

Mandatory Basic Safety Training (Container Handling)

Tutorial Materials

(Applicable to the standardised essential course contents to be adopted on 10 October 2011)

Remark: The Labour Department has issued a revised Guidance Notes on the Selection, Use and Maintenance of Safety Helmets (“GN”) in June 2018 and will continue to update the relevant contents of other occupational safety and health publications issued including this set of tutorial materials. The GN prevails regarding the specifications and use of the safety helmets.

This set of tutorial materials aims to assist the employees of the container handling industry to prepare for the mandatory basic training safety training course and enables them to grasp the key knowledge in occupational safety.

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1. General Safety

No.	Learning Key Points
1.	The purpose of the Occupational Safety and Health Ordinance (Cap. 509) is to ensure the safety and health of employees when they are at work.
2.	According to the "General Duties" provisions of the Factories and Industrial Undertakings Ordinance (Cap. 59), proprietors shall provide a safe and healthy working environment to employees. Proprietors shall provide employees with safe plant and system of work, necessary information, instruction, training and supervision, and safe access to and egress from a workplace.
3.	The responsibility of proprietors under the General Duties provisions is to provide and maintain a safe system of work.
4.	According to the Factories and Industrial Undertakings Ordinance (Cap. 59), the responsibility of workers is to use safety equipment and facilities properly.
5.	Under the General Duties provisions, the main responsibility of employees is to take care of the safety of themselves and other persons.
6.	The main pathways for dangerous substances to enter a worker's body are swallowing, body contact, and inhalation.
7.	Studying the label content outside a container is the proper way for identifying the name, classification, risks and precautions of the chemical in the container.
8.	The compulsory information of a label of chemical includes the chemical name, classification, particular risks, and safety precautions but not the chemical formula. Labelling the cargoes with essential information for the chemical product, including its name, properties and safety precautions is an essential safety measure to handle cargoes of chemical products.
9.	According to the Factories and Industrial Undertakings (Dangerous Substances) Regulations (Cap.59), the responsibilities of employees are to understand properties and safety precautions of chemicals, properly use protective clothing and equipment provided by

No.	Learning Key Points
	employers, and refrain from smoking and eating at workplaces where chemicals are being used or stored.
10.	According to the Factories and Industrial Undertakings (Dangerous Substances) Regulations (Cap. 59), the following terms are used to classify the properties of chemicals: explosive, oxidising, flammable, toxic, harmful, corrosive and irritant.
11.	According to the Factories and Industrial Undertakings (Protection of Eyes) Regulations (Cap. 59), workers engaged in welding work shall wear approved eye protectors.
12.	The booklet "Hints on First Aid" issued by the Labour Department and the substances required statutorily as listed on the booklet shall be placed in a first aid box at container handling workplace. The wording "first aid" shall be clearly marked on the first aid box.
13.	Workers working engaged in container handling activities shall undergo mandatory basic safety training. "Mandatory Safety Training" courses shall be recognised by Commissioner for Labour.
14.	The main purpose of accident investigation is to prevent occurrence of similar accidents.
15.	Whether any personal injury has been caused or not, an employer shall report every dangerous occurrence happened in a workplace to the Labour Department within 24 hours.

2. Safety on Cargo and Container Handling

No.	Learning Key Points
1.	The majority of fatal accidents related to container handling are workers run down by heavy vehicles. The common reason for workers knocked down by heavy vehicles in containing handling areas is that pedestrians and vehicles are not properly segregated.
2.	The proper methods for stacking containers are as follows: stacking height of containers should be kept as low as possible, the ends of rows of stacked containers should be stepped, stacks of empty containers should be clustered at all times, and containers should be stacked on firm and level ground.
3.	In the event of inclement weather or strong wind, loading and unloading of containers should be suspended and containers should be secured by lashing
4.	Stack containers in clusters to minimise the influence of strong wind on the containers.
5.	The most common type of fatal accidents involving front loaders in container handling workplaces is workers run down by front loaders.
6.	Workers entering or leaving a container terminal, container stacking area, container yard or warehouse should use a designated walkway for pedestrians.
7.	Workers are absolutely not allowed at any time to work under goods being lifted or lowered.
8.	Information of the centre of gravity of goods should be checked to ensure the goods are lifted steadily and securely.
9.	To ensure work safety, stacking cones should be used to secure containers in position.
10.	If the view of a crane operator is obstructed, he should cooperate with a signaller and follows the instructions given by the signaller.
11.	An operator should remove the car key before leaving a fork-lift truck.

