. Feel some resistance and notice the prongs slowly lift up the pallet. Repeat this several times till prongs are high enough off the floor to move the pallet.

Fig. 2.1.3. Steps to use Hand Pallet Truck

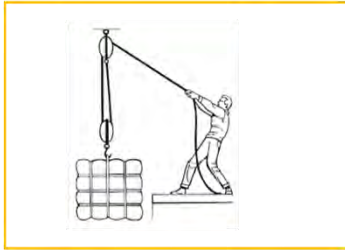
To unload heavy cargo which cannot be manually lifted or lowered, warehouse uses chain pullet blocks. Following are steps in the usage of chain pullet blocks.



Step 1: Prior to Operations. Ensure Chain Pulley is well lubricated and functional. Verify that the load is well supported and balanced before proceeding.



Step 2: Attaching the Load. Attach the lower hook to the load. The load should be seated in the bowl of the hook and should not bear against the tip of the hook or latch.



Step 3: Lifting the Load. Pull the hand chain clockwise to lift the load.



Step 4: Lowering the load. Pull the chain counterclockwise to lower the load.



Fig. 2.1.4. Steps to use Chain Pulley

2.1.2 Personal Protection Equipment

As discussed in the previous section, PPE are equipment or clothing to be worn by loader unloader to protect against the hazards of workplace. Loading and Unloading activities demands dealing with various kind of material including heavy loads. It is imperative for loader unloader to wear appropriate PPE while conducting loading and unloading operations.

Personal Protection Equipments



Helmets



Safety Shoes



Safety Vest



Safety Gloves



Masks



Safety Belts

Fig. 2.1.5. Personal Protective Equipment

UNIT 2.2: Steps before Unloading Process

Unit Objectives

At the end of this unit, participant will be able to:

1. Describe the various steps to be performed before unloading of goods

2.2.1 List of Information to be collected

Unloading is the start of the warehouse operations. It brings in the cargo to be stored, processed and further dispatched. Being the step one of the cycle, it is essential that it is done in the right manner. The scope of unloading activities starts from collecting the appropriate information from the supervisor

Following are the important to be collected:

1	Vehicle Unloading plan from the supervisor
2	Count sheet of inbound items from Supervisor
3	Truck Arrival Time
4	Gate or Dock for the required truck to be parked

Table 2.2.1 List of information

The steps and the various checks to be done before the unloading process is given below

Tips



A person whoever enters the warehouse operation area (storage location, handling machine, equipment etc.) must wear Personal Protective Equipment all the time. Usage of PPE is much important considering the safe workplace.

Summary



This chapter details on the steps to be performed before the unloading process. It also elaborates on The basic handling of material handling equipment and personal protective equipment.. The necessary safety precautions, DO's and DON'T's be followed while operating MHE's, parking it and during other checks are clearly explained in this chapter.

Exercise



Multiple Choice Questions

1. The daily unloading plan will not contain the following.
 - A. Vehicle number
 - B. Unloading bay
 - C. Number of cartons
 - D. Product description
2. If the proper PPE is not available for unloading, loader unloader should
 - A. Follow supervisor instruction and go ahead
 - B. Try using MHE more carefully
 - C. Refuse to unload and bring to the notice of WH in charge
 - D. None of the above

Fill in the Blanks

1. The details of all incoming vehicles are noted at the warehouse gate in the _____.
2. If during the loading or unloading process of chemicals, the drum leaks, _____ document should be referred for the actions to be taken.
3. The attachment to the forklift required to unload drums is called _____.
4. PPE required when working on heights is _____.

True and False

1. During the unloading process, driver's presence is not required to the time of opening of vehicle gate.
2. Staging area is the buffer area between the unloading bay and actual storage area.



3. Unloading



Unit 3.1 – Steps in Unloading Process

Unit 3.2 – Exceptions in Unloading



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Detail the process of unloading as per SOP
2. List the steps to be performed after unloading of goods in the inbound area
3. Discuss the various exceptions for unloading

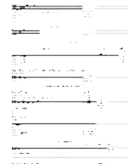
STEP 6

Tally Blind Count with the number of boxes on the documents. The number should match.



STEP 7

Inform the supervisor about the completion of unloading and let him fill the complete Goods Receipt Check List (GRCL).



STEP 8

Inspect the material for any damages on the cartons, any damages, leaks or spillages.



STEP 9

In case of any exception found please inform the Supervisor



STEP 10

Once Supervisor confirms, start moving the cargo to the scanning area.



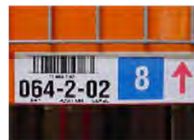
STEP 11

There could be separate designated area for scanning or supervisor may provide the scanning gun for scanning at the staging area itself



STEP 12

Confirm the putaway/Binning location with the supervisor.



STEP 13

Move the cargo to the putaway location. In case it can kept manually unload the material at Binning/Putaway location



STEP 14

In case The material needs to be racked, call the MHE operator and ask to mount the pallet at the designated rack location.



STEP 15

Handover the documents to the WH Executive confirming the completion of loading done, for him to create the GRN. Submit daily unloading report to the Supervisor.



Fig:3.1.1 Steps to be undertaken in unloading process

Notes



UNIT 3.2: Managing Exceptions during Unloading Process

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the procedure for handling exception during unloading process

3.2.1 Exceptions Management

In real life and particularly in logistics operations, not everything happens as scripted. There are several exceptions which happens during the process. Following is the list of possible exceptions and the way to deal with these exceptions.

Please note: The loader unloader has been referred to as an associate:

Process	Stage	Exception	How to Handle
Unloading	During unloading	The carton found to be open or tampered	Inform the supervisor. Open the carton to check the condition of the contents. Count the number of units.
Unloading	During unloading	The incoming material was found to be damaged	Handle it carefully not to further damage. Segregate this unit. Inform the Supervisor.
Unloading	During unloading	Associate drops a material while unloading, which gets damaged.	Associate should have ideally taken preventive measures to avoid any such occurrence. Now that it has occurred, keep the unit separately. Inform the Supervisor immediately and proceed with Insurance formalities if possible.
Unloading	During unloading	A liquid/Chemical leaks during unloading process.	The leak should be confined as far as possible. The leaked unit should be kept separately. In case it is a Chemical, MSDS should be immediately referred to take appropriate action. Inform the Warehouse Manager immediately about the incident. All Safety measures should be immediately taken.

Unloading	During unloading	Proper MHE not available	If Associate finds that proper MHE is not available to unload the incoming cargo and manually unloading is either not possible or a safety concern, he should inform the Supervisor and not undertake the unloading operations.
Unloading	During unloading	Proper PPE not available	If Associate finds that proper PPE is not available to unload the incoming cargo and unloading the cargo is a safety concern, he should inform the Supervisor and not undertake the unloading operations.
Unloading	At the staging Area	The blind count numbers are not matching the documented number of pieces	Count the pieces again. If they are still not tallying inform the supervisor immediately.
Unloading	At the scanning stage	Bar code is Mutilated. Scanning not possible.	Inform the Supervisor immediately. The originating location need to be informed to provide the data so that Bar codes can be reprinted if possible. Keep such units separately.
Unloading	At the Putaway Stage	The Putaway location already occupied	The putaway location given is already carrying cargo. The Associate should not, in such a case, unload at any other location. This will multiply the error. He should pause, hold unloading, inform the Supervisor and unload once he gets fresh instructions.

Fig:3.2.1 List of possible exception

Notes 

Summary

This chapter discusses the unloading process in detail. It explains the various steps to be followed in the unloading process. The unit also elaborates on how to manage exceptions in unloading.

