

Waste plastic materials that commonly cause accidents include the following:

Expansible polystyrene (EPS), also known as “plastic foam”, usually contains n-pentane, which is a flammable and volatile chemical used as blowing agent. The n-pentane vapour escaping from waste EPS plastic material could form a flammable mixture with air. At the temperature of a normal working environment, the accumulated flammable mixture inside the container could easily be ignited by an ignition source causing a flash fire or explosion.

In the production process of ethylene propylene diene monomer rubber (EPDM), a flammable chemical, n-hexane, is used as solvent. If the n-hexane solvent residue is not completely removed from waste EPDM material, n-hexane vapour would be released inside the container forming a flammable mixture. At the temperature of a normal working environment, the flammable mixture accumulated inside the container could readily burn when ignited causing a flash fire or explosion.

To prevent accidents, a safe system of work should be in place and should include:

- ▶ conducting a risk assessment;
- ▶ preparing safe methods and the necessary equipment, instruments and tools, etc.;
- ▶ handling and inspecting inflammable substances with care (prohibiting smoking or naked flames); and
- ▶ providing information (including material safety data sheets), instruction, training and supervision.

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Obtaining and making good use of “MATERIAL SAFETY DATA SHEETS” (MSDS)

Every effort should be made to identify and understand the hazards of the goods stored in a freight container. If chemicals are involved, the employer should obtain MSDSs from chemical suppliers and conduct a risk assessment based on the MSDSs information. Some chemical suppliers also upload their MSDSs to the Internet for downloading by users. The main content of a MSDS includes:



- ▶ the name, composition, and physical and chemical properties of the chemical;
- ▶ the hazards of the chemical, e.g. explosive, flammable, combustion-supporting, toxic, etc.;
- ▶ packing and labelling of the chemical;
- ▶ health hazards and first aid measures;
- ▶ safety measures; and
- ▶ occupational hygiene and health standards.

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Section 6BA of the Factories and Industrial Undertakings Ordinance, Cap.59: Mandatory Basic Safety Training

A person employed to carry out container handling shall attend a safety training course on container handling recognized by the Commissioner for Labour and hold a valid certificate (commonly known as the “Green Card”). The certificate issued in respect of his attendance in the recognized safety training course will be valid for three years. A person employed at an industrial undertaking must carry the certificate with him while at work at the undertaking and produce the certificate upon demand by the proprietor of the undertaking or an occupational safety officer of the Labour Department.



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Enquiries

For enquiries about this guide or other matters on occupational safety and health, please contact the Occupational Safety and Health Branch through:

Telephone : 2559 2297
(auto-recording after office hours)

Fax : 2915 1410

E-mail : enquiry@labour.gov.hk

Information on the services offered by the Labour Department and on major labour legislation can also be found by visiting our Home Page on the Internet at <http://www.labour.gov.hk>.

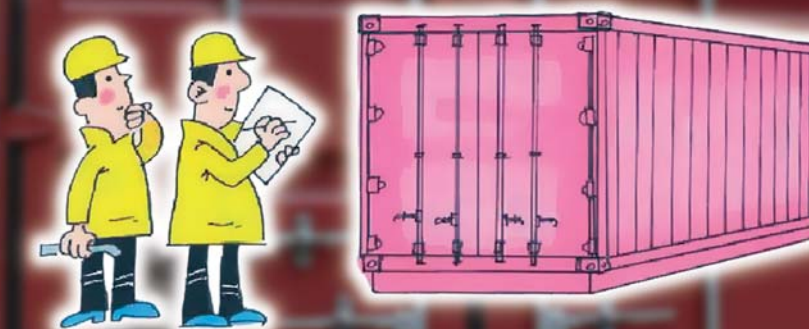
You can also obtain information on the various services provided by the Occupational Safety and Health Council through its telephone hotline at 2739 9000.

Complaints

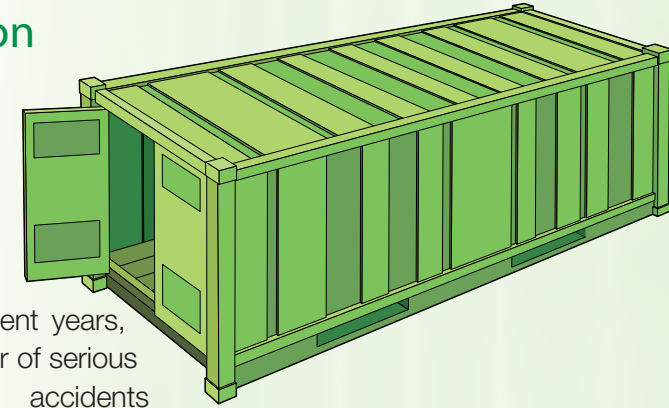
If you have any complaints about unsafe workplaces and practices, please call the Labour Department's occupational safety and health complaint hotline at 2542 2172. All complaints will be treated in the strictest confidence.

