



Health and Safety Technical Guidelines

TG - 09

Warehousing Safety

Produced by

Health & Safety – Facilities & GS Department

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Appendices

Appendix A – Warehouse and Storage Area Safety Signs

1 Purpose

The purpose of this document is to protect the health and well-being of all employees, faculties, students and visitors to Qatar University (QU) warehousing areas, as well as protecting QU property and the environment by:

- Preventing warehousing-related accidents and injuries;
- Instituting adequate procedures to protect all property and the environment from damage and loss;
- Assuring all QU employees, students, contractors and visitors clearly understand warehousing-related risks; and
- Requiring all QU employees, students, contractors and visitors to be in compliance with all warehouse-related safety regulations and procedures.

2 Scope

This HS Technical Guideline applies to all QU warehousing and storage areas.

3 Responsibilities

3.1 Top Management

QU top management shall allocate sufficient resources for the effective implementation of the HSMS, including the application of this HS Technical Guideline, and ensure that QU employees, students, contractors and visitors are aware of their responsibilities through appropriate regulation, delegation and communication.

The QU Top Management is also accountable for monitoring and reporting HS performance and appropriate programs and actions to ensure compliance with the QU HS Policy.

3.2 Other Accountabilities

The QU Health and Safety Section (HSS) and the HS Committee are accountable to the QU Top Management for the implementation of this HS Technical Guideline.

Vice President (VPs), Deans, Directors, Managers, Head Sections/Units and Project Managers are accountable to the QU Top Management for the application of this HS Technical Guideline in areas under their supervision.

All QU staff, students and contractors are responsible for performing their duties by complying with the requirements of this HS Technical Guideline as it applies to their activities, and promptly reporting all hazards, incidents and accidents to their supervisors.

4 Guidelines

4.1 Hazard Identification and Risk Management

Identification, assessment, control, and monitoring of HS risks will be applied in accordance with QU **HSMS – Risk Management Procedure**.

HS Hazards and Risks related to warehousing and storage-related activities are detailed in the Health and Safety Risk Register,

Any emerging HS hazards will be reported to supervisors and the Environment and Safety Office in accordance with QU **HSMS - Incident Reporting and Investigation**.

4.2 Overview: Warehousing and Store Operations

4.2.1. Warehouse Stock Items

The QU Central Store stocks quality supplies and materials purchased in volume through contracts issued by QU Contracts and Procurement Department and through open bid procedures, thereby providing a savings to QU.

A catalogue listing of all items stocked in the Central Store is available from the University's Oracle System. Departments may purchase items listed in the catalogue directly from the Central Store by completing a warehouse requisition form. Items purchased are delivered by Store personnel to the departments.

Departments are required to consult their catalogue or Store personnel to determine if items are stocked or available from the QU Central Store before purchasing from an outside vendor. Departments are required to purchase stock items from the Central Store in lieu of seeking the item(s) on the open market.

Every effort is made by the Central Store to fill and deliver all warehouse requisitions within twenty-four (24) hours after they are received.

4.2.2. Central Receiving

Since it is impossible for large trucks to get to most buildings on campus, the Warehouse has been designated as the central receiving point for the University. Purchase orders normally give the Central Store as the point of delivery, and most commercial carriers have been instructed to deliver to this point.

4.2.2.1. Purchase Orders Departmental Receiver

When purchase orders are processed by the Purchasing Office, the departmental receiver copy is forwarded to the Central Store. When items are received, the Warehouse does the following:

- Checks items received against the departmental receiver on an item by item basis when possible.
- Logs the shipment on a receiving report by the total number of parcels.
- Delivers the items to the department or area designated on the purchase order. Every effort is made to deliver all materials within twenty-four hours of their receipt.

4.2.2.2. Receiving Materials Ordered

When the Store delivers materials, the department will sign the warehouse receiving report for the shipment only as to the number of packages. It is not feasible for the department to check the shipment contents while the Store truck driver waits. The department should check the shipment contents as soon as possible, but not later than three (3) days after receipt. If there is no problem with the shipment it will not be necessary to call the Store; the purchase order will be received electronically. However, if there is a problem, or the order is not complete, the Store should be notified immediately. If the Store is not notified of a problem or incomplete order, the purchase order will be electronically received resulting in the possible payment of the order.