Exercise

1. List the steps to be followed in the unloading process.
2. What is mutilated of barcode?
3. What is to be done if the put away location is already occupied at the put away stage?
4. What should have done if the count of the material is not tallying with the invoice/document?

Scan the QR code to watch the related videos



https://youtu.be/2NqAZ_aoSvg

Unloading process



<https://youtu.be/fpzw8RnzmWw>

Scanning in Unloading process





Skill India
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4. Post Unloading Activities



Unit 4. 1 – Housekeeping Activities

Unit 4. 2 - Reporting



LSC/N1106

Key Learning Outcomes



At the end of this module, participant will be able to:

1. Discuss the various housekeeping activities to be performed
2. Choose right PPE as per the cleaning requirement
3. Explain the process of reporting to supervisor on quarantined items, replacement items, damages, delays in outbound, condition of PPE, MHE etc.
4. Explain the escalation matrix for reporting deviation

UNIT 4.1: Housekeeping Activities

Unit Objectives

At the end of this unit, participant will be able to:

2. Detail the various housekeeping activities to be performed post unloading

4.1.1 Housekeeping

Housekeeping is not just cleanliness. It also means ensuring a safe work environment for the people working. Good housekeeping means so much more in case of a warehouse:

- It means keeping the floor free from slip or trip hazards
- Preventing any fire hazards
- Preventing any hazards around conveyors or charging stations.
- removing any obstructions in the path for forklifts.
- Ensuring level surface for movement of HPT and BOPT.

Effective housekeeping is an ongoing daily exercise and not a onetime effort.

Aisles –

Aisles should be wide enough to safely and easily accommodate the MHE and the people operating there. Aisle should allow movement of material, machines and manpower. Keeping aisles clean is important. Any excess material should not be kept in aisles and block them. The lighting should be installed on the top of the aisles to provide effective illumination for the work. There should be proper warning signs and mirrors at the bling corners. Keeping aisles functional and free is essential to good housekeeping.



Fig 4.1.1. Cleaning of Aisles

Scan the QR code to watch the related videos



<https://youtu.be/mOUvhsTJcRk>

Housekeeping



<https://youtu.be/CtZ9-KEP5SM>

Escalation Matrix

Product Slots - Cleaning of product slots may require use of dusters, brooms, mops, or shovels. To clean these rack locations, pull product out of the location with an HPT or forklift and clean slot with cleaning supplies and electric scrubber. This has to be done with utmost care to avoid breakages and damages to product.



Fig 4.1.2. Cleaning of Product Slots

A Warehouse is an active place and its fast-paced nature often leads to injuries. The safety management program should ensure safety of the employees at all times.

The warehouse must continually inspect all areas of the warehouse, identify unsafe operating conditions and properly correct them for safe operation. Tools and equipment should be checked, cleaned and repaired regularly, and damaged or worn tools should not be used.

- The stored materials must not block corridors, stairs, exits, fire extinguishers, emergency wells, emergency showers or first aid stations. All storage areas must be clearly marked.
- Check the fire hoses and fire extinguishers regularly. Remove all obstacles and make these articles available immediately. Only personnel trained in appropriate firefighting methods should handle this equipment.
- Ensure that approved containers are used to store flammable, combustible, toxic and other hazardous materials in designated areas.
- Make sure that all power cables are disconnected by holding the connector and pulling it gently. Never pull on the rope. If the power cord is broken or the cables are exposed, take it out of service.
- Warehouse should not store highly combustible chemicals in a warehouse. There should be a separate location for it.
- Inspect the dock area daily to ensure that fire extinguishers are not blocked or damaged.
- Check the conveyor belts regularly to ensure that they are not damaged and in a safe condition.
- Check the sprinkler systems every month and conduct flow and alarm testing. Document inspections.
- If pulleys or hoists are used lift heavy material, inspect pulley and hoisting slings. Ensure that hook latches and appropriate PPE are available.
- Inspect all ladders on weekly basis for any damage. All types of ladders, whether wooden, metal, or fiberglass, should be checked frequently for possible defects resulting from prolonged wear and necessary repairs and/or replacements must be made.



Continuous Inspection



Fig 4.1.5 Inspection of Work area and Equipment

General unsafe working environment

- Slip or trip of the employee caused by spillages or wet floors.
- Uncovered power cords or hoses.
- Working overtime, much beyond scheduled hours can also cause accident due to fatigue.
- Lack of proper ventilation.
- Broken windows, damaged doors, defective plumbing and broken floor surfaces can cause accidents and affect work practices.
- No proper usage of PPE by the employees while carrying out warehousing activities. It is Warehouse quality checker’s responsibility to ensure that all the workers are using all the required Personal Protective Equipment (PPE) for safe working.

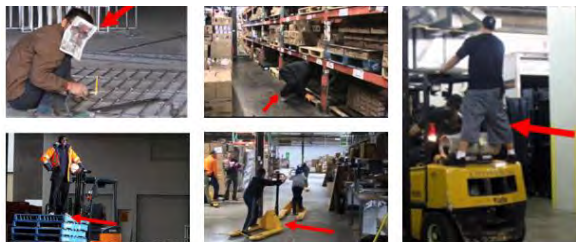


Fig 4.1.3 Unsafe work practices

Notes 

UNIT 4.2: Reporting to Management

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the process of reporting to supervisor on quarantined items, replacement items, damages, delays in outbound, condition of PPE, MHE etc.
2. Explain the escalation matrix for reporting deviation

4.2.1 Reporting

The loader unloader is required to report to the management on the following:

1	Number of quarantined items
2	Number of replacement items
3	Condition of PPE
4	Condition of MHE
5	Damages and Delays

The loader unloader should also fill any forms as required by the management

4.2.2 Managing Deviations

There might be some discrepancies and damages to the goods while carrying unloading. The loader unloader report all these damages and losses to the warehouse supervisor/manager for his actions. There is a procedure framed by the organization for dealing with loss or damages to goods. The individual has to be well aware of these reporting procedures for safe and structured operations. The loader unloader needs to report the problems to the warehouse supervisor for corrective measures. If the loader unloader discovers any corrupt practice by any of its colleague, vendor or customer he should immediately report to his supervisor or follow the rules framed by the organization. Certain organization provide an email ID or telephone number where all such incidents must be reported. S/he should never try to confront the person or try to correct the unethical practice by himself. His job is always to report and let higher authorities take appropriate action. Most of the organizations do follow a formal escalation matrix. In case loader unloader finds a violation or a practice which is large enough and demands bigger intervention S/he may report to senior authorities. Also, in case, the reporting of the violations go unattended and unaddressed S/he may follow the escalation matrix. The following grid shows a sample escalation matrix.



Fig. 4.2.1. Escalation Matrix

Notes

Summary

This chapter details the activities to be performed post unloading. The unit elaborates on housekeeping activities and the reporting mechanism.

Exercise

1. List the various housekeeping activities to be performed post unloading.
2. Explain the process of reporting deviation.
3. List the various reports to be submitted to the supervisor.
4. List the PPE to worn for housekeeping activities.



5. Preparation for Loading



Unit 5.1 - MHE and PPE required for loading Process

Unit 5.2 – Steps before loading Process



Key Learning Outcomes



At the end of this module, participant will be able to:

1. List the various information to be collected before loading
2. Choose the appropriate MHE based on the goods to be loaded
3. Choose the appropriate PPE
4. Discuss the steps to be undertaken before loading of goods
5. Comply with safety, security and organizations procedures and guidelines

UNIT 5.1: MHE and PPE required for Loading Process

Unit Objectives

At the end of this unit, participant will be able to:

1. Identify the MHE equipment used for loading for various types of goods.
2. Identify the PPE to be used for loading
3. Demonstrate usage of hand pallet truck and chain pulley block.

