SafeWork NSW

NSW GOVERNMENT

Safe handling of timber preservatives and recently treated timber

Code of practice

March 2026

Editorial note

This Code of practice has been developed by SafeWork NSW and has been approved under section 274 of the NSW *Work Health and Safety Act 2011*. Notice of that approval was published in the NSW Government Gazette referring to this Code of practice as Safe handling of timber preservatives and recently treated timber on Friday 27 March 2026. This Code of practice commenced on 27 March 2026. It replaces the 1991 Code of Practice for the Safe Handling of Timber Preservatives and Treated Timber.

This Code of practice (this Code) should be read in its entirety.

When reading this Code, please be aware that any reference to:

- the 'Work Health and Safety Act' refers to the *Work Health and Safety Act 2011* (NSW), or any successor legislation,
- the 'Work Health and Safety Regulation' refers to the *Work Health and Safety Regulation 2025* (NSW), or any successor regulation,
- a code of practice refers to the relevant NSW Code of practice, or any successor code of practice.

This Code may contain references to relevant withdrawn or superseded Australian Standards or Australian/New Zealand Standards.

Copyright information

Acknowledgment

Safe Work NSW wishes to acknowledge the contribution and collaboration of industry and social partners through the public comment period and technical development of this Code.

Contents

Foreword

This Code of practice (this Code) on how to manage work health and safety risks of handling timber preservatives and recently treated timber is an approved code of practice under section 274 of the *Work Health and Safety Act 2011* (WHS Act).

An approved code of practice provides practical guidance on how to achieve the standards of work health and safety required under the WHS Act and the *Work Health and Safety Regulation* (WHS Regulation) and effective ways to identify and manage risks.

A code of practice can assist anyone who has a duty of care in the circumstances described in the code of practice. Following an approved code of practice will assist the duty holder to achieve compliance with the health and safety duties in the WHS Act and WHS Regulation, in relation to the subject matter of the code of practice. Like regulations, codes of practice deal with particular issues and may not cover all relevant hazards or risks. The health and safety duties require duty holders to consider all risks associated with work, not only those for which regulations and codes of practice exist.

Codes of practice are admissible in court proceedings under the WHS Act and WHS Regulation. Courts may regard a code of practice as evidence of what is known about a hazard, risk, risk assessment or risk control and may rely on the code in determining what is reasonably practicable in the circumstances to which the code of practice relates. For further information see Safe Work Australia's *Interpretive Guideline*: *The meaning of 'reasonably practicable'*.

Compliance with the WHS Act and WHS Regulation may be achieved by following another method if it provides an equivalent or higher standard of work health and safety than the code.

An inspector may refer to an approved code of practice when issuing an improvement or prohibition notice.

Scope and application

This Code is intended to be read by a person conducting a business or undertaking (PCBU). It provides practical guidance to PCBUs on how to manage risks to health and safety associated with the safe handling of timber preservatives and recently treated timber. Other approved codes of practice should be referenced for guidance on managing the risk of specific hazards.

This Code may be a useful reference for other persons interested in the duties under the WHS Act and WHS Regulation.

For the purpose of this Code, the term 'recently treated' refers to timber that has been treated with a preservative within a 24-48 hour period with visible dripping of the timber preservative and/or timber that is within the fixation period of the specific preservative.

This Code applies to all types of work and all workplaces covered by the WHS Act where handling timber preservatives or treated timber are used. This may include power and telecommunication workers, workers in the timber preserving industry, agricultural workers, municipal workers, gardeners, railway and fettler workers and treatment plant operators.

This Code does not cover working practices applicable to the manufacture of timber preservative.

How to use this Code of Practice

This Code includes various references to the legal requirements under the WHS Act and WHS Regulation. These are included for convenience only and should not be relied on in the place of the full text of the WHS Act or WHS Regulation. The words ‘must’, ‘requires’ or ‘mandatory’ indicate a legal requirement exists that must be complied with.