3. Work at Height

No.	Learning Key Points
1.	Working at height means a worker is working at a position where he is liable to fall from height at a vertical distance 2 metres or more. Proper working platforms are the first consideration by a proprietor to prevent accidents of falling from height at work. Scaffolds and working platforms should be erected by trained scaffolding workmen.
2.	Common reasons causing a worker on the top of a container to fall down include: workers trying to avoid the swinging hook of a crane, workers falling from a container which shook violently as collided by another container being lifted, and workers losing balance while climbing down to the ground.
3.	The main purpose of guardrails of a working platform is to prevent fall of workers.
4.	When a worker is working at height, secure guardrails should be provided for safe access to and egress from the workplace.
5.	A full body harness should be used with an independent lifeline by a worker working at height. Before using a safety belt, the following should be considered: any defects on the safety belt, any suitable anchorage, independent lifeline and fall arresting device, and whether relevant standard met or not. The most appropriate method for anchoring the safety belt is to anchor the safety belt at a level higher than the user's waist.
6.	An appropriate portable ladder should be adopted by a worker for access to a workplace at height. The minimum height that the top of a ladder should be extended above the landing place to serve as handrail is 1 metre. The gradient of resting a slanting ladder should be 75°. When a ladder is used for access and egress, inspect the ladder for any defects before use and ensure the ladder is stable and resting on an even and solid ground. Never join short ladders to form a long one for use. If a portable ladder is insufficient in length for use, replace it with an extension ladder or ladder of sufficient length.

No.	Learning Key Points
7.	All workers working at a gondola shall attain 18 years old, have undergone training and hold valid certificates.
8.	When somebody has fallen from height, inform the first aider immediately and look after the injured person. Do not move the injured person.

4. Use of Personal Protective Equipment

No.	Learning Key Points
1.	Use of personal protective equipment is the last resort when controlling the accident at source is impracticable.
2.	Personal protective equipment should be provided by employers. Workers should follow instructions to use personal protective equipment and properly store the equipment issued by their employers. When the equipment is damaged, immediately replace the equipment.
3.	The following should be considered when using personal protective equipment: whether the personal protective equipment provides proper protection, whether it fits for the work, and whether it is comfortable to the user. If the personal protective equipment is not fit for the user or damaged, replace it immediately.
4.	The rules for "selection, use, maintenance, fit for the work" of personal protective equipment should be understood by employees.
5.	Safety helmet is for protection of worker's head from falling material. Safety marking, such as European Standard number, is the basic requirement for a safety helmet.
6.	The following are common mal-practices of using safety helmets: removal of helmet harness (sufficient clearance should be maintained between the head and the shell of a safety helmet.), drilling holes on helmet to improve ventilation, and applying paintings as identification.
7.	Steel toe caps, steel soles and slip-proof are essential features for safety shoes. Wearing safety shoes can prevent the sole from being pierced by sharp objects, prevent the user from sliding on a slippery floor and prevent the user's toes from being crushed by falling objects. Sandals or slippers are inappropriate working uniform.
8.	Aprons, safety shoes, gloves specific for handling chemicals and face shields can provide suitable protection to worker handling chemicals.