5.1.1 Material Handling Equipment

Chapter 2 explains extensively on the different types of MHE's and their usage. The MHE's used for loading and unloading are the same. This chapter will again cover the same information in brief.

Loader Unloaders needs to understand which MHE to be used for which kind of products.

1. Carton and Pallets



Pallets



Hand Pallet Truck



Forklift



Dock Leveler



Pallet Strapping Belt



Lashing Belts

Fig. 5.1.1. MHE for Cartons and Pallets

Scan the QR code to watch the related videos



<https://youtu.be/y4oYbKosd14>

Do's and Don'ts in MHE



<https://youtu.be/1uMf4Ky0nyM>

Usage of MHE

2. Drums



Pallets



Hand Pallet Truck



Forklift with Drum Clamp



Dock Leveler



Drum Trolley



Drum Strapping Belts

3. White Goods or Consumer Durables



Pallets



Hand Pallet Truck



Forklift



Dock Leveler



Hand Trolley



Strapping Belts

4. Heavy Products



Pallets



Chain Pulley Block



Forklift



Dock Leveler



Slings



Hoists

Fig. 5.1.2. MHE for different types of products

UNIT 5.2: Steps before Loading Process

Unit Objectives



At the end of this unit, participant will be able to:

1. Describe the various steps to be performed before loading of goods

5.2.1 List of Information to be collected

A loading point is a place where goods are being prepared and loaded onto a vehicle or vessel to be shipped to an agreed location. It brings in the cargo to be stored, processed and further dispatched. Being the step one of the cycle, it is essential that it is done in the right manner. The scope of loading activities starts from collecting the appropriate information from the supervisor.

Following are the important to be collected:

1	Pick list and order sheet for outbound items
2	Schedule and number of trucks to be loaded
3	Loading targets
4	Arrival time of trucks
5	Gate or Dock for the required truck to be parked

The steps and the various checks to be done before the loading process is given below

Daily Vehicle Plan				
Date	07-02-2020			
Vehicle Number	Bay	No. of Units	Material	Time
U126842138	4	3000	De-waxing	10.30
W126842200	3	500	Multile	12.00
W126848996	5	125	Air-Conditioning	11.30

Step 1
Get the Vehicle Loading plan for the day from the supervisor.

Duty Chart		
Date	07-02-2020	
Associate Name	Bay	Shift
Umang	4	9.30 to 6.00
Munnial	3	9.30 to 6.00
Ishwar	5	9.30 to 6.00

Step 2
Check Bay number wise assignment if Duties to the Associate by the supervisor.

Step 3
Depending upon the material to be loaded arrange for appropriate MHE



Step 4
Depending upon the material to be loaded wear the appropriate PPE



Notes



Summary



This chapter details the steps to be performed before loading process. It elaborates on the appropriate usage of PPE's and MHE's. Various usage of tools like ropes, chains to lash the big cargoes are demonstrated here. Breakage and spillage of hazardous and liquid cargo should be handled carefully. The necessary safety precautions, DO's and DON'T's be followed while operating MHE's, parking it and during other checks are clearly explained in this chapter.

Exercise



1. List the checks to be performed before the loading process.
2. List the various PPE's to be used.
3. Explain the usage of various MHE's.
4. What are the Do's and Don'ts while using MHE?

Scan the QR code to watch the related videos



<https://youtu.be/BBWPiByOefI>

MHE



<https://youtu.be/kcM9u4heDVk>

PPE



6. Moving Goods



Unit 6.1 – Steps in loading Process

Unit 6.2 – Exceptions in loading



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Discuss the various inspections to be done before moving goods
2. List the steps to be followed in moving goods from the staging area to the outbound area/truck
3. Discuss the steps to be followed unloading of goods from MHE and loading goods on the truck
4. Detail the process of sorting of goods based on the size of packaging
4. Discuss the various checks to be done after loading goods on the truck

UNIT 6.1: Steps in loading Process

Unit Objectives

At the end of this unit, participant will be able to:

1. Detail the various steps to be performed in loading process as per SOP

6.1.1 Loading Process

Loading process is the reverse of unloading process. It is the dispatch of the material from the warehouse to the final customer or production units.

Loading is critical as it defines the service level to the final customer. Proper loading also ensures that there is no damage to the cargo during transit. As loading involves movement of the material outside the warehouse, it is mandatory that it is done correctly and there is no excess or short dispatches of inventory.

Following are the details of the steps to be undertaken in loading process.

STEP 1

Open the vehicle in the presence of the driver. Run Vehicle check list. Check if vehicle is fit to load.



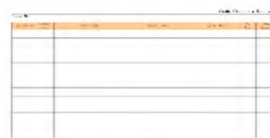
STEP 2

Indent the outgoing vehicle at the Dock. Use stoppers like tyres to ensure that it does not hits the bay.



STEP 3

Make the entry of the outbound vehicle in the Gate Outward Register. This can be done either by the Associate or the Guard



STEP 4

Start loading the material. Use the MHE based on the cargo. Refer section.



STEP 5

After the loading is complete, let the security Guard or Supervisor count the material loaded. This should be tallying with the documents.



STEP 6

After the loading is complete, complete the lashing and strapping of the cargo. Associate need to ensure that cargo is secured enough, not to move during transit



STEP 7

Once the loading, and lashing is complete, inform Supervisor that vehicle is ready to go.



STEP 8

Handover all transit documents to the driver like Invoice, LR copy, GST documents, Gate Pass and Others.



STEP 9

Once Supervisor approves, close the gate of the vehicle. Seal the gate with lock or Bottle seals.



STEP 10

Prepare the daily report of the vehicles loaded during the day and submit to the supervisor confirming completion of the work.



Notes



UNIT 6.2: Managing Exceptions during Loading Process

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the procedure for handling exception during loading process

6.2.1 Exceptions Management

In real life and particularly in logistics operations, not everything happens as scripted. There are several exceptions which happens during the process. Following is the list of possible exceptions and the way to deal with these exceptions.

Please note: The loader unloader has been referred to as an associate:

Loading	At the staging Area	The Packaging or Labelling Not complete	The Associate should inform the supervisor and should not load till it is not complete.
Loading	At the staging Area	The count of material not tallying with Invoice/Documents	The Associate should inform the supervisor and should not load till it is not rectified..
Loading	At the Loading stage	Vehicle not appropriate	If the incoming vehicle fails the vehicle check list and found to be unfit for loading, it should be refused for loading and the information should be communicated to the supervisor and the Transportation Supervisor
Loading	At the Loading stage	MHE or PPE not available	If the proper MHE or PPE not available for loading the cargo, it should be informed to the supervisor to take appropriate actions.

Notes

Summary

This chapter explains the steps to be followed in the loading process. The unit also elaborates on the way to manage exceptions during the loading process.

Exercise

1. List the steps to be followed in the loading process.
2. What is MHE and its role in Exception management?
3. What is to be done if the packing or labelling is not completed at the staging area?
4. What should have done if the count of the material is not tallying with the invoice/document at the staging area?

