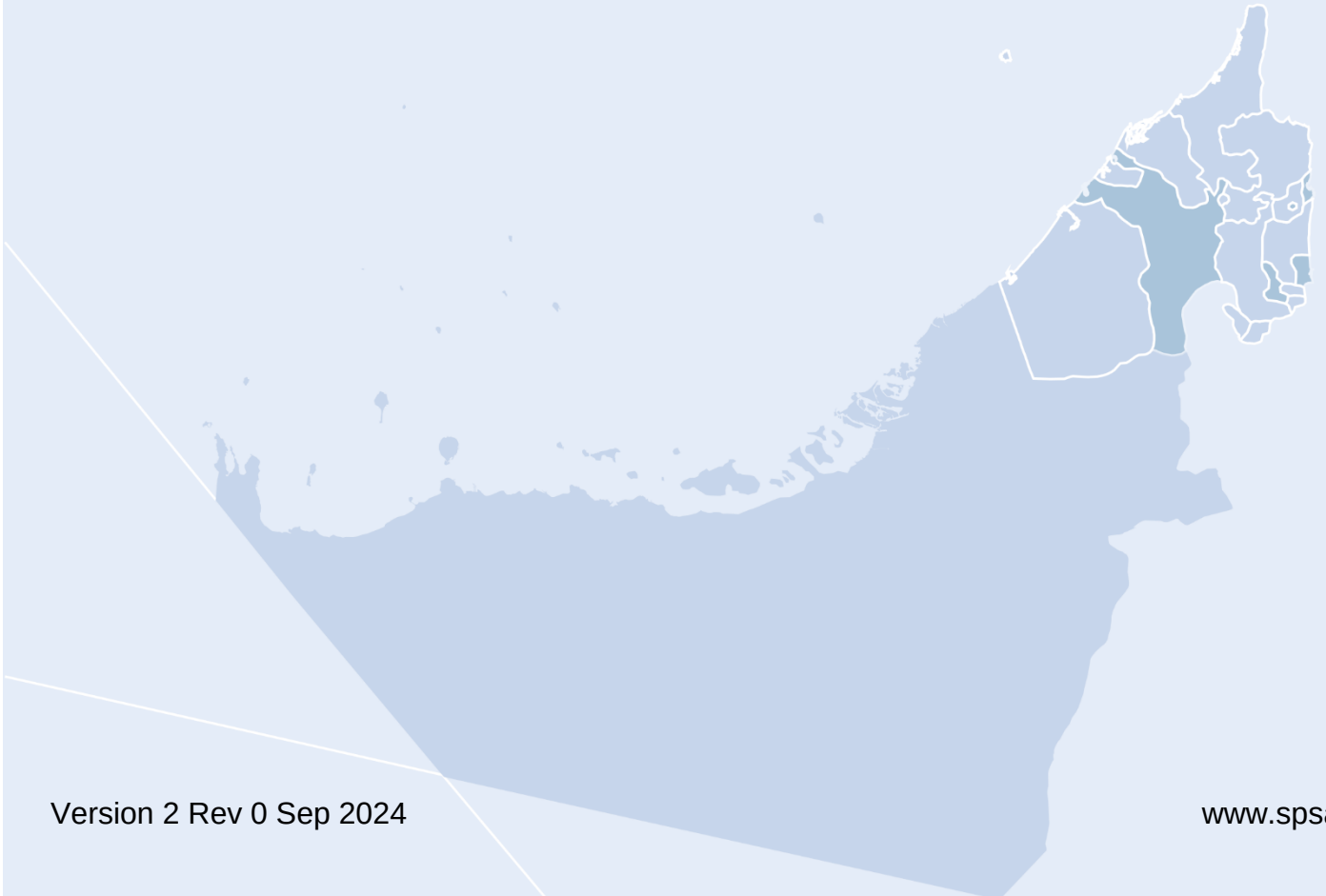
نظام الشارقة للسلامة والصحة المهنية
Occupational Safety & Health Sharjah

حكومة الشارقة
هيئة الوقاية والسلامة
Government of Sharjah
Prevention And Safety Authority

Guideline

Safety in Warehousing

OSHJ-GL-02



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1 Introduction

Warehousing facilities impose different types of risk depending on the materials stored and handled in the facilities. The entity can minimise these risks by properly managing warehousing and related activities. Where an entity manages warehousing properly, they can increase the efficiency, productivity and reduce the possibility of incident occurrence.

2 Purpose and Scope

This Guideline document has been developed to provide information to entities to assist them in complying with the requirements of the Occupational Safety and Health System in Sharjah.

To achieve compliance in the Emirate of Sharjah, all entities are required to demonstrate a standard of compliance which is equal to or higher than the minimum acceptable requirements outlined in this Guideline document.

The guidelines contained in this document apply to all entities within the Emirate of Sharjah who:

- Operate warehouse and storage facilities as their main business; and
- Have warehouses and/or storage facilities as part of their business.