No.	Learning Key Points
9.	For lifting or handling a chemical, gloves specific for handling the chemical should be used to protect hands. Flying dust and splashing of chemicals would cause eye injury. Suitable respirator and eye protectors should be adopted for lifting dusty goods such as bulk cement.
10.	Worker engaged in grinding work should use dust respirator for protection of respiratory system.
11.	The tightness between a respirator and the wearer's face is an important factor for proper use of respirators. After using the respirator, clean and wipe it thoroughly.
12.	Use approved ear protectors when entering an ear protection zone as prolonged exposure to high levels of noise causes hearing damage.
13.	An ear protector should not be used unless its model and brand have been approved by the Labour Department. Ear muffs have the best sound insulating performance.
14.	Workers should not wear cotton gloves to operate machine with revolving parts to avoid injury to hands due to entangling of the cotton gloves with the revolving parts.
15.	Workers working in a container handling workplace should wear reflective vests.
16.	Life-saving appliances for rescue of drowning persons should be equipped at a wharf.

5. Fire Safety

No.	Learning Key Points
1.	Inhalation of smoke is the cause that most people die in fire.
2.	Burning requires fuel, heat and oxygen.
3.	To maintain the means of escape unobstructed can speed up evacuation and enhance the chance to escape.
4.	Layout plans of escape routes and fire extinguishers can facilitate escape in case of a fire.
5.	Fire fighting measures include: confirming the assembly location after evacuation, always keeping the workplace clean and tidy, and be cautious to machines that would generate sparks or heat, and keeping the smoke doors closed.
6.	Flammable substances should be stored at a metal cabinet. Rags, after cleaning flammable liquid, should be placed in a metal container with a lid. The proper place for storing large quantities of flammable substances is a dangerous goods store.
7.	Spraying of flammable liquid is a process of high fire risk.
8.	Burning of paper, cloth, timber, plastic, rubbish and miscellaneous articles is classified as the first category of fire.
9.	A water type fire extinguisher is suitable for putting out a timber fire.
10.	Petrol is a flammable liquid. A water type fire extinguisher is not suitable for putting out a fire caused by a flammable liquid.
11.	A foam type fire extinguisher is not suitable for putting out an electrical fire.
12.	A carbon dioxide type fire extinguisher is most appropriate for putting out an electrical fire.
13.	Using a carbon dioxide type fire extinguisher at a confined or poorly ventilated area may cause oxygen deficiency.
14.	When using a dry powder fire extinguisher, one should note that the dry powder discharged may reduce visibility and cause disorientation.
15.	A worker smoking at a 'No Smoking Area' is an unsafe behaviour

No.	Learning Key Points
	and flammable substances nearby may be ignited
16.	Before going into a container loaded with plastic raw material, the properties of the plastic raw material should be verified first. The container should securely rest on the ground with doors fully open. Do not smoke when going inside.

6. Electricity Safety

No.	Learning Key Points
1.	Electrocution is due to the serious damage to the heart function by electric current.
2.	While a worker is using a portable electrical tool, he or she should follow the operation rules set by the manufacturer, check the tool before use, and use appropriate plug for connecting the power so as to ensure the tool is in proper function. He should not modify the tool by himself.
3.	Improper repairing of electrical appliances will result in: explosion, burnt, and electric shock. Only competent electrician is allowed to repair electrical appliance.
4.	Conducting electric arc welding work at a humid environment would lead to electrical accidents. The following measures will prevent electrical accidents: never apply load on an electric wire, regularly inspect and maintain electrical tools, always use double-insulated electrical tools, and adopt "permit to work" system. Never allow the live parts of the electric wires exposed.
5.	Always comply with the safety measures for electrical works and never insert electric wires into a socket directly.
6.	Workers should avoid using electrical appliances if their clothing is wet as it would cause electric shock. An electrical appliances used in a humid workplace should be water-proof. In a humid workplace, a portable electrical appliance user should stand on an insulated mat to reduce the risk of getting electric shock.
7.	The marking “回” on portable electrical appliances means that the appliances are double-insulated which can avoid current leakage. Such electrical appliances can be used without earthing.
8.	Water-proof electric wires connection method should be adopted for outdoor work.

