



# Environment Essentials

Applying Hierarchy of Control measures  
to manage workplace hazards

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# Hazardous chemicals

## 1 Elimination

- Purchase pre-mixed or diluted chemicals to eliminate handling hazardous chemicals.
- Dispose unwanted chemicals straight away.

## 2 Substitution

- Replace highly flammable liquids with less flammable or combustible liquids.
- Purchase products as a paste or pellets rather than as a dust or powder.

## 3 Isolation

- Store hazardous chemicals away from people and work areas.
- Separate incompatible chemicals through techniques such as barriers, distancing or external storage tanks.

## 4 Engineering controls

- Use local exhaust ventilation to remove airborne contaminants.
- Install spill management systems such as bunding or drains to prevent hazardous chemicals contaminating other work areas.

## 5 Administrative controls

- Place warning labels on chemicals or containers, and signage near hazardous chemicals to warn workers of hazards.
- Written instructions and policies for how to use, handle and store hazardous chemicals, including clean-up procedures for spills.

## 6 PPE

- Overalls, aprons, boots, chemical-resistant gloves, chemical-resistant glasses, face shields and respirators.

MOST EFFECTIVE

LEAST EFFECTIVE



# Manual handling

1

## Elimination

- Automate repetitive tasks to prevent muscle strain.
- Have goods delivered straight to where they are needed to prevent multiple workers handling them.

2

## Substitution

- Replace hand tools with power tools to remove the level of force required for the task.
- Replace heavier items with lighter, smaller items. However be mindful of any risk of repetition.

3

## Isolation

- Erect a barrier between workers and a hazardous task or machinery, such as a vibrating machine.
- Set up the workspace to reduce distraction while the task is being performed.

4

## Engineering controls

- Use mechanical lifting aids, hoists, or trolleys to move heavy loads.
- Provide ergonomic furniture and height-adjustable workstations to assist with goods posture.

5

## Administrative controls

- Rotate workers through repetitive or demanding tasks.
- Provide correct lifting procedures.

6

## PPE

- Heat-resistant gloves for holding hot items.
- Shock-absorbent shoes.

MOST EFFECTIVE

LEAST EFFECTIVE



# Noise

## 1 Elimination

- Do not purchase, or discontinue the use of, noisy machinery
- Change work practice so hazardous noise is not produced.

## 2 Substitution

- Replace ototoxic substances (chemicals that can cause hearing loss) with less harmful products.
- Change work practices to reduce noise levels. For example, bending metal in a vice or press rather than hammering it into shape.

## 3 Isolation

- Operate noisy machinery or plant from a distance using remote controlled equipment.
- Construct enclosures or soundproof covers around sources of hazardous noise.

## 4 Engineering controls

- Implement sound dampening control measures such as absorbent lining on surfaces to cushion the impact of a hard object or fit silencers on compressed air exhausts or blowing nozzles, to minimise the risk of hearing loss.

## 5 Administrative controls

- Schedule noisy work to be done when only a few workers are around.
- Provide quiet break areas for workers regularly exposed to noisy work.
- Demarcate and sign-post areas where tasks involving hazardous noise are taking place as hearing protected areas.

## 6 PPE

- Personal hearing protectors.

MOST EFFECTIVE

LEAST EFFECTIVE



# Psychosocial hazards

1

## Elimination

- Use remote payment methods to remove the risk of robbery and potential assault.
- Avoid ambiguity and have clear job descriptions for all roles.

2

## Substitution

- Replace face-to-face communication with customers with alternative options such as live chat, video conferencing or self-service portals.
- Allow workers to control the pace at which they work and their break times rather than using automated work allocation.

3

## Isolation

- Implement physical barriers between workers and customers to minimise the risk of assault or other harmful behaviour towards the worker.

4

## Engineering controls

- Install ventilation and mechanical cooling devices in small, enclosed spaces like truck cabins to avoid driver fatigue.
- Install extra lighting, video surveillance, alarm systems or security personnel to protect those working night shift or in remote areas.

5

## Administrative controls

- Implement processes for constructive, goal focused and fair feedback.
- Train workers on dealing with difficult clients or customers and management on conflict resolution.
- Offer employee assistance programs.

6

## PPE

- Personal distress alarms
- Body armour and face protection (for police)
- Gloves, gowns and face shields (for emergency workers)

MOST EFFECTIVE

LEAST EFFECTIVE

# Working with electricity

## 1 Elimination

- Disconnect and remove unsafe electrical equipment from electricity supply.
- Check the condition of electrical equipment, including lead and plug connections, before using it.

## 2 Substitution

- Use battery-operated tools instead of tools plugged into electricity.
- Using arc-resistant equipment such as arc-resistant switchgear to reduce exposure to arc flashes.

## 3 Isolation

- Keep electrical equipment and sources of electricity away from water or liquids.
- Insulate electrical cords to avoid contact with live wires.

## 4 Engineering controls

- Install overcurrent protective devices such as residual current devices or circuit breakers to prevent electric shocks.
- Use absence of voltage testers to check that a circuit is de-energised before opening an electrical enclosure.

## 5 Administrative controls

- Only licensed or registered electricians perform electrical work.
- Regular inspecting and testing of electrical equipment
- Put up safety barriers and signage to warn people of electrical hazards in the area.

## 6 PPE

- Protective eyewear, insulated gloves, insulated shoes, hard hats and aprons.

MOST EFFECTIVE

LEAST EFFECTIVE



# Working at height

1

## Elimination

- Design the work environment so tasks can be performed on ground level or on a solid construction. For example, air conditioning units located on ground level or using paint rollers with extendable arms.

2

## Substitution

- Use permanently mounted stairways and ladder systems instead of temporary measures such as elevated work platforms or scaffolding.

3

## Isolation

- Install passive fall protection systems such as secure fences, plant platforms or gantry walkways to protect workers from falling off the edge or falling into holes.

4

## Engineering controls

- Restrict access to dangerous areas where a fall could occur with lockable gates or guardrails.
- Provide natural or artificial lighting to aid workers entering or exiting a solid construction safely.
- Put non-slip mats over grid mesh or checker plate flooring.

5

## Administrative controls

- Place clear warning signs around areas where a fall could occur, or someone could be hit by a falling object.
- Implement permit systems for workers to use certain working at height control measures.

6

## PPE

- Static lines, anchor points, fixed length lanyards and safety harnesses.

MOST EFFECTIVE

LEAST EFFECTIVE

