

SAFE WORK GUIDELINES

Trucking and Loading

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1.1 Scopes

This guidelines provides practical information for transport operators, drivers, and employees involved in the transport of Goodpack Containers.

Aside from the logistics industry, transportation is an integral operation in many other industries. Hence, any organisation that operates a transport fleet may also find this guidelines useful and practical.

The scope of this guidelines includes safety principles of transportation, cargo arrangement, restraining methods, and loading and unloading activities. While the content aims to be comprehensive, it is not exhaustive.

➤➤ 1.2 Roles & Responsibilities

Transport LSP Responsibilities:

- Provide vehicles and equipment suitable for Goodpack Containers transportation.
- Establish a schedule for vehicles and equipment maintenance according to manufacturer specifications and ensure adherence to it.
- Establish and ensure standard of drivers' competence through training.
- Report problems, unsafe acts or conditions, near misses and incidents.

Driver and loading crew responsibilities:

- Check vehicles and equipment for defects before use.
- Take measures to prevent vehicle movement during loading and unloading (e.g. Wheel choke)
- Load and arrange containers in a safe and stable manner before securing.
- Secure containers to prevent movement in any direction during transporting (e.g. Lashing)
- Follow safety instructions when securing the canvas

➤➤ 1.3 Basic Principals of Transport

CREATING CIRCULAR SUPPLY CHAINS

Any containers being transported should remain safely on or within the vehicle. The containers should not endanger the driver, passenger(s) on the vehicle, and other public road users.

See below for examples of accidents that could result from poorly secured cargo.

An accident can result in:

- loss of life and/or injury;
- loss of or damage to cargo;
- damage to vehicle; and
- damage to public property.



1.4 Loading Arrangement

The way containers is arranged during loading will affect the stability of both cargo and vehicle. When unstable, containers will be harder to secure and more likely to fall off. Bigger and heavier items loaded in an unstable manner can cause vehicle to tip over.

Some good practices of loading arrangement include:

- When stacking, the top container should sit onto the stack pins of the below container. Stacks should not be higher than headboard.
- A stronger stopping force is needed to stop a moving load than a stationary load. Hence, containers should be loaded against the headboard. Any space between containers and headboard allows container to move and gain momentum.
- Distribute container's load weight uniformly across loading platform, reduce empty spaces.
- Where necessary, fill empty spaces with dunnage.

Maximum laden weight

The maximum expected weight of container's cargo needs to be known before loading. The combined weight of the vehicle and cargo (i.e., total laden weight) should not exceed limits of roads or structures where the vehicle will be driving on or parking at.

Curtain-side vehicles are installed with two PVC tarpaulin sheets (i.e., curtains) that cover the entire length of loading platform on its left and right (see below). The curtains provide weather protection and can also be strapped down to contain the cargo. The curtains are not designed for restraining, hence goods would still need proper restraint as though they are loaded on an open platform.



1.6 Overweight Truck

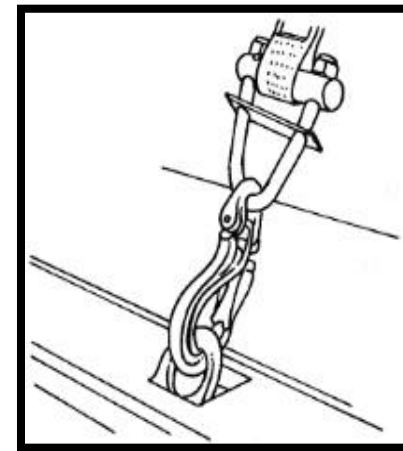
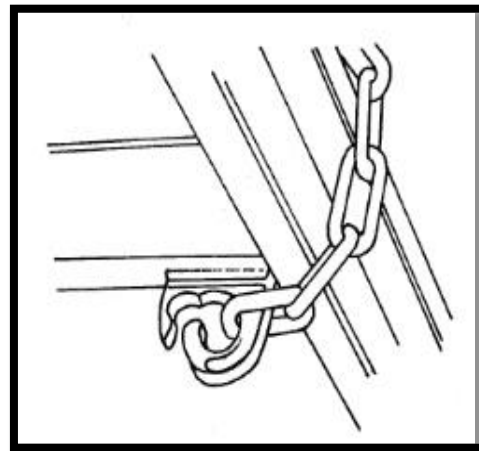
An overweight truck can pose a significant risk on the road.