7. Safety of Confined Spaces Operations

No.	Learning Key Points
1.	The hazards of working in a confined space include suffocation caused by insufficient oxygen, the presence of toxic gases, fog, dust or smoke, and fire and explosion. Chambers, tanks, vats, pits, wells, sewers, tunnels, pipes, flues, boilers, pressure receivers, hatches, caissons, shafts and silos are examples of confined spaces.
2.	All workers entering a confined space for working shall be certified workers.
3.	Prior to commencement of work in a confined space, the proprietor shall appoint a competent person specified by the Factories and Industrial Undertakings (Confined Spaces) Regulation (Cap. 59) to conduct a risk assessment for the confined space.
4.	For working in a confined space, the proprietor shall ensure that all safety precautions, e.g. starting the forced ventilation, have been properly implemented before the work starts. Effective forced ventilation is a mandatory safety precaution before entering a confined space.
5.	Before entering a confined space, test by appropriate gases detection instrument to ascertain whether there is sufficient oxygen in the confined space and that there are no toxic gases or explosive (flammable) gases.
6.	Before a certified worker enters a confined space, a work permit (a certificate issued by the contractor) should be obtained first. All persons are prohibited to enter or stay in a confined space in case testing of gases has not been performed. Workers should leave a confined space at once when the period of validity stated in the work permit expires.
7.	Before certified workers enter a confined space, a person should stay at the entrance. The duty of the person stationed outside the confined space is to maintain communication with workers inside the confined space.

8. Manual Handling Operations

No.	Learning Key Points
1.	Frequent or prolonged repetitive movements, jerky motions are improper / risky manual handling operations. Twisting the upper body trunk to lift heavy goods is an inappropriate manual handling operation.
2.	Strain and sprain are the most common injury suffered by workers engaged in lifting heavy goods. Waist is most likely to be injured if a worker lifts goods improperly.
3.	Sudden quick movement during manual lifting should be avoided.
4.	As far as possible, use mechanical tool for lifting goods is a correct measure in manual handling operation.
5.	The proper method of lifting heavy object is to hold the object close to the body. Keep the back straight and stand up slowly with both legs.
6.	When using a trolley for transporting goods, one should pay attention to the structure of the trolley, any potential hazards in the pathway of transportation, and whether the floor is even or not.
7.	Doing some warm-up exercises before lifting and transporting goods can render the muscle and cardiopulmonary system more adaptable to the change so as to reduce the chance of getting injury.

9. Machinery Safety

No.	Learning Key Points
1.	Common causes for overturning of heavy transporting equipment: collision with other heavy vehicles, uneven ground surface, and uneven distribution of the weight of a container.
2.	Weekly inspection of lifting appliances should be carried out by competent person.
3.	Slings, lifting appliances (such as jib crane and tower crane) and lifting gear should be used only after test and thorough examination by a registered professional engineer and an approved report stating it is in safe condition.
4.	Before using a lifting appliances (such as jib crane and tower crane), it should be examined by a registered professional engineer with the issuance of approved form in every 12 months.
5.	A sling should be thoroughly examined by a competent examiner. Besides, it should be marked with the safe working load.
6.	A crane with a maximum safe working load of more than 1 tonne shall be equipped with an automatic safe load indicator.
7.	Crane operators shall be at least 18 years old, and have undergone relevant training and hold valid certificates.
8.	The operator of a fork-lift truck shall attain 18 years old, has undergone relevant training and hold valid certificate. Common unsafe practices of operating a fork-lift truck include driving a truck down a slope with the truck facing downwards, carrying of persons by the fork, and keeping the fork at high position during parking.
9.	When a fork-lift truck is travelling, the folk of the truck should be descended to the lower safe position.
10.	If a loaded fork-lift truck is travelling down a slope, it should travel backwards.
11.	Accidents of machine operations are usually caused by failure of machine guarding. The function of installing guarding to protect the revolving parts of machinery is to avoid the limbs being caught by the machinery.

