

Part 1: Basic Legal Requirements Covering Occupational Health and Safety in the Workplace

1.1 WHS legislation?

A key principle of WHS is that workers should be given the highest level of protection against harm to their health and safety from hazards and risks arising from work as is reasonably practicable.

WHS legislation requires that workers must be consulted about health and safety issues arising in the workplace.

The WHS Act includes penalties for employers, workers and other persons for breaching their duties under the Act.

1.2 SafeWork NSW

SafeWork NSW inspectors can issue on-the-spot fines for the incorrect ladders being used on a work site.

SafeWork NSW inspectors can't enter a workplace without the permission of the employer.

SafeWork NSW inspectors can issue an order to stop doing any work that creates an immediate risk to workers or visitors.

1.3 Possible hazards that can result from a dirty or untidy workshop or work site.

Accept any three suitable answers that are hazards associated with poor housekeeping in a workshop or site resulting in trips, slips, falls, fires, or cuts, such as: round tube or solid metal stock on floor, water on the floor, exposed leads, or cables, sheet metal offcuts, swarf from cutting, turning, milling, spilt lubricant or cutting fluids.

1.4 industrial housekeeping duties which will help in eliminating hazards in the workshop.

Accept any three suitable answers associated with industrial housekeeping in a workshop, eg.

1. Keep work areas free from rubbish and obstructions,
2. Clean up spills,
3. Keep walkways clear,

4. Use rubbish bins provided,
5. Put tools and materials away after use.

1.5 Primary Duty of Care' for the health and safety of a worker

The person conducting the business or undertaking

1.6 The main functions of a Health and Safety Committee

Helping the business owner to work together with workers on health and safety matters Helping to develop health and safety standards, rules and procedures for the workplace

1.7/Work Health and Safety Act 2011, four specific duties imposed on a worker while at work?

1. Take reasonable care for his or her own health and safety.
 2. Take reasonable care that his or her acts or omissions do not adversely affect the health and safety of other persons.
 3. Comply, so far as the worker is reasonably able, with any reasonable instruction that is given by the person conducting the business or undertaking to allow the person to comply with the Act.
 4. Co-operate with any reasonable policy or procedure of the person conducting the business or undertaking relating to health or safety at the workplace that has been notified to workers.
- Table 1 Multiple choice

1.9/Examples of PPE

- Sunscreen Working outdoors or on a roof.
- Hat Working outdoors or on a roof.
- Safety Glasses Use drills, cutters, or other tools with swarf offcuts.
- Safety Boots Workshop or work site.
- High Visibility Vest Working on sites.
- Gloves Handling sharp items, or sheet metal.

1.8

How should you select the right PPE (personal protective equipment) for a specific task or job?

Table 1 Multiple choice

Answer choices	Put X next to your answer
a) Use common sense	
b) See what your work mates are using or wearing	
c) Check the JSA or SWMS for the task or job	X
d) Choose PPE that is comfortable and allows you to work effectively.	



Part 2: Work Environment



2.1 Hazards associated with the electrotechnology work environment.

Damaged insulation; Exposed electrical parts;
Damaged tools and equipment;
Overhead power lines;
Wet conditions; Forklifts;
Confined spaces;
Poor housekeeping; Manual handling; Improper furniture/workbenches

2.2 The acronym RACE.

1. Try to rescue others if you can do so safely.
2. If there is no alarm in the building, warn the other occupants of the building.
3. Call the emergency number 000.
4. If practical and safe to do so, close all doors and windows to contain the fire
5. Use a fire extinguisher if the fire is very small and you know how to do it safely.

2.3 Steps in a risk assessment.

Step 1 Identify hazards Identify the source of risk or danger
Step 2 Assess risk Assess the probability, frequency, severity of risk
Step 3 Control the risk Implement elimination, substitution, engineering controls, administrative controls and personal protective equipment
Step 4 Review Controls Review the control measures to ensure they are working as planned

2.4 to 2.8 five different types of fire extinguisher in common use.