3 Definitions and Abbreviations

Entities:	Government Entities: Government departments, authorities or establishments and the like in the Emirate. Private Entities: Establishments, companies, enterprises and economic activities operating in the Emirate in general.
Risk:	Is the combination of likelihood of the hazard causing the loss and the severity of that loss (consequences).
Risk Assessment:	The systematic identification of workplace hazards and evaluation of the risks associated. This process takes existing control measures into account and identifies and recommends further control measures where required.
Hazard:	Anything that has the potential to cause harm or loss (injury, disease, ill-health, property damage etc).
Hazardous Substances:	A hazardous substance is any substance that has one or more inherent hazardous properties. This includes flammability, explosiveness, toxicity, or the ability to oxidise.
AGVs:	Automatic guided vehicles.
Flued:	Vented through a pipe, tube or a channel. For example, using an exhaust system.
LPG:	Liquefied petroleum gas.
Plant & Equipment:	Machinery, equipment and apparatus used for work related activity.
Warehouse:	A building/area where goods are stored prior to their usage or distribution.

Manufacturer's Manual: The instructions, procedures and recommendations provided by the manufacturer to ensure the safe operation, maintenance and repair of the equipment.

4 Responsibilities

4.1 Entity Responsibilities

- Provide a safe place of work;
- Undertake risk assessments for their warehouses and/or storage areas; identify hazards and introduce effective control measures;
- Ensure that plant and equipment are in safe working order and regularly maintained;
- Ensure that the transport, storage and handling of hazardous substances is safely managed;
- Ensure that shelving and racking are suitable for the items to be stored;
- Provide information, instruction, supervision and training to managers, supervisors and employees;
- Provide suitable clothing and personal protective equipment (PPE).

4.2 Employee Responsibilities

- Not endanger themselves or others;
- Follow precautionary control measures to ensure work activities conducted in warehousing facilities are performed safely;
- Cooperate with the entity and receive information, instruction, supervision and training;
- Report any activity or defect which they know is likely to endanger the safety of themselves or that of any other person.

5 Guidelines

The entity should put in place appropriate safety and health arrangements to reduce risk in the warehousing facilities, the complexity of these arrangements should reflect the work activities and associated risks.

5.1 Risk Assessment

The entity should identify hazards relating to warehousing activities through the use of risk assessment and introduce effective control measures to reduce the exposure to employees, contractors, visitors and others. The risk assessment shall take into consideration the following, including but not limited to:

- The size, distribution and location of premises;
- Access and egress to and from the premises for people, vehicles, goods and equipment;

- Pallets and racking;
- Contractors conducting maintenance or construction activities;
- Electrical safety of plugs, sockets, switches, cables and equipment;
- Receiving, handling and movement of goods and hazardous substances or materials;
- Waste management;
- The movement of vehicles and people inside and outside warehousing facilities;
- Working at height;
- Manual handling;
- Emergency planning and preparedness.

Further information on risk assessment can be found in OSHJ-CoP-01: Risk Management and Control.

5.2 Design and Layout

The entity should ensure that warehousing is suitably designed and built for the products to be stored in it. If the warehouse is not purpose built, the entity should ensure that additional control measures are put in place to ensure the warehouse is suitable for the products stored in it.

Warehousing facilities should be designed and laid out to allow for the safe movement of goods, materials and people. Good design and layout can help reduce incidents, including those involving vehicles and employees slipping and tripping.

The movement of goods and materials involves the use of a wide range of vehicles and accounts for a large proportion of incidents in warehousing facilities. It is important to have a safe system of traffic management. This should include methods and procedures for arrival, reception, unloading, loading and movement of vehicles within the premises. The entity should segregate people and vehicles as far as is reasonably practicable.

When considering the design and layout the following factors should be assessed by the entity, including but not limited to:

- Storage areas, aisles and gangways;
- Pedestrian traffic routes;
- Staircases and ramps;
- Emergency escape routes;
- Loading and unloading of stored products.

5.2.1 Floors and Traffic Routes

The entity should ensure the following factors are considered, including but not limited to:

- Floors and traffic routes are designed to withstand the use to which they may be subjected to;

- Floors are capable of bearing the general load to which they may be subjected and at any point loading from stock; either with or without pallet racking;
- Floor surfaces are suitable for the loading/unloading of products, whether by vehicle or manually;
- Traffic routes have adequate strength and stability, taking into account the traffic passing over them. Floors should not be overloaded. Deep holes into which people may fall should be securely fenced or covered;
- Storage areas, aisles and gangways are clearly marked out on the floor. Gangways should be wide enough to ensure that mechanical handling equipment can be easily manoeuvred;
- The surfaces of floors and traffic routes should be free from any hole, slope or uneven or slippery surface which is likely to:
    - Cause a person to slip, trip or fall;
    - Cause a person to drop or lose control of anything being lifted or carried;
    - Cause instability or loss of control of vehicles and/or their loads.
- Slopes are not steeper than necessary, moderate and steep slopes, and ramps used by persons of determination or new and expectant mothers should be provided with a secure handrail where necessary. Vehicles should not be parked where they are likely to cause a hazard.

5.3 Welfare Facilities

The entity should provide a safe and healthy environment for employees including adequate welfare facilities within warehouse and storage facilities. Providing good workplace welfare facilities for employee's safety, health and wellbeing is an important part of providing a safe and healthy working environment. Welfare facilities should include, but not limited to washing facilities, toilets, rest areas, changing rooms and a place to eat and drink during breaks.

Further information on these welfare requirements can be found in OSHJ-CoP-15: Employee Welfare and Wellbeing.

5.3.1 Ventilation

Where loading and unloading doors are open during working hours, they do not usually require any special ventilation arrangements unless these facilities are frequently accessed by people. The entity should make necessary arrangements for specific ventilation requirements for the storage of some products or where combustion equipment is used inside the warehouse.