4.2.2.3. Damaged Shipments

If concealed damage is discovered, all packing material and the shipping cartons must be retained for inspection by the shipper and freight carrier, until instructions are received as to the disposition of the damaged item(s).

4.2.2.4. Items Not Received by the Central Store

For items not received at the Central Store, but forwarded directly to the requesting department, the parcels should be opened and inspected for compliance with the purchase order and for concealed damage. The Store must be notified when the order is complete, so the purchase can be electronically received. If damages exist, follow the same procedure as for items delivered by the Central Store.

Central Receiving has no way of knowing that items delivered direct to departments have been received. Therefore, it is essential that the department notify Central Receiving immediately upon satisfactory receipt of an order, so it can be electronically received and processed for payment.

4.2.3. Central Shipping

4.2.3.1. Central Shipping or Parcel Post

The Central Store handles all outgoing shipments of a weight and size or requiring shipment by motor freight carrier. Items of a size and weight not requiring shipment by motor freight may be sent via parcel post directly from the department.

4.2.3.2. Personal Items

Non-QU owned and personal materials will not be shipped or handled by the Central Store.

4.2.3.3. Necessary Authorization

No supplies or equipment should be returned to a vendor for any reason without first obtaining the vendor's permission and shipping instructions.

Before an item can be shipped, Warehouse shipping personnel must be provided an authorization for shipment from the vendor, stating whether

shipment is to be made on a freight "prepaid" or "collect" basis, and the budget code that charges are to be made against.

Departments desiring to return materials to a vendor should contact the Purchasing Office or in writing, explaining the reason for the desired return. The Purchasing Office will try to secure permission from the vendor for return of the materials and will obtain shipping instructions.

When Purchasing receives authorization to return the item(s) and shipping instructions from the vendor, they will forward a copy to the department. The department should then prepare the item for shipment and contact the Central Store to arrange to have the package picked up. The vendor's authorization to return must accompany the package to the Central Store.

4.2.4. Preparation of Outgoing Shipments

Preparation of items for shipment is the responsibility of the sending department. Central Warehouse personnel don't package items for shipment.

Items being shipped by motor freight or parcel service ice should be:

- Securely packaged - bound or strapped, if necessary, with strong binding material; however, don't wrap parcel service packages in paper.
- Addressed with departmental return and consignee addresses; consignee addressed on parcel service packages must have a street address and a zip code.
- Marked with appropriate handling markings.
- Conform to size and weight limitations if shipped by parcel service.
- Complete the QU Shipping Requisition Form. The form includes the department name, account number, package contents, date, signature of person authorized to make the shipment, insurance and value (if applicable). Fill in the ship to address and place the appropriate shipment method number beside the first line of the address.
- Call Central Store to have package picked up.

4.3 HS Procedures

4.3.1. Manual Handling

Of all accidents occurring in the workplace, materials handling accidents in warehouse and stores are the most common. Employees, contractors still manually pick up parts and materials whether it is for inspection, distribution or for operation purposes.

The most common type of manual handling injuries are sprains and strains to the back and other body parts, and fractures and contusions to the body extremities. Many are the results of unsafe work practices by employees and contractors such as improper lifting, carrying too heavy of a load, incorrect gripping of objects, failing to wear personal protective equipment.

To prevent injuries due to materials handling, the following safety guidelines shall be followed:

4.3.1.1. Lifting

- Plan the move before lifting; remove obstructions from your chosen pathway.
- Test the weight of the load before lifting by pushing the load along its resting surface.
- Position your feet 6 to 12 inches apart with one foot slightly in front of the other.
- Face the load.
- Bend at the knees, not at the back.
- Keep your back straight.
- Get a firm grip on the object with your hands and fingers. Use handles when present.
- Hold objects as close to your body as possible.
- Perform lifting movements smoothly and gradually; don't jerk the load.
- If you must change direction while lifting or carrying the load, pivot your feet and turn your entire body. Don't twist at the waist.
- Set down objects in the same manner as you picked them up, except in reverse.
- Don't lift an object from the floor to a level above your waist in one motion. Set the load down on a table or bench and then adjust your grip before lifting it higher.