Foam



Dry chemical



Wet chemical



Water



Carbon dioxide

2.4 To fight a fire in **ordinary combustibles such as cardboard, paper or wood**

- a) Foam X
- b) Powder (Dry Chemical) X
- c) Wet Chemical X
- d) Water X

2.5 To fight a fire in **flammable liquids** (Petrol, fuel oil)?

- a) Foam
- b) Powder (Dry Chemical)
- c) CO₂

2.6 To fight a **flammable gases** (LPG, Acetylene)

CO₂

2.7 To fight a fire involving **energised equipment** (switch board, computer)?

Powder (Dry Chemical)

CO₂

2.8 To fight a fire involving **cooking oils, fats** (restaurant kitchen, chip deep fryer)?

- a) Foam
- b) Powder (Dry Chemical)
- a) Wet Chemical

Maintenance, tagging and positioning of fire extinguishers.

2.9 According to AS 2444, in any business premises, you should be able to see a fire extinguisher, and its signs, from a distance of up to 20 metres.

All fire extinguishers have to be inspected and tagged every six months

Fire extinguishers must have a red and white sign above them at least 2 metres above the floor

2.10 sEmergency plan for the workplace.

- a) A list of the hazards associated with the workplace.
- b) Fire wardens, first aid officers and other key personnel.
- c) Emergency services' contact details.
- d) Evacuation procedures.
- e) A map with the location of fire extinguishers, exits and assembly points.

2.11 Visitor policies, locks and guards are strategies for the purpose of protecting against:

- a) sabotage or vandalism of buildings, assets or documents.
- b) acts of terrorism

- c) domestic violence carried over into a workplace
- d) theft of tools, equipment, goods or information.

2.12 Standard Work Procedure or Safe Operating Procedure






A simple written description of the safest, highest quality, and most efficient way known to perform a particular process or task with a specific piece of equipment is called a:

2.13 The best way to control hazards in the workplace







Eliminate the hazard completely



2.14 Meaning of workplace safety sign shape backgrounds, write the each,

Workplace safety signs	Description	Meaning and Example
	<p>Red annulus surrounds a black pictogram of an action with black wording.</p>	<p>Regulatory Prohibition – Eg No Smoking</p>
	<p>Blue circular background surrounding a white pictogram with black wording.</p>	<p>Regulatory mandatory – wear hard hat</p>
	<p>“DANGER” featured inside a red ellipse inside a black rectangle with white background and black wording.</p>	<p>Hazard danger – Confined Space, entry by permit</p>
	<p>Black triangle surrounding a yellow symbol background with black symbol and wording.</p>	<p>Hazard warning – risk of electric shock</p>
	<p>Green rectangle inside a white surrounding with white symbol and wording.</p>	<p>Emergency information – First Aid Station</p>

2.15 Thee meaning of each of the given hazard pictograms that represent the physical, health and environmental hazards of chemicals.

Hazard pictograms	Meaning
	<p>Flammables</p>
	<p>Corrosives</p>
	<p>Environmental hazard</p>
	<p>Acute toxicity</p>
	<p>Harmful / irritant Harmful to ozone layer</p>
	<p>Severe health hazard</p>

Part 3: Manual Handling

3.1 List two work activities that may cause manual handling injuries.

- Incorrect lifting and carrying heavy loads;
- pulling a heavy load;
- Manually handling a person or an animal;
- Exposure to sustained vibration;
- Handling loads, tools, machinery and equipment

3.2 What is the correct procedure for lifting to prevent manual handling injuries

- Start in a safe position.
- Maintain the natural curve in your lower back.
- Use your legs. Squatting instead of kneeling.
- Let your legs do the work.
- Avoid twisting.

3.3

- Twisting with a load, causing a sub-chondral fracture of the femur head. Could require hip replacement, limiting mobility and motion.
- Disc displacement in various vertebrae of spine limiting motion, movement and lifting ability.
- Knee joint damage, resulting in arthritis later in life or requiring knee replacement later in life, limiting motion and movement.