5.3.1.1 Gas and Oil-fired Equipment

Fresh air requirements for gas and oil-fired equipment will depend on how the equipment is flued. If ventilation is inadequate, carbon monoxide levels can increase rapidly, increasing the risk of carbon monoxide poisoning from un-flued combustion equipment. Un-flued space heaters are not recommended, room-sealed appliances are recommended where ventilation is difficult.

5.3.1.2 Internal Combustion Engines

Industrial trucks powered by internal combustion engines, such as petrol, diesel or liquefied petroleum gas (LPG) emit hazardous exhaust gases and particulates. Industrial trucks powered by internal combustion engines of any type should not be used in any workspace where the lack of ventilation would lead to a build-up of hazardous fumes.

If these trucks are used inside the warehouse, adequate ventilation may be required to remove exhaust fumes. Ventilation considerations, include but not limited to:

- The number of industrial trucks being used;
- The volume of the warehouse or operating area;
- The type of fuel used;
- The condition of the engines and the maintenance performed.

It is also important that engines are properly maintained. Exhaust fumes may be significantly reduced by the use of filter systems or catalytic converters. However, these systems are not a substitute for providing adequate ventilation.

There may be occasions where monitoring for the presence of gases such as carbon monoxide could be helpful either for establishing if there is a problem, or for ensuring that the control measures implemented are adequate.

5.3.2 Lighting

Good lighting, whether natural or artificial, is vital in promoting safety and health at work. The entity should provide the warehouses and storage areas with sufficient lighting to enable work activities to be carried out safely, shielded from excessive heat or glare. The level and type of lighting depends on:

- The type of work being carried out; and
- The hazards associated with it.

The entity will need to provide higher levels of lighting where work requires perception of fine detail. Warehouses should avoid having large differences in light level between adjacent areas, as this may cause visual discomfort or affect safety in places where there are frequent movements. Lighting should be sufficient to enable employees to move from place to place safely. Stairs should be well lit.

Further information on lighting can be found in OSHJ-CoP-15: Employee Welfare and Wellbeing.

5.3.3 Slips and Trips

Within warehouses, water, oil, cleaning products, dry powders and foodstuffs can all contaminate the floor and cause it to become more slippery. Other less obvious items, like polythene stretch wrapping and plastic bags, can also cause slips and trips. There can also be specific slip risks associated with temperature-controlled storage units, especially where ice forms on flooring surfaces.

The entity should create a work environment where slipping and tripping are much less likely to happen. To achieve this there are many simple and cost-effective steps that can be introduced, including but not limited to:

- Undertaking a good housekeeping and cleaning programme;
- The use of appropriate warning signs when cleaning;
- The use of anti slip paint to prevent dust from building up, reduces the slip quality of the floor surface, minimises wear and tear, and improves cleaning;
- All floor areas are levelled to ensure that people do not lose their footing;
- Heavy-duty cord covers shall be used if cables must run across the floor. As well as preventing trips, covers also protect cables in case a vehicle runs over them;
- Ensuring anti slip shoes are worn by everyone entering the warehouse, including visitors.

The entity should ensure that warehouse employees have awareness of:

- Keeping paths clear of obstructions;
- How to clean spillages;
- Keeping cables tied up and away from paths;
- Observing general cleaning of area practices.

5.4 Electrical Safety

The entity shall ensure the electrical power distribution systems within a warehouse and/or storage areas are designed, installed, operated and maintained to an adequate standard.

Adequate safety can only be achieved by ongoing and effective maintenance, which can include visual inspection, diagnostic testing, repair and replacement.

The frequency of inspection, maintenance and testing for electrical equipment should be based on the assessment of risk.

Specific electrical risks may exist in warehousing facilities, including but not limited to:

- Wet or damp conditions – where the warehouse uses pressure washers and/or steam cleaners; plugs and sockets must be designed specifically for use in wet conditions, with terminals protected for water ingress;
- Explosive atmospheres – the entity should seek specialist advice in relation to the electrical installation and equipment to be installed where the warehouse contains:
    - Flammable solvents, liquids or gases;
    - Combustible dusts, including flour, sugar, grain and wood dust.
- Charging of electric vehicle batteries – When charging vehicle batteries ensure the charging station is in a well ventilated area, always use the correct charging unit as specified by the vehicle/battery manufacturer’s manual. Ensure all electrical circuits are switched off before connecting/disconnecting batteries, raise the battery cover to aid ventilation during charging, and wear suitable PPE, where required.

Further information on electrical safety can be found in OSHJ-CoP-05: Electrical Safety at Work.

5.5 Handling of Materials

Warehousing facilities have a lot of moving parts; poor material handling can introduce safety and health risks which can potentially impact employees' safety and health.

5.5.1 Manual Handling

Manual handling is defined as the act of moving something using the physical strength of the body, rather than using a machine. Musculoskeletal disorders are a common occupational illness arising from manual handling work in warehousing facilities.

Injuries can occur as the result of a single incident of heavy lifting or they can develop over time due to repetitive work when order picking. A wide range of common work tasks can cause Musculoskeletal disorders, and many will be caused by one, or a combination of different risk factors. The entity shall ensure that work activities that require manual handling are adequately assessed and suitable control measures implemented, including the provision of mechanical aids and/or the change in design of storage facilities.