4.3.1.2. Packaging and Crates

- Remove or bend nails and staples from crates before unpacking.
- When cutting shrink wrap with a blade, always cut away from you and your co-workers.
- When opening cartons use safety box cutters. Don't cut with the blade extended beyond the guard.

4.3.1.3. Handling Loads

- If the load is too heavy or bulky, use lifting and carrying aids such as hand trucks, dollies, pallet jacks and carts, or get assistance from a co-worker.
- If assistance is required to perform a lift, coordinate and communicate your movements with those of your co-worker.
- Wear protective gloves when lifting objects with sharp corners or edges.
- Move containerized items by pushing them rather than carrying them.
- When manually stocking shelves, position the materials to be shelved slightly in front of you, so you don't have to twist when lifting and stacking materials.

4.3.1.4. Manual Steel Drum Handling

- Roll drums by pushing against the middle of the drum with both hands.
- Use a cradle-type drum tilter when tilting drums.
- Don't try to up-end a full drum by yourself.
- Don't roll a full drum up a skid by yourself.
- Chock both sides of a drum when storing the drum in a horizontal position.

4.3.2. Use of Forklift Trucks

Anyone using the forklift trucks must be certified in their operation. Non-certified personnel are not to operate this equipment under any circumstances.

These guidelines shall be used to provide a basic source of reference and a means of uniformity for use of forklift trucks. When a question arises that cannot be suitably answered by reference to these operating procedures, it is suggested the Operator's manual be consulted or the matter be discussed with the supervisor.

4.3.2.1. Physical Qualification for Operators

- No physical or mental condition that would jeopardize the safe operation of the truck (dizzy spells, medication, bad back, etc.).
- Good vision, of at least 20/40, corrected if necessary; depth perception of at least 90 percent of normal. Wearing vision protection is recommended at all times.
- Normal hearing, preferably without need of a hearing aid.
- Normal reflexes and reaction time.
- No use of illegal substances; no excessive use of alcohol.
- Ability to understand and read instructions, signs, etc.

4.3.2.2. Pre-Operation Inspection

A pre-operation inspection of the forklift truck is required before the equipment is used. The following items must be checked before operating the equipment:

- Fuel level and gauge.
- Oil level.
- Hydraulic oil level.
- Power shift oil level.
- Visual inspection of battery for corrosion and loose terminals.
- Coolant water level.
- Visual inspection of the fan belt.
- Brakes for proper operation – both service and parking.
- Lights – head, tail, turn, and warning.
- Horn.
- Hoist mechanism: chain bearings, nuts, and cotters. Lube as required. Also check the forks for cracks, heel wear, tip wear, and alignment.
- Steering.
- Hydraulic controls.
- Tires: remove foreign material and check inflation.
- Visual inspection for oil, fuel, and exhaust leaks.

At the end of the usage, all the above items must be checked again. In addition, the operator must place all controls in neutral and set the parking brake. During the winter, the engine heater must be plugged in if the unit is so equipped.

The "Operators Daily Report" must be filled out during both the pre-use and post-use inspections and turned in to Transportation Services, along with the keys to the equipment, at the end of use.

4.3.2.3. Lift Truck Operation

Only certified personnel may operate the forklift trucks. No certified operator may check the equipment out and then turn it over to a non-certified operator. This action will result in revocation of certification and possible disciplinary.

Whenever the operator leaves the truck, the forks or attachment must be fully lowered, the controls set in neutral, and the parking brake set. If the operator goes 25 feet or more away from the truck, or is out of sight of the truck, the engine must be shut off, and the operator must have the key with him.

The operator must always have a clear view of the path in the direction of travel. If the load being carried blocks forward view, the driver must travel with the load trailing.