- Overweight trucks are much slower to accelerate, which means that devastating accidents can happen if motorists unexpectedly come upon a slow-moving truck.
- Overweight trucks have a much harder time coming to a stop, especially when they are driving downhill. This can mean bad news if the truck needs to stop suddenly to avoid a hazard or another vehicle.
- Overweight trucks are more likely to experience equipment malfunction due to the extra weight, such as tire blowouts. This is because trucks are designed to support only a specific amount of weight. If the truck exceeds this weight, things can go wrong.
- Overweight trucks are often difficult to maneuver since most of the truck's weight is near the vehicle's rear.
- Overweight trucks may cause asphalt or bridges to crumble or push highway overpasses to their limits.
- Overweight trucks are more likely to **jackknife** or rollover when they are involved in an accident, which may cause the truck to crash into another motorist or spill dangerous loads onto the road.

>> 1.7 Vehicle Fitting

Anchorage point

Lashing devices are secured to anchorage points to restrain cargo. Anchorage points should be integrated into the main chassis to ensure adequate strength to withstand the expected loading (see below). Operators should consult manufacturers if they wish to retrofit additional anchorage points, as drilling holes or welding attachments will weaken integrity of the vehicle frame, and reduce load capacity of existing anchorage points.



1.8 Securing Equipment

Securing equipment are the main means of keeping cargo anchored to the vehicle. Operators should equip themselves with the correct securing equipment for type and composition of cargo. Additionally, the safe working load (SWL) of all securing equipment should always be clearly indicated. Goodpack recommended 8000kgf lashing for securing Goodpack Containers during transportation.

Regular inspection should be carried out according to manufacturers' suggested frequency. Rope and webbing should be checked for fraying and cuts, and metal devices and components checked for rust or deformation. Any damaged or defective equipment should not be used and be replaced immediately.

To protect cargo and lashing devices (e.g., rope, webbing, chains) from damage, it is recommended to place padding between lashing and sharp corners of cargo. Any waste material (e.g., cardboard, rubber, plastic) can be used. Employees should also secure excess lengths of lashing, as it will dangle off the vehicle and pose a danger to other road users.

» I.8 Securing Equipment

Webbing

Webbing is typically made of plastic fibre and usually comes with its own tensioning mechanism. It is also known as a lashing belt. Manufacturers may indicate the SWL in a number of ways; embossed on a metal tag (see below), printed on a label sewn directly to webbing or by colour-coding webbing material.

Frequent tightening is recommended during long distance or multiple-stop trips because vibration generated from the engine and travel can loosen the lashings. Regular inspection should be carried out to spot wear and tear that will reduce load capacity. Edge protectors are recommended to protect webbing from abrasion.

Ropes can be made of either natural fibre, plastic fibre or metal wires with treated ends (e.g., plastic coat, melting, splicing, etc.) to prevent fraying or unravelling. It is important to select appropriate material and thickness for type of cargo (see below). Employees may attempt to tie two ropes together to create a longer rope. This should not be allowed as the knot is a weak joint and can come apart easily in transit. Regular inspection should be carried out to look out for wear and tear that will reduce load capacity



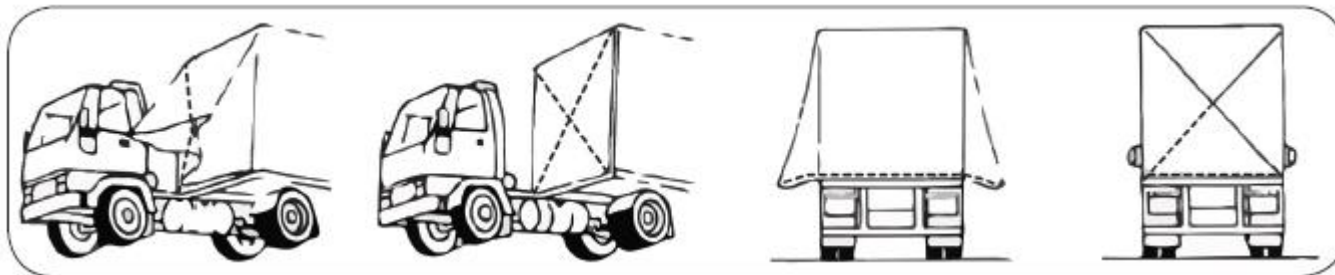
➤ I.8 Securing Equipment

Sheet

There are two types of sheets; tarpaulin and purpose made. Tarpaulin sheets: only provide weather protection, and should not be considered as part of restraint system. The sheet should be adequately tied down to prevent flapping during transportation (see below).