Scan the QR code to watch the related videos



<https://youtu.be/42aUU9pRuMc>

Loading process



<https://youtu.be/skU8lvDqz94>

Packing process in Loading



7. Post loading Activities



Unit 7. 1 – Housekeeping Activities

Unit 7. 2 - Reporting



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Discuss the various housekeeping activities to be performed
2. Choose right PPE as per the cleaning requirement
3. Explain the process of reporting to supervisor on quarantined items, replacement items, damages, delays in outbound, condition of PPE, MHE etc.
4. Explain the escalation matrix for reporting deviation

UNIT 7.1: Housekeeping Activities

Unit Objectives

At the end of this unit, participant will be able to:

1. Detail the various housekeeping activities to be performed post loading

7.1.1 Housekeeping

Housekeeping is not just cleanliness. It also means ensuring a safe work environment for the people working. Good housekeeping means so much more in case of a warehouse:

- It means keeping the floor free from slip or trip hazards
- Preventing any fire hazards
- Preventing any hazards around conveyors or charging stations.
- removing any obstructions in the path for forklifts.
- Ensuring level surface for movement of HPT and BOPT.

Effective housekeeping is an ongoing daily exercise and not a onetime effort.

Aisles –

Aisles should be wide enough to safely and easily accommodate the MHE and the people operating there. Aisle should allow movement of material, machines and manpower. Keeping aisles clean is important. Any excess material should not be kept in aisles and block them. The lighting should be installed on the top of the aisles to provide effective illumination for the work. There should be proper warning signs and mirrors at the blind corners. Keeping aisles functional and free is essential to good housekeeping.



Fig 7.1.1 Cleaning of Aisles

Product Slots - Cleaning of product slots may require use of dusters, brooms, mops, or shovels. To clean these rack locations, pull product out of the location with an HPT or forklift and clean slot with cleaning supplies and electric scrubber. This has to be done with utmost care to avoid breakages and damages to product.



Fig 7.1.2. Cleaning of Product Slots

A Warehouse is an active place and its fast-paced nature often leads to injuries. The safety management program should ensure safety of the employees at all times.

The warehouse must continually inspect all areas of the warehouse, identify unsafe operating conditions and properly correct them for safe operation. Tools and equipment should be checked, cleaned and repaired regularly, and damaged or worn tools should not be used.

- The stored materials must not block corridors, stairs, exits, fire extinguishers, emergency wells, emergency showers or first aid stations. All storage areas must be clearly marked.
- Check the fire hoses and fire extinguishers regularly. Remove all obstacles and make these articles available immediately. Only personnel trained in appropriate firefighting methods should handle this equipment.
- Ensure that approved containers are used to store flammable, combustible, toxic and other hazardous materials in designated areas.
- Make sure that all power cables are disconnected by holding the connector and pulling it gently. Never pull on the rope. If the power cord is broken or the cables are exposed, take it out of service.
- Warehouse should not store highly combustible chemicals in a warehouse. There should be a separate location for it.
- Inspect the dock area daily to ensure that fire extinguishers are not blocked or damaged.
- Check the conveyor belts regularly to ensure that they are not damaged and in a safe condition.
- Check the sprinkler systems every month and conduct flow and alarm testing. Document inspections.
- If pulleys or hoists are used lift heavy material, inspect pulley and hoisting slings. Ensure that hook latches and appropriate PPE are available.
- Inspect all ladders on weekly basis for any damage. All types of ladders, whether wooden, metal, or fiberglass, should be checked frequently for possible defects resulting from prolonged wear and necessary repairs and/or replacements must be made.



Continuous Inspection



Fig 4.1.5 Inspection of Work area and Equipment

General unsafe working environment

- Slip or trip of the employee caused by spillages or wet floors.
- Uncovered power cords or hoses.
- Working overtime, much beyond scheduled hours can also cause accident due to fatigue.
- Lack of proper ventilation.
- Broken windows, damaged doors, defective plumbing and broken floor surfaces can cause accidents and affect work practices.
- No proper usage of PPE by the employees while carrying out warehousing activities. It is Warehouse quality checker’s responsibility to ensure that all the workers are using all the required Personal Protective Equipment (PPE) for safe working.

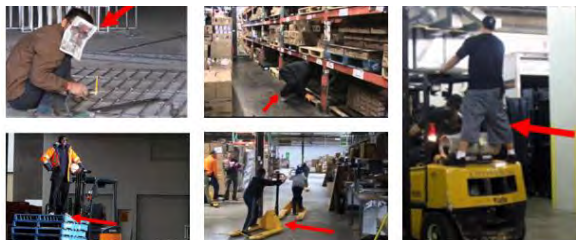


Fig 7.1.3 Unsafe work practices

Notes 

UNIT 7.2: Reporting to Management

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the process of reporting to supervisor on quarantined items, replacement items, damages, delays in outbound, condition of PPE, MHE etc.
2. Explain the escalation matrix for reporting deviation

7.2.1 Reporting

The loader unloader is required to report to the management on the following:

1	Number of quarantined items
2	Number of replacement items
3	Condition of PPE
4	Condition of MHE
5	Damages and Delays

The loader unloader should also fill any forms as required by the management

7.2.2 Managing Deviations

There might be some discrepancies and damages to the goods while carrying unloading. The loader unloader report all these damages and losses to the warehouse supervisor/manager for his actions.

There is a procedure framed by the organization for dealing with loss or damages to goods. The individual has to be well aware of these reporting procedures for safe and structured operations. S/he needs to report the problems to the warehouse supervisor for corrective measures. If the loader unloader discovers any corrupt practice by any of its colleague, vendor or customer S/he should immediately report to his supervisor or follow the rules framed by the organization. Certain organization provide an email ID or telephone number where all such incidents must be reported. The loader unloader should never try to confront the person or try to correct the unethical practice by himself. His job is always to report and let higher authorities take appropriate action.

Most of the organizations do follow a formal escalation matrix. In case the loader unloader finds a violation or a practice which is large enough and demands bigger intervention S/he may report to senior authorities. Also, in case, the reporting of the violations go unattended and unaddressed S/he may follow the escalation matrix. The following grid shows a sample escalation matrix.



Fig. 7.2.1. Escalation Matrix

Notes 

Summary

This chapter details the activities to be performed post loading. The unit elaborates on housekeeping activities and the reporting mechanism.

Exercise

1. List the various housekeeping activities
2. Explain the process of reporting deviation
3. List the various reports to be submitted to the supervisor
4. List the PPE to worn for housekeeping activities

Scan the QR code to watch the related videos



<https://youtu.be/xA3Ggs0z4hA>

Housekeeping



<https://youtu.be/CtZ9-KEP5SM>

Escalation Matrix



8. Compliance to Health, Safety & Security norms



Unit 8.1 - Implementing Safety in Warehouse

Unit 8.2 - Handling Dangerous and Hazardous Goods

Unit 8.3 - 5S Concept

Unit 8.4 - Managing Breach of Safety, Accidents and Emergency Situations



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Discuss the importance of safety.
2. Explain how to ensure safety during various warehouse activities.
3. Describe how to maintain safe working conditions.
4. Demonstrate the procedure for handling hazardous goods.
5. Explain the concept and implementation of 5S in the warehouse.
6. Describe how to manage any breach of safety.

UNIT 8.1: Implementing Safety in the Warehouse

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss the criticality of safety.
2. Describe the various safety precautions to be undertaken.
3. Explain the importance of training to warehouse team.

8.1.1 Safety and its Criticality

“Nothing is more important than the safety of the people and goods stored inside the warehouse”.

Working in warehouse creates several health and safety risks. If not controlled, it may lead to accidents, injury to people, illness, high employee turnover, lost working hours and at worst even fatalities. Safety rules and procedures are often disregarded to save money, cut corners, lack of focus or insufficient time. Well implemented safety procedures lead to minimum risk of injury, fewer disruptions, lesser absenteeism, higher employee satisfaction and finally better productivity.