Further information on how to manage manual handling can be found in OSHJ-CoP-12: Manual Handling and Ergonomics.

5.5.2 Mechanical Handling

Mechanical handling equipment can assist with the movement, storage, control and protection of materials, goods and products in warehousing. Common types of mechanical handling equipment used in warehousing, include but not limited to:

- Forklift or lift trucks;
- Pallet stackers;
- Straddle trucks;
- Very narrow aisle lateral and front stacking trucks;
- Pivot steer trucks;
- Overhead or gantry cranes.

Safety requirements for the use of any mechanical moving equipment involve risk assessing and developing safe working procedures. These procedures by the entity should include consideration of safety measures to address the following, including but not limited to:

- The training and evaluating of the competency of all operators and supervisors of moving equipment, including the use of attachments. Making sure they can follow safety procedures for picking up, putting down and stacking loads;
- Training employees on the hazards associated with vehicle emissions;
- The safe segregation of vehicles and people where vehicles, delivery trucks and industrial trucks operate by having designated walking routes and crossing places, supported by warning signage prominently displayed at strategic locations to inform people that vehicles operate in this area or premises;
- A planned routine maintenance system, a system for reporting defects and for ensuring that repair work is carried out, a procedure for operators to document a pre-

shift check and a thorough safety inspection for maintenance and inspection of vehicles;

- Providing dedicated outdoor areas for refuelling vehicles with diesel, LPG or petrol. Refuelling should not take place where there is a likelihood of an accumulation of flammable vapours in drains, pits and gulleys in the event of a spillage;
- Smoking should be prohibited and notices should be prominently displayed in these areas and engines should be switched off before refuelling;
- Where flammable materials may be present and vehicles could cause direct ignition of the surrounding flammable atmosphere, vehicles should not be used in these areas where flammable vapour, gases or dusts are liable to be present, unless they have been suitably designed and equipped for such use;
- The use of belt and roller conveyors need to have protection for employees from potentially being drawn in, trapping and entanglement by having suitable guarding on moving belts, head and tail pulleys, all transmission machinery and drawing in hazards between belt and idler rollers, and fitted with emergency stop arrangements;
- For mobile vehicle loaders/conveyors in addition to the above safety measures ensure that when in use the footbrakes are applied, keep employees away from the moving belt and prevent anyone from walking below the conveyor boom;
- Scissor lifts should only be operated by trained competent employees who should carry out regular safety checks, including the visual inspection of safety interlocks on gates, and the operation of safety bars emergency stop device. Safety signage should be displayed adjacent to or on the equipment, indicating rules for safe operation and the safe working load;
- Warehouses handling waste materials, including balers and compactors, can be highly dangerous due to the risk of crushing and other life threatening injuries. The safety aspects of operating this type of equipment will be contained within manufacturer's manual;
- Overhead cranes are complex and require specific safety information which is not contained in this document. Further safety information on the use of cranes can be found in OSHJ-CoP-10: Safe Selection and Use of Lifting Equipment.

5.6 Traffic Management

5.6.1 Safety of People

The entity should provide a well-designed and maintained workplace with suitable separation of vehicles and people which will reduce the risks of vehicle related incidents. The most effective way of ensuring people and vehicles move safely in the workplace is to provide separate walkways for pedestrians and dedicated vehicle traffic routes.

If separation is not possible, the entity should provide clearly marked pedestrian walkways and vehicle routes including barriers and signage. Where walkways and vehicle traffic routes cross, they should be clearly marked using: dropped kerbs, barriers, deterrent paving to help direct pedestrians to the appropriate crossing points.

The entity should consider the following control measures for the safety of people, including but not limited to:

- Pedestrian or vehicle-only areas with separate areas for car parking away from lorry and lift truck operation;
- Dedicated walkways for pedestrians which could include barriers, kerbs and designated crossing points;
- Separate doors for people to use at vehicle access/egress into buildings;
- Increased lighting, and therefore greater visibility and the wearing of high-visibility clothing;
- Restricting access to people in areas during loading and unloading operations and 'No unauthorised access' areas, for visitors and contractors;
- Drivers once they have left their vehicles, should use only designated walkways, safe zones etc.

5.6.2 Protecting People Working Near Vehicles

Where employees are working with or near to vehicles, the following control measures should be implemented by the entity, including but not limited to:

- Members of the public and non-essential employees should not be permitted into areas where vehicles are moving or being loaded/unloaded;
- Provide sufficient warning signs to show that vehicles operate in the area;
- Instruct all employees and visiting drivers to stand clear when vehicles are moving or being loaded or unloaded;
- Provide employees and visitors with adequate PPE for their work.

5.6.3 Traffic Routes

The entity should plan traffic routes with the following safety considerations, including but not limited to:

- Vehicle routes should be wide enough for the largest vehicle liable to use them;
- The need for vehicles to reverse should be minimised as far as possible, by using one-way systems and drive-through loading areas;
- Sharp bends and blind corners should be avoided. Where they are unavoidable, effective warning signs and suitably placed mirrors may help to reduce risks;
- Traffic routes should be made of a suitable material and should be constructed with materials that safely bear the loads that will pass over them;
- Road surfaces should be adequately maintained and potholes should be promptly repaired;
- Any slopes should not be too steep that they pose a risk to the safety of work activities that takes place on them, including the stability of vehicles or their loads.