Drive safely, never exceeding 5 mph and slowdown in congested areas or those with slippery surfaces

Only stable and safely arranged loads within the rated capacity of the truck should be handled. Operators are not to pick up and move loads that are too heavy. If, upon attempting to lift the load, the rear wheels of the truck begin to rise, put load down immediately and obtain proper equipment for that size.

When picking up a load, center the load evenly on the forks, and engage loads squarely until the load rests against the vertical portion of the forks or load backrest. Check the fork length. Forks must be at least 2/3 the length of the load. Carefully tilt the mast backward just enough to stabilize the load. Forks on a lift truck are adjustable; spread them to fit the load. Normally, the wider, the better.

Loads can be of many sizes and descriptions. Many lift truck applications handle loads on pallets. Pallets are loaded with boxes, bags, packages, or other small objects. All loads should be made stable by either interlocking the objects, or strapping or shrink-wrapping the load, to prevent individual objects from falling off the pallet.

Long loads, such as carpet rolls, reduce the stability of a lift truck. Long, wide, or high loads require more room, so watch the clearance. The load may be very secure until something is run into that shifts the truck's center of gravity. This creates the potential for a lateral overturn. Lifting long loads that extend directly in front changes the weight center of the truck and reduces the lifting capacity of the truck. When right angle stacking or moving with a raised load to clear low objects, move very slowly and avoid sharp turns.

When raising a load, use extra caution. An elevated load must not be tilted forward except when the load is in the correct position to be deposited. When stacking, use only enough backward tilt to stabilize the load.

Operate the forklift trucks only on improved surfaces if possible. If operating off of improved surfaces, make sure the surface will support the weight of the vehicle and not create unstable conditions before entering the area.

On grades, ramps, slopes, and inclines, travel straight up and down. Never turn on ramps, slopes, inclines, or severe grades; wait until you are back on a level surface. Never try to cross a ramp, slope, incline, or severe grade

perpendicular to the fall line. This creates the potential for a lateral overturn. Without a load, travel up or down with the forks pointing downgrade.

The operator of the forklift truck is responsible for operating in a safe manner; this includes avoiding all pedestrians in the work area. Always face the direction of travel. Pedestrians use the same roadway, so sound the horn at intersections and blind spots.

Watch for people in the work area because they may not watch for the forklift, even if there are warning lights and/or alarms. If it is determined that they may not see the lift truck, don't move until eye contact is made. Make people stand back, even if the lift truck is stopped. Pedestrians may not understand that the lift truck has rear steering and there are visibility restrictions. If the view is blocked because of the load, travel backwards. If the lift truck must move forward, make sure that people are out of the way and move the lift truck slowly. Use a spotter to help you. If the spotter or a clear path of travel is not visible, don't move the lift truck.

Watch for employees working in the same area. Don't let anyone walk under raised forks or load. If given a load to handle and someone is required to hold or position the load while the lift truck is moving – STOP. There is something wrong. If unable to handle the load alone, change the load or the equipment. Otherwise, someone will eventually be hurt badly. Don't take this risk. Find a better way to move the load.

The lift truck is never to be moved or repositioned with a platform elevated or with personnel on the platform. Always lower the platform and have all personnel dismount before moving or repositioning the truck. The only way to raise personnel to a work site is with the appropriate platform. Never allow anyone to use the upright or mast of the truck as a ladder.

Before using a platform, always ensure that it is securely stacked to the fork/backrest mechanism and secured with a safety chain before the truck is moved. Make sure that no part of the platform interferes with the operation of the carriage or upright assembly. Also, be certain that there are no mechanical problems which might cause the upright to bind. Raise and lower the platform alone, to test its operation, before allowing any person on it.

When a work platform is raised and lowered, watch for slack chains, or any stationary object, which could cause the forks, rails, or platform to hang up or drop. Keep the upright in a vertical, untilted position while the platform is raised. Stay with the truck during the entire time the platform is raised. Don't allow anyone to climb on the upright or walk under the raised platform. Never allow anyone to ride on the platform while the lift truck is being moved.