As discussed in earlier chapters, companies store their finished goods inventory in the warehouse, they store raw materials on the manufacturing side. The nature of the products stored in the warehouse determine the rules and practices to be adopted to save the people from injuries or mishaps.

As a corporate, companies are also officially bound to implement and maintain safety procedures. The safety procedures should protect the workers from any danger and ensure that they operate in a safe and comfortable environment. However, the companies should maintain safety procedures not just for legal compliance; well implemented safety rules indicate the concern the company carries for its employees well-being.

Safety Rules in a Warehouse -

1. Ensure safety equipment is used at all times.
2. Eliminate any potential safety hazards.
3. Clearly label designated hazardous zones.
4. Always use safe lifting techniques.
5. Provide training and refresher courses.
6. Promote safety awareness in the warehouse.

8.1.2 Safety Procedures to be observed in a Warehouse

- A. Vehicle Safety -** When forklifts and reach trucks are used in the warehouse, it is essential to prevent any injury due to impact or crush. It is observed that most of the times the accidents happen while reversing.

Following are some of the safety procedures for using Forklifts:

Rules for Forklift Safety

1. Only trained personnel can drive the vehicles
2. Make sure operators follow speed limits
3. Install mirrors to assist the driver's vision when cornering or reversing
4. Keep pedestrian crossings away from obstacles
5. Organize regular inspections and maintenance work on the vehicles
6. Provide drivers with a daily checklist
7. Display driver warnings and safety signs
8. Support the floor to prevent the vehicle from tipping over or being damaged



Fig. 8.1.1. Rules for Forklift Safety

B. Slips, Trips, and Falls -

Various reports indicate slips and falls are the single biggest reason for work related injuries across the world.

To prevent slips, trips, and falls, company should follow the tips mentioned:

Slips, Trips, and Falls

1. Good housekeeping. Clean up spillages, remove obstructions from paths, etc
2. Ensure cleaning staff display appropriate warning signs
3. Use anti-slip paint
4. Use anti-slip tape and shoes
5. Make sure floors are level
6. Train staff to work at height safely




Fig. 8.1.2. Rules for Slips

C. Lifting -

Lifting can be done both manually and using MHE. Both the situations pose safety hazards if not done properly.

To minimize lifting risks, Company should follow the tips mentioned

Lifting



1. Ensure operators know the maximum safe working load of lifting equipment.
2. Train staff in manual handling safety
3. Avoid the need for manual handling if possible
4. Train how to use proper handling techniques to minimize strain.
5. Ensure staff use and store chains properly


Fig. 8.1.3. Rules for Lifting

D. Fire Safety -

Fire is the biggest hazard warehouse faces. Along with loss of valuable material stored in the warehouse, Fire can even lead to injuries or fatalities to the people working there.

To maintain fire safety, company should follow the tips mentioned

Fire Safety



1. Carry out fire drills at least once a quarter.
2. Test fire alarms weekly
3. Create a fire evacuation and emergency plan
4. Designate a fire warden
5. Fire escape routes, exits, and signs need to be well-lit .
6. Handle hazardous substances with extreme care. Make sure you know how to store chemicals safely in a warehouse.

Fig. 8.1.4. Rules for Fire Safety

E. Charging Stations -

Charging stations in warehouse facilities are used to recharge forklifts, BOPT and other power equipment. If proper guidelines are not followed, fires and explosions can occur.

Charging Station

- Charging stations should be away from open flames.
- Smoking should be prohibited.
- An adequate ventilation system must be installed to disperse harmful gases.
- Proper PPE should be worn.

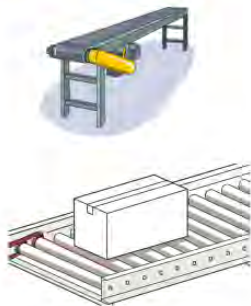


Fig. 8.1.5. Rules for Charging Station

F. Conveyors -

Conveyor equipment is commonly used in warehouse facilities to move goods within the premise. However, conveyors pose serious dangers to workers including getting caught in equipment and being struck by falling objects. To remain safe, it is important to:

Conveyors



1. Ensure proper safeguarding equipment between the conveyor and the worker .
2. Periodic conveyor maintenance and repairs
3. Ensure that belts are checked and inspected regularly.
4. Place adequate guards on pinch points
5. Use lockout options so employees can shutdown conveyor operations quickly

Fig. 8.1.6. Conveyors

G. Docks -

Warehouses use docks to load and offload material from the trucks. The hazards that exist with docks include driving forklifts off docks and equipment accidents involving products improperly placed that fall on employees.

Docks

- Clearly mark the edge of the dock
- Ensure that docking plates can safely support the load weight of equipment, inventory or raw materials.
- Stay clear of dock edges and don't use forklifts in reverse near the edge of a dock.
- Post warnings at eye level for employees.
- Dock stairs and ladders must meet standards.
- Prohibit employees from jumping between docks.



Fig. 8.1.7. Docks

Besides the above precautions, two important points in safety are usage of PPE and employee training.

H. Personal Protective Equipment -

Employees need to wear PPE all the time while working in the warehouse. If PPE is not worn and an accident occurs, it can lead to serious injuries or even fatalities.

It is seen in previous sections PPE to be used to protect head, fingers, feet, eyes and the rest of the body.

One need to assess the risks in the warehouse to determine which type of PPE need to wear.

I. Training to Staff -

Sense of awareness about safety is the most important factor in safety implementation. Most of the companies run formal safety training programs where all safety related measures are explained and formally practiced. There are regular refresher courses to further reinforce the concept of safety.

- Ensure that all employees are trained and carry up to date knowledge on safety procedures
- Employee should be educated about the consequences which originate by following unsafe work practices
- Any employee not following safety procedures should be strongly dealt including terminating services if required.
- All staff members should be encouraged to be constantly aware of what is around them and to communicate where they are to ensure the avoidance of collision accidents.
- Companies may implement incentives for zero-accidents and zero near-misses.

8.1.3 Inspection of Work Area

A Warehouse is an active place and its fast-paced nature often leads to injuries. The safety management program should ensure safety of the employees at all times.

The warehouse must continually inspect all areas of the warehouse, identify unsafe operating conditions and properly correct them for safe operation. Tools and equipment should be checked, cleaned and repaired regularly, and damaged or worn tools should not be used.

- The stored materials must not block corridors, stairs, exits, fire extinguishers, emergency wells, emergency showers or first aid stations. All storage areas must be clearly marked.
- Check the fire hoses and fire extinguishers regularly. Remove all obstacles and make these articles available immediately. Only personnel trained in appropriate firefighting methods should handle this equipment.
- Ensure that approved containers are used to store flammable, combustible, toxic and other hazardous materials in designated areas.
- Make sure that all power cables are disconnected by holding the connector and pulling it gently. Never pull on the rope. If the power cord is broken or the cables are exposed, take it out of service.
- Warehouse should not store highly combustible chemicals in a warehouse. There should be a separate location for it.
- Inspect the dock area daily to ensure that fire extinguishers are not blocked or damaged.
- Check the conveyor belts regularly to ensure that they are not damaged and in a safe condition.
- Check the sprinkler systems every month and conduct flow and alarm testing. Document inspections.
- If pulleys or hoists are used lift heavy material, inspect pulley and hoisting slings. Ensure that hook latches and appropriate PPE are available.
- Inspect all ladders on weekly basis for any damage. All types of ladders, whether wooden, metal, or fiberglass, should be checked frequently for possible defects resulting from prolonged wear and necessary repairs and/or replacements must be made.