The word ‘should’ is used in this Code to indicate a recommended course of action, while ‘may’ is used to indicate an optional course of action.

1. Introduction

1.1 What is involved in the handling of timber preservatives and recently treated timber?

Industrial timber treatment processes involve using, storing and handling hazardous chemicals. Each timber treatment process differs due to the timbers complexity, size and purpose.

Timber preservation is dependent on the purpose for the timber, timber species and protection requirements. There are two main processes for applying wood preservatives:

- Pressure treatment - involves the use of specialised plant designed to immerse the timber in the preservative. The timber is held under pressure whilst the preservative floods the pressurised chamber allowing penetration of the timber.
- Non-pressure treatment - include brushing, spraying, dipping, cold soaking and preservative pads or bandages.

Three categories of preservatives are used for timber treatment including oil-borne, waterborne and light organic solvent-borne.

Examples of preservatives in the three categories are as follows:

- oil-borne preservatives: creosote and pigment-emulsified creosote,
- waterborne preservatives: copper chromium arsenic (CCA), micronized copper quat or alkaline copper quat (ACQ), copper azole, boron, insecticide emulsions such as, but not limited to, deltamethrin, bifenthrin or thiacloprid, benzalkonium chloride,
- light organic solvent-borne preservatives: fungicides and/or insecticides contained within a solvent, such as methylene chloride or kerosene.

Examples of commonly used preservatives for timber treatment can be found in **Appendix B**.

Treated timber within the Code refers to wood-based products containing preservatives, these may include sawn and round timber, re-constituted wood-based products, plywood, laminated veneer lumber and glued laminated timber products.

1.2 Who has health and safety duties?

There are a number of duty holders who have a role in managing the risks of handling timber preservatives and recently treated timber, including those listed below.

A person can have more than one duty and more than one person can have the same duty at the same time.

The main duty holders and key legislative provisions have been referenced in the table below, however, the list is not exhaustive.

Duty holder	Application
Person conducting a business or undertaking (PCBU) WHS Act sections 19, 46 and 47 WHS Regulation sections 49, 50, 55C, 341-347, 359 and 368	A PCBU must eliminate risks to health and safety arising from handling timber preservatives and recently treated timber, or if that is not reasonably practicable, minimise the risks so far as is reasonably practicable. This includes: • the provision and maintenance of a work environment without risks to health and safety, • the provision and maintenance of safe plant and structures, • the provision and maintenance of safe systems of work, • the safe use, handling, and storage of plant, structures and substances, • the provision of information, training, instruction and supervision necessary to protect people from risks to health and safety, • the provision of adequate facilities for the welfare at work of workers. • monitoring the health and conditions of the workplace to prevent illness and injury, • managing psychosocial hazards, • ensuring hazardous chemicals used, handled or stored are correctly labelled, • obtaining and providing workers access to safety data sheets (SDS) for hazardous chemicals, • providing health monitoring (where relevant), • maintaining a register and manifest (where relevant) of hazardous chemicals, • providing fire protection and firefighting equipment for the hazardous chemicals at the workplace, • ensuring exposure standards are not exceeded, • ensuring air monitoring is conducted (as applicable). PCBUs also have duties to: • consult workers about work health and safety, • consult, cooperate and coordinate with other duty holders, • ensure that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking.
PCBU with management or control of a workplace WHS Act section 20	Must ensure, so far as is reasonably practicable, that the workplace, the means of entering and exiting the workplace and anything arising from the workplace are without risks to the health and safety of any person.