5.6.4 Managing Loading and Unloading

The entity shall ensure that control measures are in place for managing heavy goods vehicles (HGV) trucks and vans, including but not limited to:

- When coupling and uncoupling, the parking brakes on the HGV unit and the semi-trailer of an articulated combination should always be used. The entity should have procedures in place to check that coupling and uncoupling of trailers happens safely and that semi-trailers are parked with the parking brake correctly applied;

- To ensure the stability of semi trailers a support at the front end is required when they are uncoupled from the truck unit. This is usually provided by a pair of 'landing legs', which are lowered or raised manually. The distribution of the load changes as loading or unloading progresses. Control measures should include effective planning of load distribution and training the loading operators to ensure they are aware of the risks. A safety jack or other suitable support may be necessary for some loads;

- Safety measures during loading and unloading, include but are not limited to:

    - No vehicle should be loaded beyond its rated capacity or beyond the legal limit of gross weight for that vehicle;

    - Before loading is started, check the vehicle floor to ensure it is clear of loose objects, in good condition and safe to load;

    - Loads should be properly secured or arranged so that they are safe for both transportation and unloading, to ensure that load does not slide forward in the event of sudden braking, or move sideways when cornering;

    - Carry out loading/unloading to maintain as far as possible, a uniform distribution of the load;

    - Before loosening any load-bearing ropes or straps, check the vehicle and load to ensure that doing so will not allow materials or goods to fall due to loads that may have shifted in transit;

    - The driver is responsible for ensuring the load is secure and should give instructions on positioning of loads to the driver who is loading.

- Measures should be in place to protect persons from falling when goods or materials are being loaded and unloaded. Measures that prevent people falling should be taken first. If prevention is not possible, other measures should be taken. Marking edges is the last resort to deal with residual risks as it does not prevent or mitigate the effects of a fall;

- Remove the need for people to go up on vehicles where possible, such as to locate gauges and controls where they are accessible from ground level. Where people have to climb up to or onto a vehicle or trailer, the vehicle or trailer should be provided with a well-constructed means of access that should where necessary include appropriate handhold/s. Where operations are conducted at height and permanent safe access on the vehicle is not possible, an alternative means of access should be provided;

- Dock levellers are devices used to bridge the gap between the loading dock and the vehicle trailer. When a dock leveller is not in use, the platform should be returned to a horizontal position flush with the loading dock as soon as loading/unloading is completed. A mechanism fitted to the dock leveller that automatically returns the

platform to a horizontal position after use will give increased safety protection against the risks caused by the platform being left inadvertently raised or depressed;

- A safe system of work in place so that drivers never move their vehicles accidentally or deliberately until the load is secure and it is safe to depart.

5.7 Working at Height

Work at height is work in any place, including above or below ground level, where someone could fall and injure themselves. This can be a one-off work activity or a routine task and can include the following situations:

- Where people can fall from work equipment;
- Where people can fall from an unprotected edge, or through an opening or fragile surface;
- Where people can fall from ground level into an opening in a floor or hole in the ground.

The entity should avoid work at height activities, wherever possible. If work at height is not avoidable the entity should ensure adequate arrangements to control risk are implemented.

Further information on how to manage working at height can be found in OSHJ-CoP-04: Work at Height Safety.

5.8 Storage

A variety of systems are used for storing goods, from pallets to static racking. The method of storage depends on the shape and fragility of the materials. Long thin materials are generally stored in some form of horizontal racking and box shaped articles or loose materials in sacks built into a stack, with suitable bonding to ensure stability.

Cylindrical objects can be stored on their sides or on an end. When such objects are stored on their sides, the floor-level tier should be properly secured to prevent movement. Subsequent tiers can rest on the preceding one or be laid on battens and wedged.

Where materials are handled by equipment or vehicles, they should be placed on battens or other suitable material, so that the forks can be inserted. It is possible for most materials to be palletised and stacked as complete pallet loads or stored on pallet racking.

Further information on the storage of gas cylinders can be found in OSHJ-CoP-31: Compressed Gases and Air.

5.8.1 Temperature Controlled Storage

Temperature-controlled storage operates across a wide temperature range. The main bands are +4/5 °C for chill and –20 °C to –30 °C for frozen, although these can vary depending on product requirements.

The entity should ensure that all significant hazards are identified in temperature controlled storage facilities and that they are risk assessed and appropriate control measures put in place. Specific hazards associated with temperature controlled storage, include but are not limited to:

- Accidental lock-in, is potentially a serious hazard that can lead to fatal incidents, particularly in low temperature stores. Lone working should be avoided and a buddy

system introduced. Adequate emergency exits and signage are essential in temperature-controlled storage, together with highly visible escape routes. A manual call point should be installed inside the storage unit and connected to a siren to alert others to the danger of someone being trapped inside the temperature controlled storage unit. This can significantly reduce the danger of a lock-in;

- Refrigerants used in cold storage such as ammonia and halocarbons can produce a potentially hazardous situation through handling or an accidental release;
- Employees should be adequately protected from the cold. The entity should make special arrangements for the welfare of employees who are exposed to low temperatures for extended periods. These arrangements should include the provision of thermal protective clothing and warming rooms with drinks dispensers. Suitable breaks should be arranged based on a comprehensive risk assessment. Employees including supervisors should be trained to recognise the early symptoms of cold stress.