Continuous Inspection



Fig. 8.1.8. Inspection of Work area and Equipment

General unsafe working environment -

- Slip or trip of the employee caused by spillages or wet floors.
- Uncovered power cords or hoses.
- Working overtime, much beyond scheduled hours can also cause accident due to fatigue.
- Lack of proper ventilation.
- Broken windows, damaged doors, defective plumbing and broken floor surfaces can cause accidents and affect work practices.
- No proper usage of PPE by the employees while carrying out warehousing activities

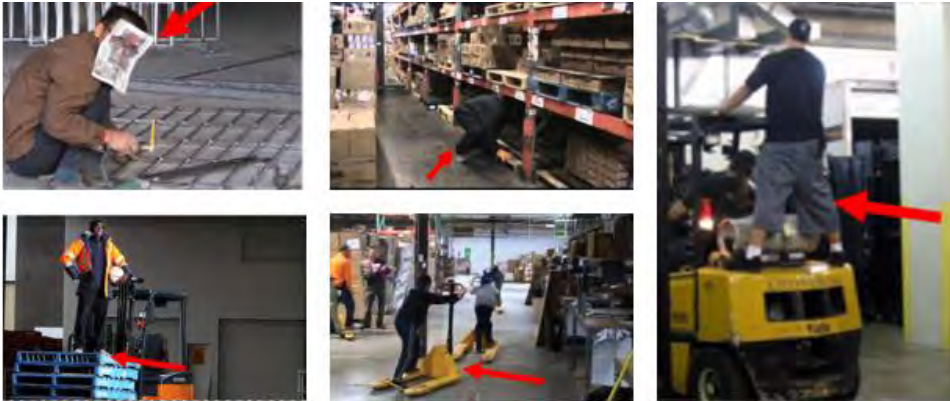


Fig. 8.1.9. Unsafe work practices

Notes 

UNIT 8.2: Handling Dangerous and Hazardous Goods

Unit Objectives

At the end of this unit, participant will be able to:

1. Classify the hazardous materials.
2. Explain the concept of safety data sheet.
3. Describe the various do's and don'ts in handling hazardous chemicals.

8.2.1 Handling Procedures for Dangerous Goods

Dangerous and hazardous materials require special handling and attention whenever they are stored in warehouse. A specific Standard Operating Procedure (SOP) is set for each type of such cargo and strict adherence to it to ensure safety of the employees and the warehouse. Following are some of the key points that should be taken care of when dangerous goods are kept in warehouse. Material Safety Data Sheets (MSDS) and container labels will be the basis of reference to conduct the evaluation

All articles or substances considered as dangerous goods must be identified, classified, and assigned to one of the standard names used in the transport and storage of dangerous goods.

Warehouse must identify the material which cannot be stored together and create separate designated places for them.

Hazardous materials are generally assigned to one or more of the following classifications.

- Flammable Liquid - any liquid having a flash point below 37 degrees Centigrade.
- Combustible Liquid - any liquid having a flash point between 37 and 94 degrees Centigrade and the liquid produces enough vapors to ignite if exposed to an ignition source.
- Flammable Solid - a substance that can cause a fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, will burn so vigorously that it creates a hazard.
- Oxidizer - a substance that readily yields oxygen to stimulate the combustion of organic matter.
- Corrosive - a liquid that corrodes steel (SAE 1020) at a rate greater than 0.250 inches at a test temperature of 130 degrees Fahrenheit or has a PH less than 2 or greater than 12.5.
- Organic Peroxide - an organic compound containing the chemical bond, oxygen joined to oxygen.
- Poison - a substance so toxic that it presents a risk to life or health.
- Compressed Gas - a substance in gas or liquid form contained in a vessel under pressure. This includes cylinders, lecture bottles, and aerosol cans. These substances may be flammable, non-flammable, or poisonous.

- Cryogenics - substances that are extremely cold such as liquid nitrogen, liquid helium, and dry ice. These substances may also become asphyxiation hazards if spilled in non-ventilated areas.
- Radioactive - any material having a specific activity greater than 0.002 microcuries per gram (uCi/g).
- Biomedical - tissues, organs, and blood from humans and primates.



Fig. 8.2.1. Dangerous goods classification

Safety Data Sheet -

Safety Data Sheet (SDS), Material Safety Data Sheet (MSDS) or Product Safety Data Sheet (PSDS) is a document that contains information on safety and health protection when working with various substances and products.

- Safety data sheet (formerly known as material safety data sheet) contains information such as the properties of each chemical. Risks to health, and the environment; Safety measures; and precautions when handling, storing, and transporting the chemical.
- Provides clues for each chemical:
 1. Personal protective equipment (PPE)
 2. First aid procedure
 3. Spill cleaning procedure

All employees must be trained to read, understand, and access safety data sheets.

The safety rules and procedures to be followed in a hazardous cargo warehouse:

Hazardous material is one which is capable of producing effects such as fire, explosion, sudden release of pressure and may cause acute health effects like burns, injuries, convulsions or even organ damage. In spite of several challenges hazardous material is required in various stages of manufacturing and need to be stored in a warehouse.

Following are some of the suggestions for handling hazardous material in the warehouse:

Have the right procedures and that works according to the current regulations -

Procedures are made to ensure that the company requirements are met in warehouse. The requirements for safety, to prevent cargo damage, to ensure correct and punctual delivery of goods from warehouse. Meeting all of these requirements is what makes procedures right. Ensure the warehouse is operating the right procedures for cargo and organization requirements.

Staff needs to be certified for handling dangerous goods:

The storage and transport of dangerous goods is a complex practice. It requires detailed understanding and knowledge of the relevant regulations.

The people in the warehouse need to have the knowledge and skills for dealing with the transportation and security of hazardous materials/dangerous goods -

Only proper trained staff is able to successfully apply rules concerning the transport and storage of dangerous goods. Trained staff with the right knowledge and skills know about the risks involved and how to work with these risks, and without training it is extremely difficult to achieve a detailed understanding of the regulations.

Some hazardous goods need to be stored separately as per their classification:

Many dangerous goods are incompatible with other substances. Knowing this is one thing, working in a way that ensures these substances are safely and separately stored is something else. It is a legal requirement that dangerous goods which are not compatible with other substances are stored and handled separately. Avoid interaction that creates serious risks for incidents. A good warehouse and organization know this and uses a barrier or a suitable separation distance to avoid problems.

Documentation should be up-to-date and available to staff at all locations to enable them to perform their role in the quality system:

The people in the warehouse should be aware of the cargo and goods that are stored at any minute. Nobody expects an incident involving dangerous goods but in case it happens, it is better be prepared. Having precautionary statements near the dangerous goods everybody knows that to do when an incident happens. And with proper work instruction cards every employee, even those who are less trained, can follow instruction. Avoid a surprise and have documentation complete.

Below is a ready checklist for loader/unloader to refer while conducting the inspection for dangerous /hazardous cargo in warehouse –

Hazardous Material Check List		
1	Product Name	
2	Hazard Class	
3	PPE required to handle	
4	Engineering Controls/ Ventilation	
5	Special Handling Procedures	
6	Storage Requirements	
7	Special Containment	
8	Accident Procedures	
9	Waste Disposal	
10	Special Precautions	
11	Decontamination	
12	Designated Areas	
13	Approved by	

Fig. 8.2.2. Checklist for Dangerous cargo inspection

Notes



UNIT 8.3: 5S Concept

Unit Objectives



At the end of this unit, participant will be able to:

1. Explain the concept of 5S at workplace.

8.3.1 5S at Workplace

5S is a system for organizing workplaces that allows employee to work efficiently, effectively and safely. This system is designed to put everything-in-its-place and keep the workplace clean so that people can make their jobs easier without wasting time or risk of injury.