Part 4: Chemicals in the Workplace

4.1 Chemicals or materials that are classified as hazardous substances and/or dangerous goods in your workplace.

Natural gas, lithium batteries, asbestos

4.2 If you see this sign on the outside of a building, it means:



The building is a workplace that has more than placard quantities of hazardous chemicals stored in it

4.3 Within a work vehicle where MUST flammable gases be secured and stored?

an externally ventilated flammable gases cupboard/locker or flame proof cupboard/locker or similar

4.4 Within a building/factory workplace where MUST flammable liquids be stored

a fire proof cupboard/locker or flammable liquids cupboard/locker or flame proof cupboard/locker or similar.

4.5 Within a building/factory workplace when hazardous liquids and solids are stored together the solids above the liquids.

4.6 Safety Data Sheet (SDS):

- the chemical's identity and ingredients
- regulations
- health and physical hazards
- first aid
- safe handling and storage procedures
- transport information
- emergency procedures

🔍 firefighting

10



? environmental information

? disposal considerations

Hazardous chemicals packaging?

Labels on hazardous chemicals identify hazards and give instructions on how to use them safely. They help businesses identify any safety controls needed in the workplace, and tell workers how to deal safely with a chemical.

Three important requirements to be included in a hazardous chemical label.

The product identifier.

The name, Australian address and business telephone number of the manufacturer or importer.

The identity and proportion of each ingredient—as per Schedule 8 to the model WHS Regulations.

Any hazard pictogram consistent with the correct classification of the chemical.

Any hazard statement, signal word and precautionary statement consistent with the correct classification of the chemical.

Any information about the hazards, first aid and emergency procedures relevant to the chemical, which are not included in the hazard statement or precautionary statement.

An expiry date, if applicable.

Source: <https://www.safeworkaustralia.gov.au/labelling>

Part 5: Working at Heights

5.1 Two hazards associated with working at heights.

Falls; Falling objects; Falls from collapsing structures; Electrocution from overhead wires

5.2 Specific feature is required for step ladders over two metres long

It must have a platform.

5.3 What length must a ladder extend beyond a walking surface/roof?

1 metre

5.4 If a ladder is extended 8 metres to the point where it touches a structure, how far away from the base of the structure must the ladder be at the base?

2 metres

5.5 Personal Arrest System (or Fall Protection) must be used by workers on ladders or scaffolds more than 2.4 m above a lower level?

Three precautions that need to be taken to ensure you can safely work from a ladder, scaffold or elevated platform over 2.4m in height

5.1. When ascending, descending, or working from a ladder how many points of contact must be maintained at all times to ensure personal safety is maintained?

Three points of contact must be maintained at all times.

5.7 Use fall protection; use the correct number of attachment points on a harness; carry tools only on a work belt; use lanyards with heavier tools. There must be safe access to the scaffold platform. Scaffolds are to be erected, altered and dismantled only by competent persons. All scaffolding over four metres in height must be erected by a certificated scaffolder. Each working platform and access platform must have full edge protection comprising handrail, mid-rail, and toe-board or a handrail and infill panel.



Part 6: Confined Spaces

6.1 Confined spaces.

Tanks; Pits; Ducts; Chimneys; Silos; Pressure vessels; Trenches; Tunnels; Ceilings.

6.2 Four examples of hazards associated with working in a confined space.

Toxic Atmosphere; Oxygen Deficiency; Oxygen Enrichment; Flammable or Explosive Atmospheres; Flowing Liquid or Free Flowing Solid; Excessive Heat.

6.3 Confined space entry permit

A “confined space entry permit” must be completed in writing by a competent person. The permit must be kept until the job is completed or for at least two years if a notifiable incident occurred during the job.

6.4 Working in a confined space

Working in a confined space is defined as high risk construction work. This means that it always requires a Safe Work Method Statement. Specific information related to confined spaces safe work must be included in the SWMS.

List three specific control measures for working in a confined space

- Undertake a thorough risk assessment
- Plan and establish a suitable emergency and first aid response
- Determine if ventilation/extraction is required
- Determine the appropriate personal protective equipment
- A standby person must always remain at the entrance to the confined space
- A working knowledge of the requirements of the AS/NZ 2865:2001

Part 7: Physical and Psychological Hazards

7.1 List two effects of industrial noise.

1. Cause hearing loss.
2. annoy and interfere with speech.
3. interfere with concentration and thought processes.
4. disturb sleep.
5. cause fatigue and aggression.
6. reduce immune response.
7. lead to heart disease

7.2 When the inner ear is damaged due to excessive noise, it will NOT gradually repair provided it is not further exposed to excessive noise.