Operators should note that sheets can get caught by wind if not adequately tensioned and secured. Loosened sheets caught by the wind will balloon and expose cargo. Loose flaps should be tied backwards so that wind will keep the flaps closed

Any excess lashing and loose flaps of sheet should be tied and secured, to avoid causing danger to other road users. Tail lights, reflectors and licence plates should not be obstructed by the sheets. Any tears or holes found in the sheets should be mended.



1.9 Methods of Securing

General requirement

All cargo must be secured via a combination of lashing, blocking, and/ or friction to prevent movement during all expected conditions of transportation. The load restraint equipment and vehicle body must be strong enough for type of cargo transported.

Lashing method

Tying with lashing devices (e.g., rope, webbing, chains, cables, etc.) is the most common methods of load restraint. Lashing must be checked and retightened regularly, especially after a sudden break or sharp turn and on multiple-delivery stops. Check and ensure that the cargo are stable before lashing or loosening the straps.

Impact hazards

Injuries sustained from impacts can result in minor bruises or fatal injuries. Accidents can have different causes, depending on the work activity. Employees may get struck by a falling object, lifting containers with forklifts can cause container to drop and hit employees. Employees may also get hit by moving objects such as moving vehicles and machines (e.g., forklift, reach truck) when they cross paths, especially when vehicle or machine is reversing.

Possible incidents:

- Getting struck by falling containers due to unstable stacking or inadequate securement.
- Getting struck by machine due to equipment failure.
- Getting knocked down by a vehicle or forklift because driver or operator was distracted.
- Fall from height when put canvas over the containers

2.1 Hazards Prevention

Transport operators and supply chain businesses have obligations to manage hazards and risks associated with work in the business or undertaking. You must:

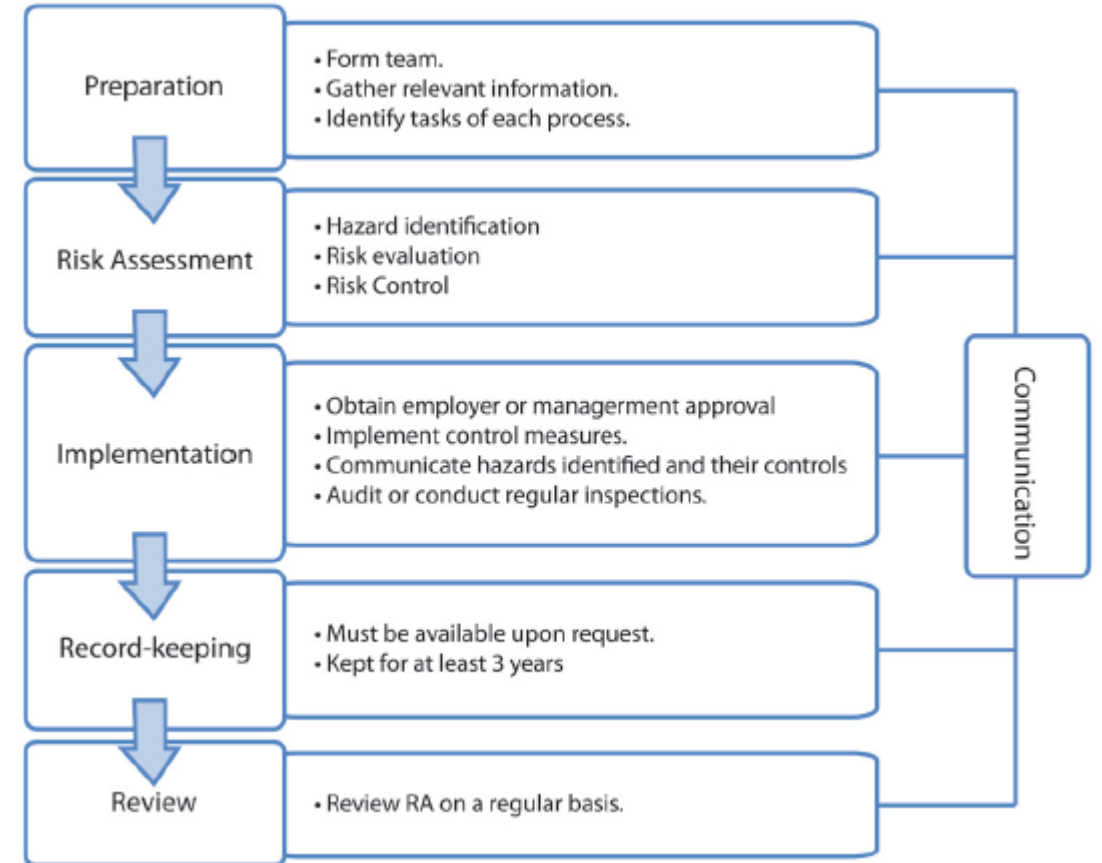
1. identify hazards in the workplace
2. assess the risk those hazards create, then
3. eliminate or minimise them far as reasonably practicable.