No.	Learning Key Points
12.	For repairing the revolving parts of machinery, the following should be noted: do not conduct cleaning work on a machine which is in motion, avoid contact of revolving parts with the limbs or personal belongings to prevent from being caught by the machinery, and adopt measures to prevent personnel not responsible for the repairing work from coming near.
13.	Dismantling the protective guard while testing a machine for ease of adjustment is not a safe measure for machinery repairing.
14.	Safety measures for using abrasive wheels include providing and keeping safety guard in position, affixing a notice which specify the highest permissible speed and the safety rules, selecting the appropriate size and type of abrasive wheel for the work, and mounting of abrasive wheel by a competent person appointed by the proprietor in writing.

10. Welding Safety

No.	Learning Key Points
1.	Under the Factories and Industrial Undertakings (Gas Welding and Flame Cutting) Regulation (Cap.59), workers engaged in gas welding and flame cutting shall attain 18 years old, have undergone training and hold valid certificate.
2.	Safety measures for welding work include that gas cylinders for welding work should be equipped with flashback arresters, gas cylinders should be kept in an upright position and stored in a cool and well-ventilated place, and if there are other people, a screen should be used for segregating the sparks to avoid injuring others.
3.	Workplaces for welding work should be installed with sufficient lighting, equipped with appropriate fire extinguishers, and well-ventilated. Flammable substances should not be stored in these workplaces.
4.	In oxy-acetylene welding, the common colour of oxygen cylinders is black and that of acetylene cylinders is maroon.
5.	Common hazards of electric arc welding include electric shock, arc radiation and inhalation of harmful gases.
6.	Chronic fibrosis of a welder's lung tissue is caused by prolonged inhalation of metal dust which exceeds the prescribed concentration.
7.	The ultraviolet generated in electric arc welding would cause eyes injury.
8.	Eye shields, gloves and insulated shoes should be worn by electric arc welders.

11. Other Safety Matters

No.	Learning Key Points
1.	Many accidents are caused by unsafe working environment, workers' unsafe behaviour, and insufficient training and information. A worker should be responsible for his/her own unsafe acts. He/She should take care of his/her and co-workers' safety.
2.	The consequences of industrial accidents are death, injury, and occupational disease.
3.	The Government, employers and workers are responsible for preventing industrial accidents.
4.	Maintaining good housekeeping at a workplace can reduce the occurrence of accidents, provide a safe and effective working environment, and reduce the economic loss caused by accidents.
5.	Placing materials in a passageway without planning is a factor causing accidents.
6.	It is the duty of the proprietor to provide safety training. Training can enhance workers' safety awareness so as to reduce accidents.
7.	A comprehensive first aid and emergency contingency plan can minimise the loss caused by accidents, and render the scene and the environment under control as quick as possible.
8.	In order to effectively control the hazards, a contingency plan including the procedures should be devised and drilled regularly so as to allow workers to familiarise with the procedures and contents of contingency plan, fully understand their responsibilities in contingency plan, and identify the deficiencies during the drill so as to make improvements and amendments.
9.	Workers working in the container handling industry shall undergo mandatory basic safety training. The validity of a mandatory basic safety training certificate for the container handling industry is 3 years.
10.	The main purpose of implementing the mandatory basic safety training in the container handling industry is to enhance workers' safety awareness and prevent accidents.

No.	Learning Key Points
11.	The following are effective measures to prevent traffic incidents in a workplace: installation of traffic signs, and designated pedestrian walkways so as to segregate the pedestrians from the moving vehicles.
12.	A workplace near the shore should be provided with lifebuoys to prevent worker from drowning.
13.	The purpose of permit to work system is to ensure a workplace is safe for work.
14.	At least one first aider should be provided for a container handling workplace with the number of workers ranged from 30 to less than 100.
15.	In a hot and humid environment workers would most likely get heat stroke. Therefore, working under direct sunlight should be avoided and temporary sunshade should be set up whenever possible. All or most of the work should be rescheduled to cooler periods in the daytime, such as early morning, and cooler places, such as covered or shaded area. Cool portable water should be provided at all times during work. Light-coloured and loose-fitting clothing should be worn to minimise heat absorption, enhance heat dissipation and sweat evaporation.
16.	An employer should report to the Labour Department after an accident causing the death of an employee at a workplace within 24 hours.