Duty holder	Application
Designers, manufacturers, importers, installers and suppliers of plant, substances or structures WHS Act sections 22-26	Must ensure, so far as is reasonably practicable, the plant / substances / structures they design, manufacture, import, supply or install are, so far as is reasonably practicable without risks to health and safety including carrying out testing and analysis and providing adequate information about the risks posed to users of the plant, substances or structures.
Persons with management or control of fixtures, fittings and plant at a workplace WHS Act section 21	Must ensure, so far as is reasonably practicable, that the fixtures, fittings and plant are without risks to the health and safety of any person.
Officers WHS Act section 27	Officers of the PCBU must exercise due diligence to ensure the PCBU complies with the WHS Act and WHS Regulation. This includes maintaining up to date WHS knowledge and taking reasonable steps to ensure the business or undertaking has and uses appropriate resources and processes to eliminate or minimise risks to health and safety from handling timber preservatives and recently treated timber. Further information on who is an officer and their duties is available in Safe Work Australia's *Interpretive Guideline: The health and safety duty of an officer*.
Workers WHS Act section 28 WHS Regulation section 46	While at work, workers must: • take reasonable care for their own health and safety, • take reasonable care that their actions or omissions do not adversely affect the health and safety of other persons, • comply with any reasonable instructions given by the PCBU, as far as they are reasonably able, • cooperate with any reasonable health and safety policies or procedures of the PCBU. If personal protective equipment (PPE) is provided by the PCBU, the worker must, so far as they are reasonably able, use or wear it in accordance with the information, instruction and training provided.
Other persons at the workplace WHS Act section 29	A person at a workplace must: • take reasonable care for their own health and safety, • take reasonable care that their acts or omissions do not adversely affect other people's health and safety, • comply, so far as they are reasonably able, with reasonable instructions given by the PCBU to allow the PCBU to comply with the WHS Act.

1.3 Consultation

This table includes recommendations on how to comply with the WHS legislative requirements.

Duty / Provisions	Application
Consulting workers WHS Act sections 47 - 49	• PCBUs have a duty to consult with workers, so far as reasonably practicable, on WHS matters which affect them. • Consultation is a two-way process with workers to identify WHS issues, share information, give workers a reasonable opportunity to express views and take those views into account before making decisions about health and safety matters. • While consultation may not always result in agreement, agreement should be the objective as it will make it more likely the decisions are effective and actively supported. • Workers should be encouraged to report hazards and health and safety problems immediately so the risks can be managed before an incident occurs. • If workers are represented by a health and safety representative, the consultation must involve that representative. • Workers must be advised of consultation outcomes in a timely manner. • PCBUs must have effective mechanisms to consult with workers, including when: — identifying hazards and assessing risks, — making decisions about ways to eliminate or control risks, — changing or updating workplace facilities, — proposing changes that may affect the health and safety of workers, — making decisions about consultation procedures, resolving safety issues, monitoring workers' health and conditions, and providing information and training, — selecting new equipment, — introducing new tasks, changing existing tasks or carrying out work in new environments.

Duty / Provisions	Application
Consulting, cooperating and coordinating activities with other duty holders WHS Act section 46	• PCBUs must, as far as reasonably practicable, consult, cooperate and coordinate activities with all other persons who have a WHS duty in relation to the same matter. • Duty holders should exchange information about who is doing what to ensure effective coordination of works and management of risks, this includes: — the PCBU engages workers to carry out work, — the PCBU directs or influences workers in carrying out work, — other persons may be put at risk from work carried out in their business or undertaking, — the PCBU manages or controls a workplace or the fixtures, fittings or plant at a workplace, — the PCBUs business or undertaking involves designing, manufacturing, importing or supplying plant, substances or structures for use at a workplace, — the PCBUs involves installing, constructing or commissioning plant or structures at a workplace. **For example:** a timber treating company may engage a pressure vessel technician to verify and inspect pieces of plant. They must consult about the risks associated with the use, handling and storage of hazardous chemicals such as communicating emergency procedures, restricting access to hazardous chemicals and maintaining a clean / tidy work environment.