Hazard prevention includes:

- planning and scheduling to reduce risks
- regular maintenance and inspections of all vehicles, trucks, trailers and equipment
- ensuring all workers are adequately trained for the tasks undertaken
- safe systems of work and safety procedures are developed and implemented in consultation with other relevant duty holders and workers.

➤➤ 2.2 Risk Management

Depot Manager should carry out Risk Assessment (RA) before starting work to identify, evaluate and control risks in work activities and environment. Depot Manager should strive to be as extensive and inclusive as possible when filling out the RA to cover all aspects of safety, health and wellbeing of employees.



2.2 Risk Assessment

Preparation

Form a multi-disciplinary RA team consisting of personnel from various departments, such as operations, safety, and human resource. Information (e.g., work process, equipment, audit reports, etc.) should also be compiled to facilitate the RA.

RA is a three-step process that comes after forming a team and defining the scope. Priority should be given to controlling hazards at the upstream processes to reduce the amount of exposure from those hazards. After mitigation, hazards reduced to acceptable and manageable levels are termed residual risk.

Step 1: Hazard identification

Look at each work activity from three aspects (physical work environment and processes, work organisation and individual health factors) to identify as many hazards associated with that activity as possible (see below table for examples). List out potential injuries or ill-health that could result from these hazards.

Hazard Identification		
Work activity	Hazard	Possible injury or ill-health
Loading and unloading with a forklift.	Forklift movement during loading.	Heavy concussion and possible fractures.
Driving to meet delivery orders.	Driving continuously over-time after an 8-hour shift.	Developing loss of concentration due to fatigue.

2.2 Risk Assessment

Step 2: Risk evaluation

For every hazard identified, estimate the severity (S) and likelihood (L) of occurrence by giving it a numerical value from one to five. Multiply the two values to get a Risk Prioritisation Number (RPN). Refer to the 5x5 risk matrix using the RPN to determine if the risk is at an acceptable level (see below for examples). Hazards with higher RPN should be given priority when implementing control measures.

Hazard Identification	Risk Evaluation			
Hazard	Existing risk controls	S	L	RPN
Forklift movement during loading.	Segregate vehicular and human traffic at worksite to reduce chances of collision.	4	4	16
Driving continuously over-time after an eight-hour shift.	Provide adequate breaks during the shift work.	5	3	15

2.2 Risk Assessment

Step 3: Risk control

When selecting control measures, the Hierarchy of Control can be used as a guide. The control measures are not mutually exclusive and can be combined with other measures to improve effectiveness (see below).