Further information on how to manage lone working can be found in OSHJ-CoP-29: Safety in Lone Working.

5.8.2 Storage of Hazardous Substances

The storage of hazardous substances in substantial quantities may create serious risks, not only to employees working at the warehouse but also to the general public, property and to the environment.

The precautions needed by the entity to achieve a reasonable standard of control should take into account the properties of the substances to be stored. Different hazardous substances create very different risks and it is important that the standards adopted at the warehouse are based on an understanding of the physical and chemical properties of the substances concerned and the potential reactions between substances. Other important factors are the overall quantities of the substances to be stored and the maximum size of individual packages.

The incidents that cause the greatest concern are generally those that involve fire and explosion. Such fires expose employees, the emergency services, and members of the public to the threat of heat, harmful smoke and fumes, flying missiles and explosion. Fires can also cause the substances to be spread over a wider area through smoke and water used to fight the fire, thereby being harmful to the surrounding community and the environment.

The entity managing warehouses and storage areas where hazardous substances are to be stored, must before undertaking such storage, assess the risks created and the means adopted to control these risks, including but not limited to:

- The identification of substance(s) present or likely to be present;
- The evaluation of risks posed by these substances;
- The prevention and control of risk;
- The mitigation of risk.

The entity should ensure that the risk assessment should be periodically reviewed and when the types of substance, total quantities or storage conditions change.

Further information on hazardous substances can be found in OSHJ-CoP-11: Management of Hazardous Substances.

5.9 Personal Protective Equipment

The entity should ensure that personal protective equipment (PPE) is adequately selected and provided for employees working in warehousing.

The minimum requirements are:

- Safety shoes – Shoes with anti-slip soles prevent slip incidents, while steel capped boots protect from impact and crush hazards;
- High visibility jackets – Hi-visibility vests should always be worn by those working in warehouses and especially where vehicles and pallet trucks are operating.

Other possible PPE, depending on the work activities and products stored, include but not limited to:

- Eye protection – Safety glasses and goggles prevent debris harming the eyes;
- Hand protection – Gloves for different uses could be necessary to protect the hands;
- Hearing protection – Ear defenders or plugs help reduce noise exposure to an acceptable amount;
- Hard hats – Could be necessary when the potential of dropped objects cannot be adequately controlled.

Further information on PPE can be found in OSHJ-CoP-27: Personal Protective Equipment.

6 Training

The entity should provide all employees with basic training in safety and health in languages and in a format that employees understand. All warehousing employees should have adequate training in the hazards associated with their work activities within the warehouse, along with the precautions to take, including but not limited to:

- Operators of work equipment and vehicles, should be adequately trained in the hazards of the equipment they use, and the precautions that they must take to ensure safe operation;
- Where hazardous materials are handled, stored and transported, employees must be adequately trained to understand the risks associated with hazardous materials and any safety measures needed to protect persons and property.

Periodic refresher training should be conducted to ensure employees competency is maintained, including but not limited to:

- Where training certification has expired;
- Where identified as part of a training needs analysis;
- Where risk assessment findings identify training as a measure to control risks;
- Where there is a change in legal requirements;
- Where incident investigation findings recommend refresher training.

The entity must record and maintain accurate training records of OSH training provided to employees.

Further information on training can be found in OSHJ-GL-08: Training and Competence.

7 Emergency Preparedness and Response

The entity should be prepared for emergencies; an emergency plan is a document containing the actions the entity will take in an emergency. Warehousing facilities require the entity to have a robust plan to deal with emergencies.

A fire occurring in a warehousing or storage facility can have serious implications for life and property. The entity is required to take steps to avoid fires and to ensure peoples safety if a fire occurs. Further information on fire safety requirements can be found in UAE Fire and Life Safety Code of Practice.

Other considerations to include in the emergency plan, include but not limited to:

- Having a detailed site layout with shut-off valves and electrical isolators clearly marked;
- Appointing emergency response personnel who can take charge and make decisions on behalf of the entity during an emergency and liaise with emergency services;
- Adequate fire fighting and first aid equipment is available for the size of the operation and takes into consideration the types of hazardous goods stored;
- Employees are trained in emergency response, including information of first aid arrangements and where first-aiders, first aid equipment and facilities are located;
- Employees are appointed as first-aiders and available at each location and on each working shift.

Further information on first aid can be found in OSHJ-CoP-16: First Aid at Work.

Further information on developing an emergency plan can be found in OSHJ-CoP-18: Emergency Preparedness and Response.

8 References

OSHJ-CoP-01: Risk Management and Control

OSHJ-CoP-04: Work at Height Safety

OSHJ-CoP-10: Safe Selection and Use of Lifting Equipment

OSHJ-CoP-15: Employee Welfare and Wellbeing

OSHJ-CoP-18: Emergency Preparedness and Response

OSHJ-CoP-27: Personel Protective Equipment

OSHJ-CoP-29: Safety in Lone Working

OSHJ-CoP-11: Management of Hazardous Substances

OSHJ-CoP-31: Compressed Gases and Air

OSHJ-GL-08: Training and Competence

UAE Fire and Life Safety Code of Practice

9 Document Amendment Record

TITLE	Safety in Warehousing

DOCUMENT AMENDMENT RECORD			
Version	**Revision Date**	**Amendment Details**	**Pages Affected**
1	15 SEP 2021	New Document	N/A
2	26 JUN 2024	The document code was changed from OSHJ-GL-11 to OSHJ-GL-02.	12,13,14,15
2	26 JUN 2024	Risk register Added	19,20
2	26 JUN 2024	Checklist Added	23,24

10 APPENDIX 1. Example of a Risk Register

Some manuals within Sharjah Occupational Safety and Health System include a sample risk register as an advisory document that entities can emulate. The examples listed in this sample may not be directly applicable to every entity; however, they serve as illustrative cases to enhance understanding of the methods used to evaluate activities within the entity, potential risks, and possible consequences. The sample demonstrates how to assess risks by calculating their likelihood and consequences.