The term 5S comes from five Japanese words:

- Seiri
- Seiton
- Seiso
- Seiketsu
- Shitsuke

In English, these words are often translated to:

- Sort
- Set in Order
- Shine
- Standardize
- Sustain

Each S represents part of a five-step process that can improve the overall function of the operating location.

The 5S methodology offers many benefits, including:

- Low cost
- High quality
- Increased efficiency
- Increase staff satisfaction
- A safer work environment

5S involves assessing all available areas, deleting unnecessary items, organizing things logically, performing cleaning tasks, and maintaining this cycle. Organize, clean, repeat. Let's take a closer look at each part of the 5S.

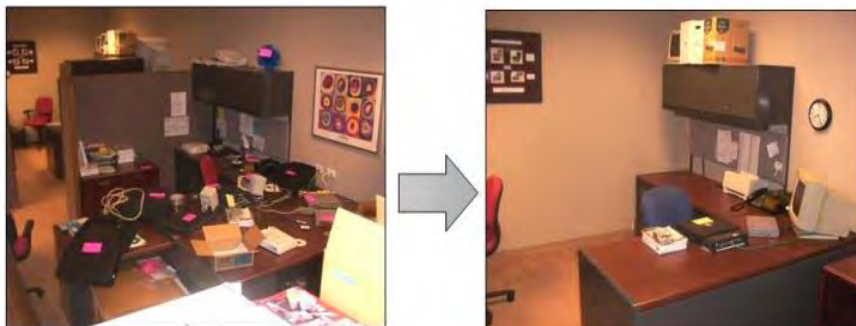


Fig. 8.3.1. 5S at Workplace

1. **Sorting** - The act of discarding away all unwanted, unnecessary, and unrelated materials in the warehouse.

- Classify & sort out
- Remove unnecessary items
- Store as per frequent use/ rare use/ not used at all
- Designate locations for storage
- Monitor progress

Examples: Waste strapping patti and clip, broken pieces of wooden pallets, torn boxes, waster packing material, peeled off BOPP tapes, shrink/stretchable wraps, waste office stationery, waste paper.

2. **Set in Order / Stabilize** - It consists of putting everything in a designated place so that everything can be quickly accessed and quickly returned to the same place.

- Position the items in the warehouse according to their frequency of use.
- Put the frequently used items next to the workplace
- Keep uncommon parts away from the operating location

Examples: GRN, invoice, STN, POD, road permit, LOI and agreement etc. Equipment and assets like HPT, stackers, forklifts, fresh stocks, DOA stocks, restricted and unrestricted stocks, FEs, dust bin, etc. Electrical wiring and fittings should be in intact conditions.

3. **Shine / Cleaning-** It consists of cleaning up the workplace and giving it a 'shine'.

- Cleaning must be done by everyone in the warehouse, from loader unloader to managers (regarding their workplace)
- Every person should ensure that his surrounding place is clean and tidy.
- It works best if every area of the workplace is assigned to a person or a group for cleaning.

Examples: Office area, security area, outside premises, loading and unloading dock/bay, shutters, windows and safety grills, operation table and area, toilets, pantry, DG & meter room, cobwebs, dusting of racks and stock boxes, corners and flooring of warehouse, desks, computers, dustbins, etc.

4. **Standardize** - Standardize is the result that exists when the First Three 'S' - Sort, Set in Order and Shine are properly maintained.

- Proper symmetry (regularity) should be maintained for labeling, nomenclature (categorization), filing, report names, stock boards, signage's, safety posters, stationery management, packing material, pallet size, white boards, address boards, etc.
- Provide a means for preventing recurrence of errors and minimizing variability.

5. **Sustain/Discipline** - Sustain means making a habit of properly maintaining correct procedures.

- Self-awareness and discipline are necessary to carry out and support all activities.
- A checklist should be drawn up to monitor any activity under 5S
- Make sure everyone follows the rules and makes it a habit
- Creates a common understanding about 5s
- Training for all standards development and success monitoring

Notes 

UNIT 8.4: Managing Breach of Safety, Accidents and Emergency Situations

Unit Objectives

At the end of this unit, participant will be able to:

1. Describe how to handle emergency situations.
2. Explain the steps to be taken in case of any accident.
3. Describe the documentation to be followed in case of any accident.
4. Explain the details on evacuation plan and safe assembly point.

8.4.1 Protocol in case of Emergency Situations

In ideal warehouse should try to prevent accidents from happening as far as possible. Despite all precautions, if accidents still occur, following action needs to be taken.

At the time of incident

- Take control at the scene and try to restore order.
- First aid and emergency calls. Provide immediate assistance to the injured; else call for help. Caring for injured personnel is the top priority.
- Monitor any secondary accidents. This includes banning people who should not be on area. For example, if the spill happened, other employees need not pass by.
- Identify people and conditions on the scene. The people are the witnesses to the event.
- Keep material evidence. Protect the scene and control access again. You do not want to modify or delete any evidence.

Once the immediate emergency is stabilized, the following measures must be taken:

- Assess how much damage is, how severe it can be, and that you need additional resources to investigate.
- Make proper notifications. Make sure senior management is aware. Also call the affected families, any regulatory agencies you need, and your insurance companies.

Other Actions

- The initial report should be completed and submitted for all assessments within 24 hours of the accident.
- Subsequent reports, including recommended actions, should be completed within 48 hours and 30 days.

Finally

- If an accident occurs, it is best to follow a written procedure and learn about the process from staff and management.
- The learning from the incident and how to prevent it in future should be clearly documented.

Below is the standard protocol to be implemented in case of any emergency situation -