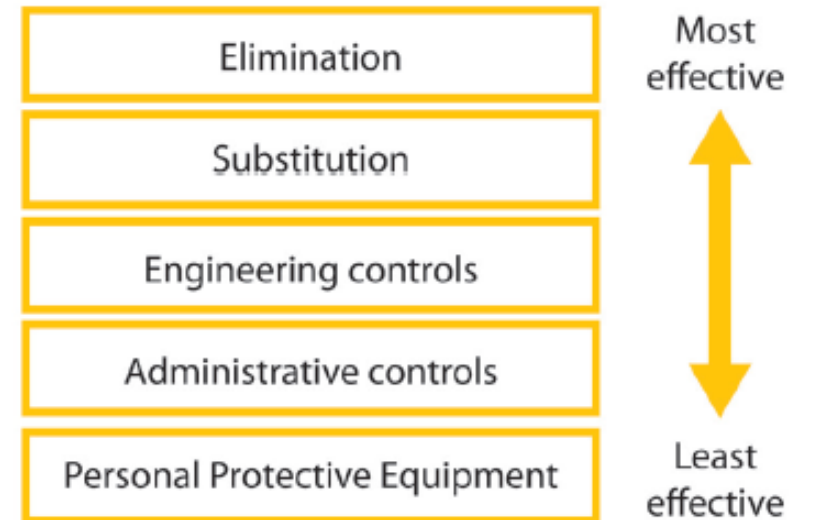
Elimination: Elimination is the most effective form of control measure because it completely removes the hazard from the work process, and all risks associated with that hazard.

Substitution: Substitution involves replacing an element in a work process with a less harmful alternative so that the hazard presents a lower risk.

Engineering controls: These are structures or equipment that physically reduces the impact of the hazard by changing the work environment or work process, by putting a barrier between the hazard and employee.

Administrative controls: This reduces or eliminates exposure to hazards via strict adherence to specific work procedures or job instructions. Documentation should emphasise all steps in the work processes and controls needed for work activities to be carried out safely.

Personal Protective Equipment (PPE): PPE can further mitigate risks only if employees use them properly. Hence, it should be combined with other control measures. To be effective, PPE should fit employee well and be regularly maintained to keep it in good working condition.



2.2 Risk Assessment

Risk control measures should be implemented immediately once approved by the management. Managers and supervisors who oversee the work area or work activity should ensure that all persons who will be exposed (i.e., employees, contractors) are informed about the risks and their respective mitigating measures. Regular inspections or audits should be carried out to verify effectiveness of the control measures. This will ensure that the measures are kept current and effective.

RA must be reviewed or revised under the following conditions:

- At least once every three years;
- After an accident, near-miss or occupational disease is diagnosed; and
- A change implemented in the work processes.

RA's and related documents should be kept for at least three years and must be made available upon request by the local authority

»» 3.1 Driving under Influence

Driving under the influence of a drug or alcohol is an offence. Drivers/Workers need to ensure they take reasonable care of their own health and safety and not put others at risk. This includes complying with drug and alcohol laws and co-operating with any reasonable business policies. Some companies have explicit policies to test their workers for alcohol and illicit substances. This is particularly important if a worker could kill or seriously injure themselves, another worker, or a member of the public.

It is dangerous for drivers to take stimulants and other illegal drugs. Cannabis, cocaine and similar drugs affect driving skills and concentration, even though you may think you are driving well.

This includes the misuse of medicines prescribed by a doctor or available from a pharmacy. If a worker is impaired at work, the business needs to address the situation. It should be raised with a supervisor or manager or a safety representative.

It is the worker's responsibility to notify the business if they are taking medication that may affect their ability to safely perform tasks.

A formal alcohol and drugs policy makes it clear to all workers what behaviour is acceptable.

3.2 Fatigue – Drowsy Driving

Driving drowsy can have many of the same effects as driving while intoxicated. Unfortunately, many truck drivers struggle with staying awake behind the wheel—and may push themselves to continue driving anyway. Some countries federal law says that truck drivers can drive 11 hours during a 14-hour shift, after which the driver must spend 10 consecutive hours away from the wheel before driving again.

Unfortunately, this offers only minimal time for a driver to sleep and engage in other activities. If he fails to manage his time or has underlying health conditions that prevent him from getting quality sleep, he may find himself exhausted when his next shift begins.

Unfortunately, many trucking companies push tight deadlines, insisting that drivers make the best time possible. Frequently, trucking companies pay, not based on the amount of time the driver spends behind the wheel, but on the number of trips the truck driver did. As a result, drivers may try to push to reach those deadlines, rather than pulling off the road and taking a much-needed nap.

3.3 Distracted Driving

The reliance and use of technology and social media in recent years have led to the increased use of smartphones and associated technologies in road transport.

In most countries, using a hand-held mobile phone while driving is illegal. This includes when waiting at traffic lights or stopped in heavy traffic.