7.3 Two measures used to control the effects of industrial noise.

- Replace or modify the noise source to eliminate or reduce the noise output
- Use sound absorbing screens to attenuate the noise level
- Vary the worker's exposure by limiting exposure time
- Use personal protective equipment

7.4 List two possible effects of thermal stress on human body.

Loss of concentration and ability to do mental tasks; Loss of ability to do skilled tasks or heavy work; Nausea or irritability; Muscle cramps or weakness; Feeling faint; Headaches; Thirst; Heavy sweating; High body temperature; Dizziness.

7.5 List suitable work practices to protect against thermal stress.

Provide adequate ventilation in the work environment; Avoid exposure to direct sunlight; Avoid working in the vicinity of heat sources such as furnaces; Heaters and ovens; Educate workers about heat stress and methods to avoid heat stress; Maintain hydration by providing access to drinking water

7.6 Symptoms of excessive exposure to long term vibration.

White finger; Tingling or numbness; Reduced circulation; muscle and joint aches and pains.

7.7 Two measures used to control the effects of excessive vibration.

- Use tools with appropriate recoil dampening and air cushioning.
- Use tools with padded handles.
- Use appropriate personal protective equipment (eg: padded gloves).

7.8 Dangers/hazards associated with laser emissions when using laser based devices

Burns to skin; Damage/burns to eyes/retina; Fires/burnt clothing from high power lasers.

7.9 Measures used to control hazards associated with laser emissions.

Adhere to legal regulations; Follow Standard Operating Procedures; Use Personal Protective Equipment – correct safety glasses; Be aware of inherent dangers; Avoid physical or visual contact.

7.10 Two typical workplace activities where a trainee, apprentice or tradesperson might experience occupational overuse syndrome (OOS).

1. Wire stripping. 2. Terminating cables. 3. Winding motors. 4. Maintaining a cramped or awkward position. 5. Using vibrating tools.

7.11 Two control measures that could be applied for OOS hazards.

Maintain correct posture, Take regular breaks, use correct tools, alternate with other jobs.

7.12 Five measures used to control the effects of ultra violet radiation while working on a roof structure.

- Slip on some sun-protective clothing.
- Slop on (SPF30+) sunscreen.
- Slap on a hat (that protects your face, head, neck and ears).
- Seek shade.
- Slide on some sunglasses (conforming to Australian standards).

7.13 The sources that may contribute to workplace stress

1. Understaffing. 2. Bullying. 3. Harassment. 4. Excessive work hours.
5. Unrealistic deadlines. 6. Job insecurity. 7. Intimidation. 8. Poor management procedures.

7.14 Two typical symptoms associated with workplace stress.

1. Frequent headaches. 2. Feeling fatigued (run down). 3. Feeling frustrated or irritable or angry. 4. Poor concentration. 5. Loss of energy and motivation
6. Cardiovascular irregularities. 7. Changes in appetite and weight. 8. Anger.

7.15 Two detrimental effects of drug and alcohol use in the workplace.

1. Mistakes. 2. Accidents and injuries. 3. Damage to workplace equipment.
4. Causing subsequent injuries. 5. Deterioration in workplace relationships.
6. Increased sickness-related absenteeism. 7. Lateness and lost time.
8. Decreased productivity. 9. Decreased staff morale

7.16 The Stress can often be effectively managed by attitude adjustment and lifestyle choices,

1. Leave work problems at work and vice versa. 2. Be flexible
3. Healthy lifestyle (diet, respite, exercise). 4. Develop support networks. 5 Ask for help



Part 8: Working Safely with Electricity

8.1 Electrical accidents.

- a) Using electrical appliances with damaged power cords
- b) Operating power tools in wet conditions
- c) Not following Lockout/tagout procedures when maintaining electrical equipment,

8.2

Give at least two reasons why this tag might be attached to a piece of equipment.

1. The electrical equipment is isolated or out of service.
2. The electrical equipment is faulty.
3. The electrical equipment is being maintained.