Further guidance on consultation requirements is available in the *Code of practice: Work health and safety consultation, cooperation and coordination.*

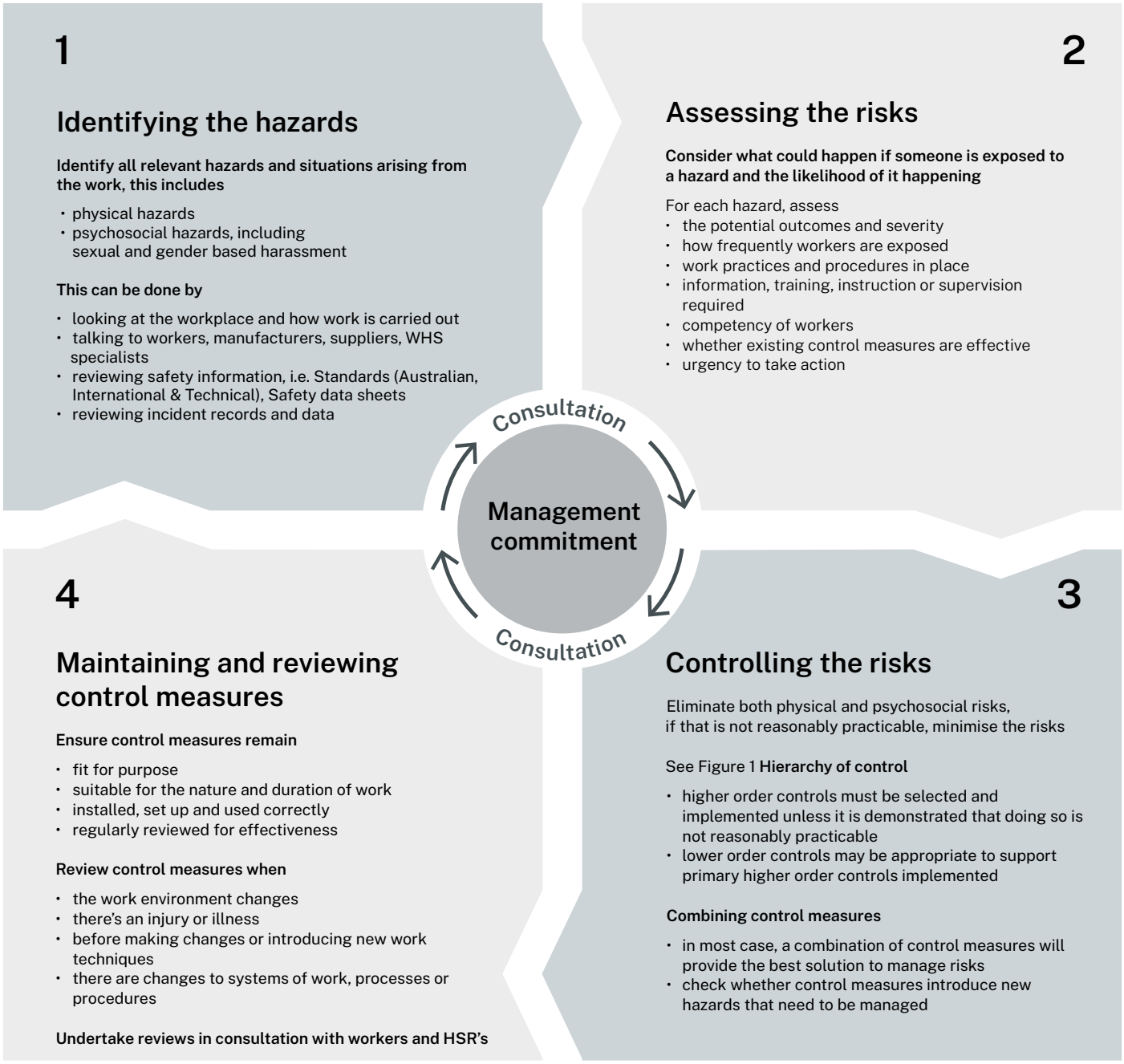
1.4 Information, training, instruction, and supervision