Some manuals present this sample to emphasize the importance of risk monitoring, evaluation, and the implementation of appropriate control measures. It is unacceptable for an auditor from the Prevention and Safety Authority to find any entity engaging in hazardous activities without a thorough risk assessment process. We can anticipate and prevent workplace risks, and the risk monitoring process is not complex. Therefore, this appendix aims to provide a sample that aids in the monitoring, evaluation, and implementation of control measures, monitoring residual risks, and defining tasks and responsibilities for managing hazards.

Every government entity or private establishment has its unique nature of work and environment, which contain risks specific to its operations. Hence, each entity should develop its monitoring procedures based on this appendix. We can develop more detailed assessment tools beyond what this sample presents. As stipulated by Executive Council Resolution No. (15) of 2021 regarding the Sharjah Occupational Safety and Health System, employers are required to identify all foreseeable workplace hazards, assess the risk of injury or illness to workers, and implement consistent preventive measures to ensure workers' safety, health, and well-being. The same resolution also holds employers responsible for their employees, contractors, visitors, and anyone affected by the employer's activities. Therefore, this sample recommends including these individuals in the risk assessment process.

Activity/task	Dangers	Consequences	Existing control measures	Risk			Additional control measures	Residual risks			Executing person	Administrator: Date:
				L	C	R		L	C	R-R		
Improper storage of boxes	Wrong storage of chemicals causing fires	Fire hazard, property damage	-	[1-5]	[1-5]	L x C	Store flammable materials in approved containers away from heat sources. Implementation of fire prevention measures such as reagents	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Maintenance Officer	[date]
	Storage in a way that hinders emergency exits	Slipping and falling, blocking access to assembly areas	-	[1-5]	[1-5]	L x C	Carry out periodic checks to ensure that corridors and exits are still clear. Use signage to indicate maximum storage capacity	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Maintenance Officer	[date]
	Chemical leakage, exposure to inhalation	Injuries, suffocation, death, burns, loss of consciousness	-	[1-5]	[1-5]	L x C	Store chemicals in designated areas with ventilation and proper reservation. Provide training on handling hazardous materials	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Health & Safety Officer	[date]
	Insufficient training to store properly	Improper storage, trimmed, blockage of emergency exits, fire	-	[1-5]	[1-5]	L x C	Provide comprehensive training on the correct storage mechanism.	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Facility Manager	[date]
Walking on Uneven Surfaces	Uneven flooring, obstacles	Falls, sprains, fractures	-	[1-5]	[1-5]	L x C	Regular inspection and maintenance of flooring, clear pathways	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Facility Manager	[date]
Housekeeping	Cluttered work areas, loose cables	Trips, falls, impact injuries	-	[1-5]	[1-5]	L x C	Implement 5S methodology, provide storage solutions	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Cleaning Staff	[date]
Office Environment	Loose carpeting, tangled cords	Trips, falls, ergonomic issues	-	[1-5]	[1-5]	L x C	Ensure proper installation of carpeting, use cable management systems	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Office Manager	[date]
Manufacturing	Obstructed pathways, poor lighting	Trips, falls, collisions	-	[1-5]	[1-5]	L x C	Clear pathways, improve lighting, provide safety training	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Production Supervisor	[date]
Vehicle movement within the site	Collisions with workers or other vehicles	Physical injuries, property damage	-	[1-5]	[1-5]	L x C	Establish safe vehicle routes, train drivers on safe driving	[1-5]	[1-5]	Existing control measures – risk	Safety Manager	[date]

										(R) = residual risk (R-R)		
Working in crowded areas	Collisions between workers or with work equipment	Injuries from collisions or falls	-	[1-5]	[1-5]	L x C	Organize work movement and reduce congestion, install warning signs	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Site Manager	[date]
Use of heavy equipment	Equipment colliding with infrastructure or workers	Loss of life, serious injuries	-	[1-5]	[1-5]	L x C	Standard operating procedures, continuous training, install safety barriers	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Operations Manager	[date]
Storage and stacking	Materials falling from collisions with shelves	Head or back injuries, product damage	-	[1-5]	[1-5]	L x C	Use safe storage techniques, train workers on stacking techniques	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Warehouse Manager	[date]
Transport and loading	Collisions during transport and loading operations	Delays, material losses, injuries	-	[1-5]	[1-5]	L x C	Use appropriate loading and transport equipment, train workers on safety	[1-5]	[1-5]	Existing control measures – risk (R) = residual risk (R-R)	Logistics Manager	[date]

11 APPENDIX 2. Checklist

The checklist is used by Prevention and Safety Authority to monitor compliance levels during audit and inspection operations; it is not intended for use by government entities or private establishments.