Road Transport legislation prohibits the use of certain handheld communication devices. Technology should be assessed to ensure it is safe and lawful for use.

Truck drivers may, however, engage in a variety of other distractions:

- Eating and drinking behind the wheel, especially messy foods
- Trying to set or change a GPS device
- Changing settings on the radio or a music device
- Failing to look at the road for any reason, including dealing with pets and other distractions in the cab

3.4 Speeding

Truck drivers must meet tight deadlines to keep their jobs and keep their employers and customers as happy as possible. Unfortunately, truck drivers cannot always control delays and hazards on the road. Poor weather conditions, traffic jams, and even heavy traffic can all slow down a truck driver's progress.

Since truck drivers frequently get paid by the trip, and may face negative consequences at work if they fail to meet their deadlines, they may choose to speed to make up lost time.

Unfortunately, **speeding** poses a significant danger to everyone on the road. A speeding driver can cause more damage and significantly increase the risk of a severe accident. Drivers who speed may need to react faster to avoid an accident, and truck drivers already need more time and space to maneuver.

3.5 Aggressive Driving

Some drivers naturally drive more aggressively than others. Others may succumb to road rage after long hours on the road, especially if they have trouble with other drivers.

Aggressive driving behaviour can prove extremely dangerous even when the driver of a passenger vehicle engages in it. Tailgating can make it difficult for the aggressive driver to stop in time, while weaving through traffic can increase accident risk substantially. Aggressive truck drivers can make road conditions very unsafe for everyone else on the road. Some truck drivers may even deliberately cause accidents due to an incident of road rage.


>> 4.0 Safe Loading Checks

Goodpack Depot Supervisor/Manager shall conduct random safety checks on the loading activity in the depot. This is to ensure the loading was done according to the safety policy.

Scan the below QR code to access the Inspection checklist











iauditor://template/new_audit/template_1e31c6b9191c4de7b42945bed4bf6479

Activity Based Checklist  **Safe Loading of Materials**

Improper loading of materials on vehicles can be dangerous to you and your workers. Use this checklist* as a guide to keep you and your workers safe. For more information on how you can keep your workplace safe, go to www.wshc.sg

Name of Company _____ Process/ Location _____
 Checked by (Name/ Designation) _____ Date _____

Safety Checks	Please tick (✓)			If no, action required by:
	Yes	No	NA*	
Truck's ignition key is off and brakes are applied. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____
Outriggers are extended fully on the ground. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____
Loading area is kept clear of traffic and workers not involved in the loading process. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____
Truck has sideboard and extension of sufficient height for the load carried. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____
Loads are rigged properly before being hoisted. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____
No one, including the truck operator, is under suspended loads during hoisting. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____
No one, including the truck operator, is between the load and the truck during hoisting. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____
Load on the truck is properly stacked and secured. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Name: _____ Date: _____

* This checklist may not cover all aspects of work activities in your workplace. You should review the checklist when there are changes in any work activity.
 * NA - Not applicable



Annex A – Risk Assessment Template

CREATING CIRCULAR SUPPLY CHAINS

Department:	Warehousing	RA Leader:	Roy Lin	Approval:		Reference number: 2014S216RA006
Work activity:	Loading and unloading cargo	RA Member 1:	Hong Qi Shun	Signature:		
Event / Location:	Container tracks and warehouse	RA Member 2:	Han King Siu	Date:		
Assessment Date:	15 Dec 2014	RA Member 3:	Eddie Lo	Name:		
Last review date:	17 Dec 2013	RA Member 4:	Prakash Muthu	Designation:		
Next review date:	15 Dec 2015	RA Member 5:	-	Manager		