Describe what you must do or not do when you see it.

The electricity supply must not be switched back on or reconnected



Describe a possible consequence of ignoring it.

reconnecting electricity may endanger the life of the electrical worker(s) working on the equipment/cause an accident

8.3

For a hand grip of 5 seconds duration, what is the minimum level of alternating current at 50 Hz that is considered to be fatal?

100mA

8.4

Two types of injuries associated with electric shock.

1. Point of contact burns. 2. Arc burns. 3. Radiation burns. 4. Spatter burns
5. Current path tissue burns, Cardiac arrest, multiple spasms

8.5

Circuit breakers are designed to protect wiring (or circuits or conductor insulation etc).

Residual current devices are designed to protect people (or living things etc).

8.6

The precautions to be taken **before** attempting to remove an electrical shock victim from a live circuit.

- Do not touch the victim.
- Be careful if there is water
- Turn off or separate the victim from the electrical source using a dry, non-conductive item.
- Call emergency help line 000.
- Remain at least 8 metres from energised power cables or appliances.



Part 9: Life Support - CPR in the Workplace

9.1

Possible effects of cardio pulmonary arrest on the human body, starting with the MOST serious effect.

- Death.
- Brain damage.
- Abnormal or absent breathing.
- Loss of consciousness.
- Chest pain.
- Nausea.

9.2

The acronym DRSABCD is used to identify the order of steps to be undertaken in the application of first aid and cardio-pulmonary resuscitation (CPR). Name these steps.

D Danger – check the scene for danger/safety issues. R Response – Is the person conscious.

S Send for help – if unconscious send for help.

A Airways – open airways.

B Breathing - check for breathing.

C Compressions – Start CPR.

D Defibrillation – Attach the defibrillator (AED).

9.3

The most important injury to manage in an unconscious person? Airway

9.4

The first action if there is no breathing in an unconscious person?

Phone '000' and Call for help.



9.5

Two-person cardio-pulmonary resuscitation is performed

Two person CPR is performed by two trained rescuers. One person can be positioned at the chest performing compressions and the other person is at the head giving rescue breaths.

Two person CPR is not as tiring as one person CPR.

There's less of a delay between compressions and breaths. Therefore, it's more efficient and it's more effective.

9.6

The list of symptoms of shock.

- Pale, cold, clammy skin
- Shallow, rapid breathing
- Difficulty breathing
- Anxiety
- Rapid heartbeat
- Heartbeat irregularities
- Thirst or a dry mouth
- Low urine output or dark urine
- Nausea
- Vomiting
- Dizziness
- Light-headedness
- Confusion and disorientation Unconsciousness.

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9.7

An important part of the procedure to managing a person in suspected shock is to have the person lie down and keep warm

9.8

Once a person has been assessed as having clear airways and is breathing, Bleeding is the next most important injury a first aider should examine a patient for to manage.

9.9

Upon examination, an injured person on a worksite is assessed as having burns to their hands. Briefly explain how you would treat this injury prior to medical attention arriving?

For all burns run cool water or any cool drinkable fluid over the burned area for 5 minutes or more and remove clothing from the burned area (except for clothing that is stuck to the skin) if required. Finally, apply a sterile gauze pad or bandage or cover with a clean sheet. Seek medical attention immediately.

9.10

The acronym COWS is used to identify the steps undertaken to determine the responsiveness of a casualty. These letters stand for:

2. Can you hear me?



O. Open your eyes.

W. What is your name?

S. Squeeze my hand.

9.11

Altered level of consciousness (ALOC) is a state of consciousness where an individual is not awake, alert, or able to understand or react normally. A fellow worker appears to be suffering from an altered level of consciousness.

Slurred speech, dilated pupils, unsteady walk, or confusion are signs of ALOC

It could be caused by a head injury, medicines, alcohol or drugs, dehydration, or some diseases, such as diabetes. You should call a first aid officer or 000, assess the scene for likely causes, but do not leave the victim.

9.12

Duty of care means that you must take reasonable steps to make sure your actions don't cause harm to another person.

If you have started first aid your duty of care is to do everything reasonable within your skills until a person with better qualifications takes over