4.3.2.4. Lift Truck Tip over

Lift trucks can be tipped over if not operated properly. Observe the following procedures to lessen the possibility of a tip over:

- Slow down before turning. Go into and out of turns slowly, using a slow rotation of the steering wheel.
- Drive with the forks or attachments lowered and tilted back only enough to stabilize the load. Raising a load high moves the center of gravity and

lowers the capacity. Keep your loads down, with the masts vertical or tilted back only enough to stabilize the load. If a heavy load is tilted too far forward or back while it is raised, the truck can tip over.

- Check capacities – don't overload the truck.
- Don't move unstable loads.
- Move long, high, or wide loads slowly and carefully.
- Check your overhead clearance. Keep the truck at least 10 feet from any overhead electrical wires. Watch for overhead obstructions like pipes and low doors. If they are hit while moving, a lift truck can tip over.
- Don't forget that the lift truck has rear steering. A turn into a soft shoulder or off a curb can tip a truck over. Watch the steering end of the lift truck and keep the steering wheels on the road.
- Turning too sharply with the forks raised can tip over the lift truck, even at slow speeds and with no load. Take the time necessary, slow down, and operate safely.
- There may be times when the truck is operated empty for long runs at close to its top speed. Slow way down before turning. Lift trucks are rear-ending heavy because of the counterweight used to offset loads. An empty lift truck can turn over just like a loaded truck.
- Stunt driving and horseplay are never permitted. Forklift trucks are very heavy and inherently unstable. Safe driving must be taken seriously. Any person observed driving in an unsafe manner will have their operator certification revoked and disciplinary action may be recommended.

4.3.3. Use of Warehousing Equipment

Note: This section of the Technical Guideline relates to specific equipment specific to warehousing and storage activities. For other equipment related to maintenance (e.g. saws, hammers, and power tools) refer to Technical Guideline **TG07 – Construction, Operations and Maintenance Safety**.

4.3.3.1. Ladders

Note: For detailed safety requirements related to any work at heights, refer to SOP 06 – Working at height.

When using ladders, the following safety requirements apply:

- Don't use ladders that have loose rungs, cracked or split side rails, missing rubber foot pads, or other visible damage.
- Allow only one person on the ladder at a time.
- Face the ladder when climbing up or down.
- Maintain a three-point contact by keeping both hands and one foot or both feet and one hand on ladder at all times when climbing up/down.
- Don't stand on the top two rungs of any ladder.
- Don't stand on a ladder that wobbles, or that leans to the left or right.
- Secure the ladder in place by having another employee hold it.
- Don't move a rolling ladder while someone is on it.
- Don't place ladders on unstable bases e.g. barrels, boxes, blocks, etc.
- Don't carry items in your hands while climbing up or down a ladder.
- Don't try to "walk" a ladder by rocking it. Climb down the ladder, and then move it.

4.3.3.2. Hand Trucks

When using hand trucks, the following safety requirements apply:

- Tip the load slightly forward so that the tongue of the hand truck goes under the load.
- Push the tongue of hand truck all the way under the load to be moved.
- Keep the center of gravity of the load as low as possible by placing heavier objects below the lighter objects.
- When loading hand trucks, keep your feet clear of the wheels.
- Push the load so that the weight will be carried by the axle and not the handles. The operator should only balance and push.
- If your view is obstructed, use a spotter to assist in guiding the load.
- Don't walk backward with hand truck, unless going up stairs/ramps.
- When going down an incline, keep the hand truck in front of you so that it can be controlled at all times.
- Move hand trucks at a walking pace.
- Store hand trucks with the tongue under a pallet, shelf, or table.
- Don't exceed the manufacturer's load rated capacity. Read the capacity plate on the hand truck if you are unsure.