Ref	Work activity	Hazard Identification		Risk Evaluation			Risk Control							
		Hazard	Possible injury or ill-health	Existing risk controls	S	L	RPN	Additional controls	S	L	RPN	Implementer	Due Date	Remarks
1	Loading and unloading with a forklift	Forklift movement during loading.	Heavy concussion and possible fractures.	Segregating vehicular and human traffic at worksite to reduce chances of collision.	4	2	16	Install reversing alarm on forklift.	4	2	8	Eddie Lo	20 Dec 2014	
		Cargo falls off forklift due to unstable stacking on pallet.	Bruising and contusions.	Enforce proper stacking and strink wrap individual stacks on pallet.	2	3	6	-	-	-	-	Hong Qi Shun	20 Dec 2014	
2	Loading and unloading manually	Handling heavy loads manually.	Muscular strains and sprains.	Instruct employees to always handle cargo mechanically where possible.	3	4	12	Pair up with a co-worker to carry loads together.	3	2	6	Han King Siu	20 Dec 2014	
		Fingers crushed between cargo items while unloading manually.	Fractured finger, lacerating.	Instruct employees to always handle cargo mechanically where possible.	3	4	12	-	-	-	-	Eddie Lo	20 Dec 2014	
3	Securing cargo with lashing belt	Cargo falls off vehicle due to stacking palletised cargo.	Bruising and contusions.	Restrict height of stacking.	3	2	6	-	-	-	-	Han King Siu	20 Dec 2014	
		Struck by over-tensioned lashing device that snapped.	Bruising and contusions.	Check lashing devices for tears and frays before use.	3	1	3	-	-	-	-	Eddie Lo	20 Dec 2014	
4	Transporting cargo on public road	Cargo falls off during transportation due to lack of lashing.	Cargo strikes other vehicles on road, possible road traffic accident.	Use lashing devices on top of loads to block the cargo.	5	2	10	Cover cargo with tarpaulin sheet or netting after securing.	5	1	5	Roy Lin	20 Dec 2014	
		Cargo falls off during transport due to inadequate tension in lashing.	Cargo strikes other vehicles on road, possible road traffic accident.	Check lashing devices for tension before leaving loading bay.	5	2	10	Cover cargo with tarpaulin sheet or netting after securing.	5	1	5	Han King Siu	20 Dec 2014	
		Unsecured excess tarpaulin sheet flapping during transportation.	Visibility of other road users obscured, possible road traffic accident.	Check tarpaulin sheet are properly fixed or tied down before leaving loading bay.	5	2	10	-	-	-	-	Prakash Muthu	20 Dec 2014	
5	Driving to meet delivery orders	Driving continuously over-tired after an eight-hour shift.	Developing muscle strains from staying in same posture for long hours.	Educate and encourage drivers to stretch during their breaks.	3	5	15	Schedule routine job rotations amongst employees to vary work activities.	3	3	9	Eddie Lo	20 Dec 2014	
		Developing loss of concentration due to fatigue.	Developing loss of concentration due to fatigue.	Provide adequate breaks during shift work.	5	3	15	Install fatigue management systems on vehicles.	5	1	5	Roy Lin	20 Dec 2014	
6	Releasing lashing belt for unloading of cargo	Over-tensioned belt snaps.	Bruising and contusions.	Check lashing devices for tears and frays before use.	3	1	3	-	-	-	-	Hong Qi Shun	20 Dec 2014	
		Cargo falls over after releasing tension in lashing belt.	Bruising and contusions.	Restrict height of stacking.	3	2	6	-	-	-	-	Prakash Muthu	20 Dec 2014	

Assessment of Likelihood

Level	Likelihood	Description
5	Almost certain	Continual or repeating experience.
4	Frequent	Common occurrence.
3	Occasional	Possible or known to occur.
2	Remote	Not likely to occur under normal circumstances.
1	Rare	Not expected to occur but still possible.

Assessment of Severity

Level	Ranking	Description
5	Catastrophic	Fatality, fatal diseases or multiple major injuries.
4	Major	Serious injuries or life-threatening occupational disease (including amputations, major fractures, multiple injuries, occupational cancer, and acute poisoning).
3	Moderate	Injury requiring medical treatment or ill-health leading to disability (includes lacerations, burns, sprains, minor fractures, dermatitis, deafness, and work-related upper limb disorders).
2	Minor	Injury or ill-health requiring first-aid only (includes minor cuts and bruises, irritation, and ill-health with temporary discomfort).
1	Negligible	Not likely to cause injury or ill-health.

5x5 Risk Matrix with Risk Prioritisation Number (RPN)

Severity \ Likelihood	Rare [1]	Remote [2]	Occasional [3]	Frequent [4]	Almost certain [5]
Catastrophic [5]	5	10	15	20	25
Major [4]	4	8	12	16	20
Moderate [3]	3	6	9	12	15
Minor [2]	2	4	6	8	10
Negligible [1]	1	2	3	4	5



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