Every code of practice or guideline published by the Prevention and Safety Authority within the Sharjah occupational safety and health system contains requirements that employers in the Emirate of Sharjah must comply with. Each manual includes an inspection checklist that summarizes the essential items used by the SPSA auditor to verify that government entities or private establishments comply with the manual's requirements. Auditors can add additional essential items as necessary. The inspection checklist also includes a manual reference for each essential item, as well as a sample of acceptable compliance evidence for each item. The SPSA's auditor may request additional compliance evidence based on the item's condition, as well as the severity and potential impact of non-compliance.

The SPSA's auditor uses the inspection checklist to provide a comprehensive report on the entity's status. We will use the same checklist to monitor manual standard violations. Non-compliance with these standards constitutes a violation of Executive Council Resolution No. 15 of 2021 regarding the Sharjah Occupational Safety and Health System. If the SPSA's auditor detects non-compliance, they can issue violations based on the approved violation list.

In this manual, the SPSA provides information and standards that employers conducting activities in the Emirate of Sharjah must adhere to. This is to ensure the safety of workers, property, and the environment. Adhering to the requirements of this manual helps improve the level of occupational safety and health at the workplace, and it shields private establishments from potential violations or financial penalties for non-compliance.

The Emirate of Sharjah's Executive Council Resolution stipulates that employers must exercise due diligence to ensure the safety and health of workers, contractors, visitors, and all those affected by the employer's activities. To avoid non-compliance, employers must ensure adherence to the Sharjah Occupational Safety and Health System requirements. Entities should develop their procedures and inspection checklists according to their activities, nature of work, and risk level.

Depending on recorded or reported incidents, and as necessary, the SPSA may amend the requirements in this manual. As a result, the attached inspection checklist may change. Occupational safety and health practitioners must stay up-to-date on published standards and any changes to the inspection checklist attached to each manual.

Audit/Inspection Checklist

Code Title	Safety in Warehousing	Code No.	OSHJ-GL-02	Rev. No.	1.0

Sr.	Checklist Item	Clause in the Code	Acceptable means of compliance
1.	Are the risks related to the warehousing identified, assessed and periodically reviewed?	5.1, 5.8.2: Risk assessment, Storage of Hazardous Substances	– Copy of the RA
2.	Is the warehouse designed for the materials stored?	5.2: Design and layout	– Visual verification for the storage area – Scheme of the warehouse – Material safety data sheet
3.	Are the floors and traffic routes designed for safe storage of the materials?	5.2.1 : Floors and traffic routes	– Visual verification for the floors: – Check for holes on the floor – Slippery floors – Clearly marked isles – Steep slopes – Use of ramps when necessary – Vehicle routes wide enough for the largest vehicle to use. – No sharp bends or blind corners – Use of one-way system to avoid reverse as much as practicably possible.
4.	Are there basic welfare facilities provided for workers in the warehouse?	5.3: Welfare Facilities	– Visual verification for the toilets – Visual verification for restrooms – Visual verification for availability of hygienic drinking water – Visual verification for eating areas
5.	Is there a proper ventilation system in the warehouse according to the materials stored?	5.3.1: ventilation	– Visual verification of the ventilation system Copy of the warehouse scheme
6.	Are there proper lighting in the warehouse?	5.3.2: lighting	– Visual verification for the lighting in the warehouse
7.	Is the warehouse free from obstacles that may lead to trips and falls?	5.3.3 :slips and trips	Visual inspection for: – Movement / traffic route clear of obstructions. – Slippery slopes / floor holes

Sr.	Checklist Item	Clause in the Code	Acceptable means of compliance
8.	Are the electrical connections and electric equipment properly installed, operated and maintained?	5.4 : electrical safety	– Visual inspection for the electrical system/equipment in the warehouse – Copy of the maintenance records
9.	Are the manual handling job kept to minimum, where required aids are provided?	5.5.1 : Manual handling	– Guideline on manual handling activities – Copy of RA/SoP
10.	Are there procedures in place for operating and maintaining the mechanical moving equipment and operators are competent?	5.5.2 : Mechanical Handling	– Equipment operation manual – Operator training record Maintenance record
11.	Are the paths properly marked/separated for the movement of vehicles and people?	5.2, 5.6 : Design and layout, Traffic Management	– Visual verification for barrier – Visual inspection for traffic routes
12.	Are there safety procedures for loading/unloading materials from the vehicle?	5.6.4 : Managing loading and uploading	– Copy of guidelines on loading and unloading heavy goods. – No vehicle loaded beyond its rated capacity. – Visual inspection of secure loads on heavy vehicles.
13.	Are the working at height tasks properly assessed and necessary arrangements in place?	5.7: working at height	– Copy of the RA
14.	Are risks related to temperature controlled facilities/rooms in the warehouse identified, assessed and control measures in place?	5.8.1: temperature controlled storage	– Copy of the RA – Visual verification for temperature controlled storage facilities
15.	Are the employees in warehouse provided with the suitable PPE?	5.9 : personal protective equipment)	– Visual verification for the PPE – Copy of PPE distribution record
16.	Are the employees trained in safety and health associated with their activities?	6 :training	– Copy of the OSH training records
17.	Is there an emergency plan in the warehouse?	7:Emergency Preparedness and Response	– Copy of the ERP