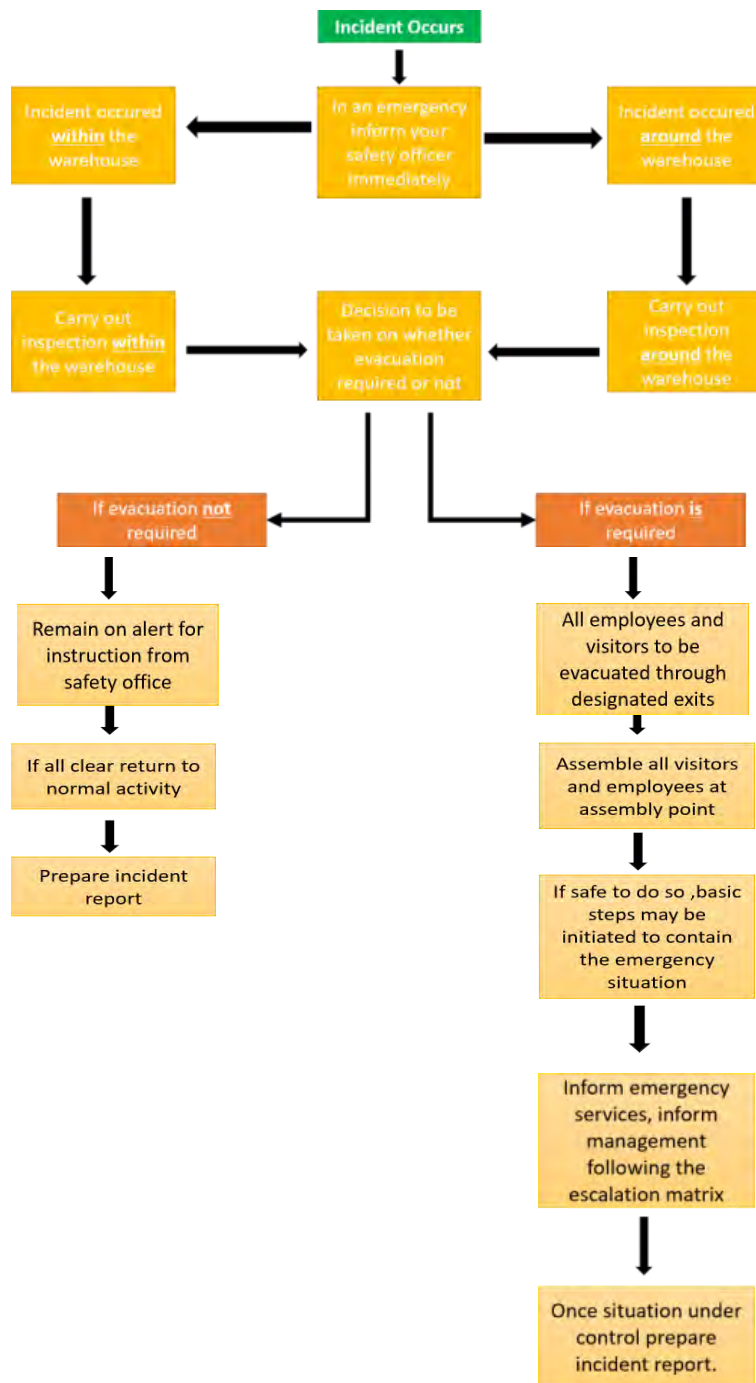


Fig 8.4.1. Flowchart for emergency situation

INCIDENT REPORT FORMAT

To be completed by staff within 12 hours of incident/accident

Incident Date: _____ Incident Time: _____
 Injured Person Name: _____
 Address: _____
 Phone Numbers: _____
 Male/Female: _____ Date of Birth: _____

Details of Incident:

Who was injured person? _____
 Injury Type: _____

Does Injury require Hospital/Physician? Yes: _____ No: _____
 Hospital Name: _____
 Address: _____
 Hospital Phone Numbers: _____
 Injured person/Party Signature/Date: _____ / _____

Important Notes and Instructions:

Prepared By: _____ Date: _____
 Name of Approved By: _____ Signature: _____

Fig. 8.4.2. Incident Report Format

Managing Deviations in Health, Safety and Security -

Warehousing with its whole range of activities can result in various hazards and risks. An effective safety and health management system tries to assess every possible safety risk and tries to put in measures to prevent them. By doing this the management is trying to protect its most valuable asset, employees, as well as other members of the public from harm. Safety measures not only protect premises, goods, equipment but the reputation too.

- There should be regular inspection with regards to safety and security of the warehouse.
- A periodic checklist should be asked to fill in by the employees with regards to following the safety procedures and their personal hygiene.
- Any employee, if seen violating health and safety norms should be immediately warned. In case if he still does not improve, appropriate actions may be taken.

Tips



- Following healthy and hygienic practices every day will make you feel good mentally and physically.
- Hygiene is two-thirds of health – so good hygiene will help stay strong and healthy!

Exercise

Multiple Choice Questions

1. Which of the following is not an activity to maintain fire safety in the warehouse?
 - A. Banning the entry of any match boxes and lighters
 - B. Building an emergency response team
 - C. Identify the escape routes
 - D. Regular inspection and maintenance of forklifts

2. Assigning every area of the workplace to a person or a group for cleaning is part of which S in the 5S methodology
 - A. Set in Order
 - B. Shine
 - C. Standardize
 - D. Sort

3. Which of the following is not a part of material safety data sheet?
 - A. Properties of the chemical
 - B. Storage and handling instructions of the chemical
 - C. Price of the chemical
 - D. Risk to health of the chemical

4. Which of the following is not a safety hazard?
 - A. Employee working for long hours much beyond the shift hours
 - B. Employee not being trained on safety procedures
 - C. Safety signs not being displayed in the warehouse
 - D. Not holding a sunrise or sunset huddle meeting

Fill in the Blanks







1. _____ are the single biggest reason for work related injuries across the world.
2. Removing unnecessary items if the part of _____ S in the 5S at the warehouse.
3. _____ in warehouse facilities are formal locations used to recharge Forklifts, BOPT and other Power Equipment.
4. An employee not following safety procedures should be _____.

True and False

1. On the job learning on how to operate a Forklift is good enough for a loader unloader to operate Forklifts.
2. Material Safety Data Sheet will carry instructions to clean in case of any spill
3. Conveyors are simple set of rollers and do not pose any threat to the safety of the people working near.
4. It is optional to send an incident report after an accident as long as all the steps have been taken and everything is restored to normal.



Annexure – QR Codes

S. NO	Chapter No.	Unit No.	Topic Name	URL	Page No.	QR Code (s)
1	Chapter 3- Unloading	Unit 3. 1 – Steps in Unloading Process	3.1.1 Unloading Process	https://youtu.be/2NqAZ_aoSvg	49	 <p>Unloading process</p>
2	Chapter 3- Unloading	Unit 3. 1 – Steps in Unloading Process	3.2.1 Exceptions Management	https://youtu.be/fpzw8RnzmWw	49	 <p>Scanning in Unloading process</p>
3	Chapter 4- Post Unloading Activities	Unit 4. 1 – House keeping Activities	4.1.1 House keeping	https://youtu.be/mOUvhsTJcRk	53	 <p>Housekeeping</p>
4	Chapter 4- Post Unloading Activities	Unit 4. 1 – House keeping Activities	4.1.1 House keeping	https://youtu.be/CtZ9-KEP5SM	53	 <p>Escalation Matrix</p>
5	Chapter 5- Preparation for Loading	Unit 5.1 - MHE and PPE required for loading Process	5.1.1 Material Handling Equipment	https://youtu.be/y4oYbKosd14	61	 <p>Do's and Don'ts in MHE</p>
6	Chapter 5- Preparation for Loading	Unit 5.1 - MHE and PPE required for loading Process	5.1.1 Material Handling Equipment	https://youtu.be/1uMf4Ky0nyM	61	 <p>Usage of MHE</p>

S. NO	Chapter No.	Unit No.	Topic Name	URL	Page No.	QR Code (s)
7	Chapter 5- Preparation for Loading	Unit 5.1 - MHE and PPE required for loading Process	5.1.2 Personal Protection Equipment	https://youtu.be/kcM9u4heDVk	65	 PPE
8	Chapter 5- Preparation for Loading	Unit 5.1 - MHE and PPE required for loading Process	5.1.1 Material Handling Equipment	https://youtu.be/BBWPIByOEfl	65	 MHE
9	Chapter-6 Moving Goods	Unit 6.1 – Steps in loading Process	6.1.1 Loading Process	https://youtu.be/42aUU9pRuM0	72	 Loading process
10	Chapter-6 Moving Goods	Unit 6.1 – Steps in loading Process	6.1.1 Loading Process	https://youtu.be/skU8lvDqz94	72	 Packing process in Loading
11	Chapter -7 Post loading Activities	Unit 7. 1 – Housekeeping Activities	7.1.1 House keeping	https://youtu.be/xA3Ggs0z4hA	81	 Housekeeping
12	Chapter -7 Post loading Activities	Unit 7. 1 – Housekeeping Activities	7.1.1 House keeping	https://youtu.be/CtZ9-KEP5SM	81	 Escalation Matrix



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