4.3.3.3. Pallet Jacks

When using pallet jacks, the following safety requirements apply:

- Only employer authorized personnel may operate pallet jacks.
- Don't exceed the manufacturer's load rated capacity. Read the lift capacity plate on the pallet jack if you are unsure.
- Don't use pallets or skids that are cracked/split/damaged.
- Don't ride on pallet jacks.
- Start and stop gradually to prevent the load from slipping.
- Pull manual pallet jacks; push when going down an incline or passing close to walls or obstacles.
- If your view is obstructed, use a spotter to assist in guiding the load.
- Stop the pallet jack if anyone gets in your way.
- Don't place your feet under the pallet jack when it is moving.
- Keep your feet and body parts clear of pallet before releasing the load.

4.3.3.4. Hoists

When using hoists, the following safety requirements apply:

- Don't use load hooks that are cracked, bent or broken.
- Don't exceed the rated load capacity as set by the manufacturer.
- Don't leave the hoist unattended with a hoisted load.
- Don't hoist loads over people.

4.3.3.5. Step Stools

When using step stools, the following safety requirements apply:

- Allow only one person on the step stool at a time.
- Face the step stool when climbing up or down.
- When performing work from a step stool, face the step stool and don't lean backward or sideways from the step stool.
- Don't place a step stool on boxes, books, or other unstable bases.
- Don't stand on the top step of the step stool.

4.3.3.6. Batteries

The following safety requirements apply related to batteries

- Don't lay tools or metal parts on top of a battery.
- Turn battery chargers off prior to connecting the cables to the battery posts.
- Position the fork truck so that the battery is aligned with the rollers or the hoist used for moving it and engage the fork truck brake before removing the battery and placing it onto the charging rack.
- Set the brakes on the lift truck prior to connecting the charging cables to the battery on the lift truck.
- Don't smoke in the battery charging areas.
- Manually flip the fan motor switch to the "On" position before operating the battery charger.
- Don't use a screwdriver to test the charge of a battery.

4.3.4. Warehouse and Storage Areas Housekeeping

The following housekeeping procedures apply to all warehouse and storage areas:

- Don't place work materials such as boxes or empty pallets in walkways and passageways.
- Don't block or obstruct stairwells, exits or accesses to safety and emergency equipment such as fire extinguishers or fire alarms.
- Don't try to kick objects out of pathways. Push or carry them out of the way.
- Don't let items overhang from shelves into walkways.
- Place products that are to be de-palletized by hand on the lower or middle pallet racks.
- Stack items on pallets so that they lie flat and Don't lean against each other.

4.3.5. Electrical Safety

'**SOP-02: Electrical Safety**' provides detailed safety requirements that apply to all QU activities, including those associated with warehouse and storage activities. This SOP must be strictly adhered to in warehouse and storage areas and when performing activities in these areas.

4.3.6. Lock Out / Tag Out

Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment could expose workers to the unexpected energization or startup of the equipment or release of hazardous energy unless proper precautions are taken.

'**OP-01: Lockout / Tag out**' provides detailed safety procedures pertaining to the lockout / tagout program to control hazardous energy and protect personnel. This SOP must be strictly adhered to in warehouse and storage areas and when performing activities in these areas.

4.3.7. Safety Signage

Safety sign refers to a surface on prepared for the warning of, or safety instructions of, employees, contractors or visitors who may be exposed to hazards. These specifications are intended to cover all safety signs except those designed for streets, highways, and marine regulations. Excluded from this definition are news releases, displays commonly known as safety posters, and bulletins used for employee education.

Safety Tag refers to a device usually made of card, paper, paste board, plastic or other material used to identify a hazardous condition.

Safety signs shall be use to warn employees, contractors, visitors from hazards to specific area and failure to designate them may lead to accidental injury to employees, contractors, visitors and to property damage. See Appendix A for common safety signs found in warehouse and/ or store.

The following specifications are intended to cover all safety signs to be used in warehouse and stores areas where required, except those designed for streets regulations.

4.3.7.1. Danger Signs

- The DANGER header shall be used when there is a hazardous situation which has a high probability of death or severe injury. It should not be considered for property damage unless personal injury risk is present.
- There shall be no variation in the type of design of signs posted to warn of specific dangers and radiation hazards.
- All employees shall be instructed that danger signs indicate immediate danger and that special precautions are necessary.
- The colors red, black, and white shall be those of opaque glossy.