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A Safety Guide for Freight Container Inspection



Introduction



In recent years, a number of serious industrial accidents occurred when workers were inspecting goods stored in freight containers. The purpose of this guide is to remind employers to take adequate and appropriate safety measures before assigning workers to perform such tasks. First of all, employers should conduct a risk assessment for this kind of inspection work, and take into account the hazards identified and evaluated in the assessment to develop a safe system of work. Employers are also responsible for providing their workers with the necessary safety information, instruction and training. They should also supervise the workers to ensure that they adopt safety practices when inspecting freight containers.

Freight container inspection is mainly regulated by the general duty provisions of the Factories and Industrial Undertakings Ordinance (Cap. 59) and the Occupational Safety and Health Ordinance (Cap. 509). When developing a safe system of work for inspection of goods (especially waste plastic materials) in freight containers, employers may refer to safety publications published by the Labour Department, including "Five Steps to Risk Assessment", "A Guide to the Factories and Industrial Undertakings Ordinance (Section 6A) - General Duties of Proprietors" and "A Guide to the Factories and Industrial Undertakings (Dangerous Substances) Regulations".

1

Safety notes for employers on freight container inspection

- ◆ The employer should provide and maintain a system of work, which is safe and without risks to health, for freight container inspection, including:
 - ▶ conducting a risk assessment and a thorough review of the work procedures to identify factors that may cause injuries to workers and evaluate the adequacy of the precautionary measures; and
 - ▶ providing safe methods and the necessary equipment, instruments and tools, e.g. appropriate working platforms, ladders, etc.
- ◆ The employer should provide the necessary information, instruction, training and supervision for freight container inspection to all workers employed by him to ensure their health and safety at work. The information includes:
 - ▶ safe procedures for operating equipment;
 - ▶ arrangement of work procedures;
 - ▶ potential operational hazards; and
 - ▶ any necessary precautions.

A person with adequate safety knowledge and work experience should be appointed to be in charge of the supervision to ensure that workers perform the work in accordance with the safe methods in place.

2

Safety notes for employees on freight container inspection

In carrying out the work, the employees should co-operate with his employer by adopting the safe system of work and taking care of the safety and health of himself and of other persons who may be affected by his negligence or recklessness at work. These include:

- ▶ attendance in safety training to better understand the potential risks at work and the precautionary measures;
- ▶ proper use of safety devices and facilities without alteration, removal or interruption; and
- ▶ stopping work and reporting to the person-in-charge immediately when any danger concerning operational procedures and the working environment arises.

3

Common accidents in freight container inspection

(A) Goods falling out of a container

If the goods inside a freight container are not properly stacked and there is no fixing device, the goods will easily fall out of the container, resulting in the injury or death of the inspection worker.



To prevent accidents, a safe system of work should be in place and should include measures like:

- ▶ proper stacking of goods;
- ▶ provision of appropriate means or fixing devices to prevent goods from falling out of the container upon opening of doors; and
- ▶ provision of information, instruction, training and supervision to ensure that employees follow safe methods and proper procedures.

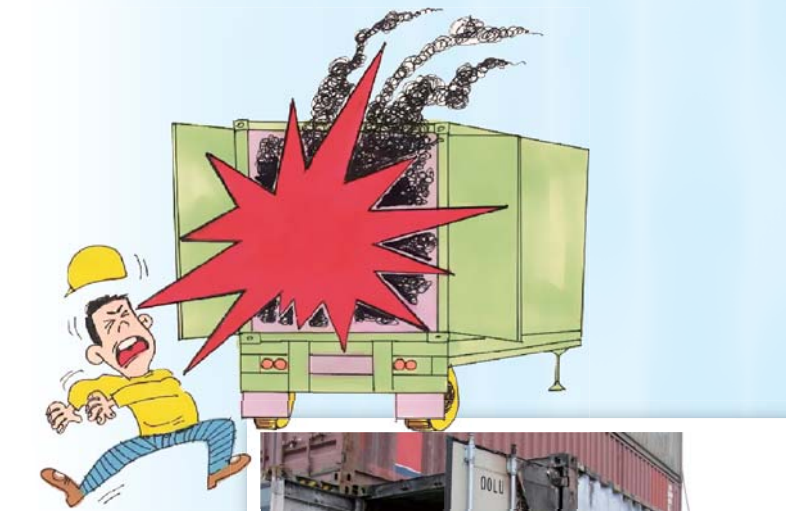


A device to secure the doors of a freight container in position

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(B) Explosion and fire caused by waste plastic materials in a freight container

When a worker opens the doors of a freight container loaded with waste plastic materials, a flash fire may occur leading to an explosion if the flammable chemical vapour inside the container is ignited, inflicting severe burns on the worker or causing his death.



Explosion and fire caused by waste plastic materials in a freight container

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