4.3.7.2. Caution Signs

- The CAUTION header is used to indicate a hazardous situation which may result in minor or moderate injury. However, Caution should not be used when there is a possibility of death or serious injury. Caution should not be considered for property damage accidents unless personal injury risk is present.
- Caution signs shall be used only to warn against potential hazards or to caution against unsafe practices.
- All employees shall be instructed that caution signs indicate a possible hazard against which proper precaution should be taken.
- Standard color of background shall be yellow; and the panel, black with yellow letters. Any letters used against yellow background shall be black.
- The colors shall be those of opaque glossy.

4.3.7.3. Safety Instruction Signs

- General Safety Signs (SAFETY FIRST, BE CAREFUL, THINK) should indicate general instructions relative to safe work practices, reminders of proper safety procedures, and the location of safety equipment.
- Safety instruction signs shall be used where there is a need for general instructions and suggestions relative to safety measures.
- Standard color of the background shall be white; and the panel, green with white letters. Any letters used against the white background shall be black.
- The colors shall be those of opaque glossy

4.3.7.4. Notice Signs

- Notice headers provide information of a general type in order to avoid confusion or misunderstanding.

4.3.7.5. Biological Hazard Signs

- The biological hazard warning shall be used to signify the actual or potential presence of a biohazard and to identify equipment, containers, rooms, materials, experimental animals, or combinations thereof, which contain, or are contaminated with, viable hazardous agents.
- For the purpose of this subparagraph the term "biological hazard," or "biohazard," shall include only those infectious agents presenting a risk or potential risk to the well-being of man.

4.3.7.6. Sign Design

- All signs shall be furnished with rounded or blunt corners and shall be free from sharp edges, burrs, splinters, or other sharp projections.
- The ends or heads of bolts or other fastening devices shall be located in such a way that they don't constitute a hazard.

4.3.7.7. Nature of Wording

- The wording of any sign should be easily read and concise.
- The sign should contain sufficient information to be easily understood.
- The wording should make a positive, rather than negative suggestion and should be accurate in fact.

4.3.7.8. Safety Tags

- Safety tags shall be used as a means to prevent accidental injury or illness to employees, students and visitors who are exposed to hazardous or potentially hazardous conditions, equipment or operations which are out of the ordinary, unexpected or not readily apparent.
- Safety tags shall be used until such time as the identified hazard is eliminated or the hazardous operation is completed.
- Safety tags need not be used where signs, guarding or other positive means of protection are being used.

4.3.7.9. Safety Tag Criteria

- Tags shall contain a signal word and a major message.
- The signal word shall be either "Danger," "Caution," or "Biological Hazard," "BIOHAZARD," or the biological hazard symbol.
- The major message shall indicate the specific hazardous condition or the instruction to be communicated to the employee.
- The signal word shall be readable at a minimum distance of five feet (1.52 m) or such greater distance as warranted by the hazard.
- The tag's major message shall be presented in either pictographs, written text or both.
- The signal word and the major message shall be understandable to all employees who may be exposed to the identified hazard.

- All employees shall be educated of the meaning of the various tags used throughout the workplace and what special precautions are necessary.
- Tags shall be affixed as close as safely possible to their respective hazards by a positive means such as string, wire, or adhesive that prevents their loss or un-intentional removal.
- Danger tags shall be used in major hazard situations where an immediate hazard presents a threat of death or serious injury to employees. Danger tags shall be used only in these situations.
- Caution tags shall be used in minor hazard situations where a non-immediate or potential hazard or unsafe practice presents a lesser threat of employee injury. Caution tags shall be used only in these situations.
- Warning tags may be used to represent a hazard level between "Caution" and "Danger," instead of the required "Caution" tag, provided that they have a signal word of "Warning," an appropriate major message.
- Biological hazard tags shall be used to identify the actual or potential presence of a biological hazard and to identify equipment, containers, rooms, experimental animals, or combinations thereof, that contains or contaminated with hazardous biological agents.

4.3.7.10. Color Coding

While the occupational safety and health standard does not specifically mandate colors to be used on accident prevention tags, the following color scheme is recommended for meeting the requirements:

- "DANGER" TAG -- Red, or predominantly red, with lettering or symbols in a contrasting color.
- "CAUTION" TAG -- Yellow, or predominantly yellow, with lettering or symbols in a contrasting color.
- "WARNING" TAG -- Orange, or predominantly orange, with lettering or symbols in a contrasting color.
- BIOLOGICAL HAZARD TAG -- Fluorescent orange or orange-red, or predominantly so, with lettering or symbols in a contrasting color.

4.3.7.11. Standard Safety Signs

For examples of standard safety signage that shall be posted conspicuously, refer to Appendix A. Coordinate with Health and Safety Section for appropriate signs and proper sizing of signage. Provision for new or additional safety signage shall be the responsibility of Business Operations Department.

4.3.8. Emergency Preparedness and Response

Emergency preparedness and response will be managed in accordance with 'QU HSMS – Emergency Management Procedure', and subordinate procedures, i.e.:

- **QU HSMS - First Aid and Medical Emergency Plan**
- **QU HSMS - Fire Safety and Response Plan**
- **QU HSMS - Earthquake Response Plan**
- **QU HSMS - Spill Response Plan**
- **QU HSMS - Power Outage Response Plan**

4.3.8.1. Fire Safety

General fire safety management requirements applicable to all QU facilities and activities will be applied in warehouse and storage areas in accordance with ‘ **QU HSMS - Fire and Safety Response Procedure** ‘, and ‘ **Emergency Management Procedure** ‘.

Additionally, some specific fire safety precautions to be observed in the QU warehouse and storage areas are:

- Smoking is prohibited in warehouse and stores.
- Access key custody of warehouse and stores shall be assigned to the Security in-charge at respective buildings. Users should maintain a duplicate key

4.3.9. Incidents and Accidents

Incidents, accidents and near-misses, and associated incident investigations will be reported and managed in accordance with “**QU HSMS - Incident Reporting and Investigation**”

4.3.10. HS Training and Induction

HS-related induction and training for QU staff, students, contractors and visitors operating in warehouse and storage areas will be planned and conducted in accordance with **QU HSMS – Training and competency Procedure**.

At a minimum training shall cover the requirements of this Technical Guidance document and any specific training as identified by the risk assessment.

4.3.11. HS Inspections and Audits

HSMS compliance audits and inspections of warehouse and storage areas will be performed in accordance with **QU HSMS – Inspection and Audit Procedure**. Any non-conformances identified during inspections and audits will be recorded and managed via the Corrective Action Request process presented in this procedure.

5 Document Control

This Technical Guideline is a controlled document. The controlled version of this guideline is located on the QU Documentation Management System. Any printed copies of this controlled document are reference copies only. It is the responsibility of all of those with printed copies to ensure their copy is kept up to date.

Refer to QU HSMS – Document Control and Record Retention.

6 Appendices

Appendix A: Warehouse and Storage Area Safety Signs

Appendix A – Warehouse and Storage Area Safety Signs

General Safety Signs



General Safety Signs (continued)



Personal Hygiene



Material Safety Data Sheet / Right To Know



Electrical



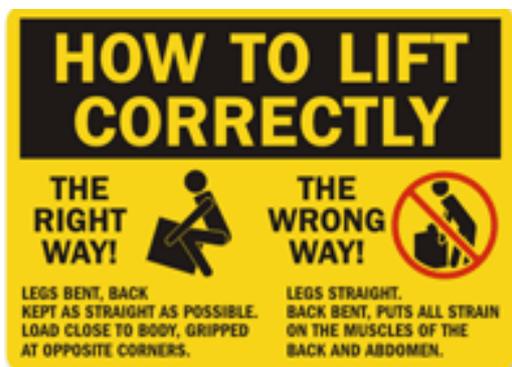
Compressed Gases



Freight Elevator



Proper Lifting



Batteries



No Smoking