Duty / Provisions	Application
Information, training, instruction and supervision WHS Act section 19 WHS Regulation sections 39 and 379	• PCBUs must provide any information, training, instruction, or supervision necessary to protect all persons from health and safety risks, including when handling timber preservatives and recently treated timber. • The information, training and instruction: — must be suitable and adequate for the nature of the works, risks and control measures implemented, — must be readily understandable to the person it is being provided to, so far as is reasonably practicable, — should be supported by relevant safe work procedures, e.g. emergency procedures, traffic rules, PPE, — training should be provided to workers by a competent person, — training programs should be practical and 'hands on' and take into account the particular needs of workers, — should include understanding and interpreting the information on labels and SDS (e.g. safety directions, first aid procedures, containing and cleaning up spills), personal safety (e.g. chemical exposure risks, control measures and maintenance, respirators and filters and PPE), application of chemicals (e.g. selecting appropriate equipment, automated processes), record keeping requirements.

Note: Compulsory pesticide training may be required by other regulatory agencies such as the NSW Environment Protection Authority under the *Pesticides Regulation 2017*.

2. Risk management process

Risk management is the systematic process to eliminate or minimise the potential harm to people.



2.1 Hierarchy of control

The hierarchy of control measures set out in Part 3.1 of the WHS Regulation can be applied in relation to any risk.

The WHS Regulation makes it mandatory for duty holders to work through this hierarchy when managing certain risks. The sections that require the process in Part 3.1 to be followed are set out below.

WHS Regulation reference
Chapter 3 General risk and workplace management, Part 3.2 General workplace management
Division 6 Remote or isolated work, Section 48 Remote or isolated work
Division 8 Hazardous atmospheres, Section 51 Managing risks to health and safety
Division 8 Hazardous atmospheres, Section 52 Ignition sources
Division 10 Falling objects, Section 54 Management of risk of falling objects
Division 11 Psychosocial risks, Section 55C Managing psychosocial risks
Chapter 4 Hazardous work, Part 4.1 Noise
Section 57 Managing risk of hearing loss from noise
Chapter 4 Hazardous work, Part 4.2 Hazardous manual tasks
Section 60 Managing risks to health and safety
Chapter 4 Hazardous work, Part 4.3 Confined spaces
Division 3 Duties of person conducting business or undertaking, Section 66 Managing risks to health and safety
Chapter 4 Hazardous work, Part 4.4 Falls
Section 78 Management of risk of fall
Chapter 4 Hazardous work, Part 4.7 General electrical safety in workplaces and energised electrical work
Division 2 General risk management, Section 147 Risk management
Chapter 4 Hazardous work, Part 4.8 Diving work
Division 3 Managing risks-general diving work, Section 176 Management of risks to health and safety
Chapter 5 Plant and structures, Part 5.1 General duties for plant and structures
Division 7 General duties of a person conducting a business or undertaking involving the management or control of plant, Section 203 Management of risks to health and safety
Division 7 General duties of a person conducting a business or undertaking involving the management or control of plant, Section 214 Powered mobile plant — general control of risk
Chapter 6 Construction work, Part 6.3 Duties of person conducting business or undertaking
Division 1 General, Section 297 Management of risks to health and safety
Division 3 Excavation work, Section 305 Management of risks to health and safety associated with excavation work
Chapter 6 Construction work, Part 6.4 Additional duties of principal contractor
Section 315 Further health and safety duties — specific risks
Chapter 7 Hazardous chemicals, Part 7.1 Hazardous chemicals
Division 5 Control of risk-obligations of persons conducting businesses or undertakings, Section 351 Management of risks to health or safety
Division 9 Pipelines, Section 391 Management of risks to health and safety by pipeline operator
Chapter 8 Asbestos, Part 8.4 Management of naturally occurring asbestos
Section 431 Naturally occurring asbestos

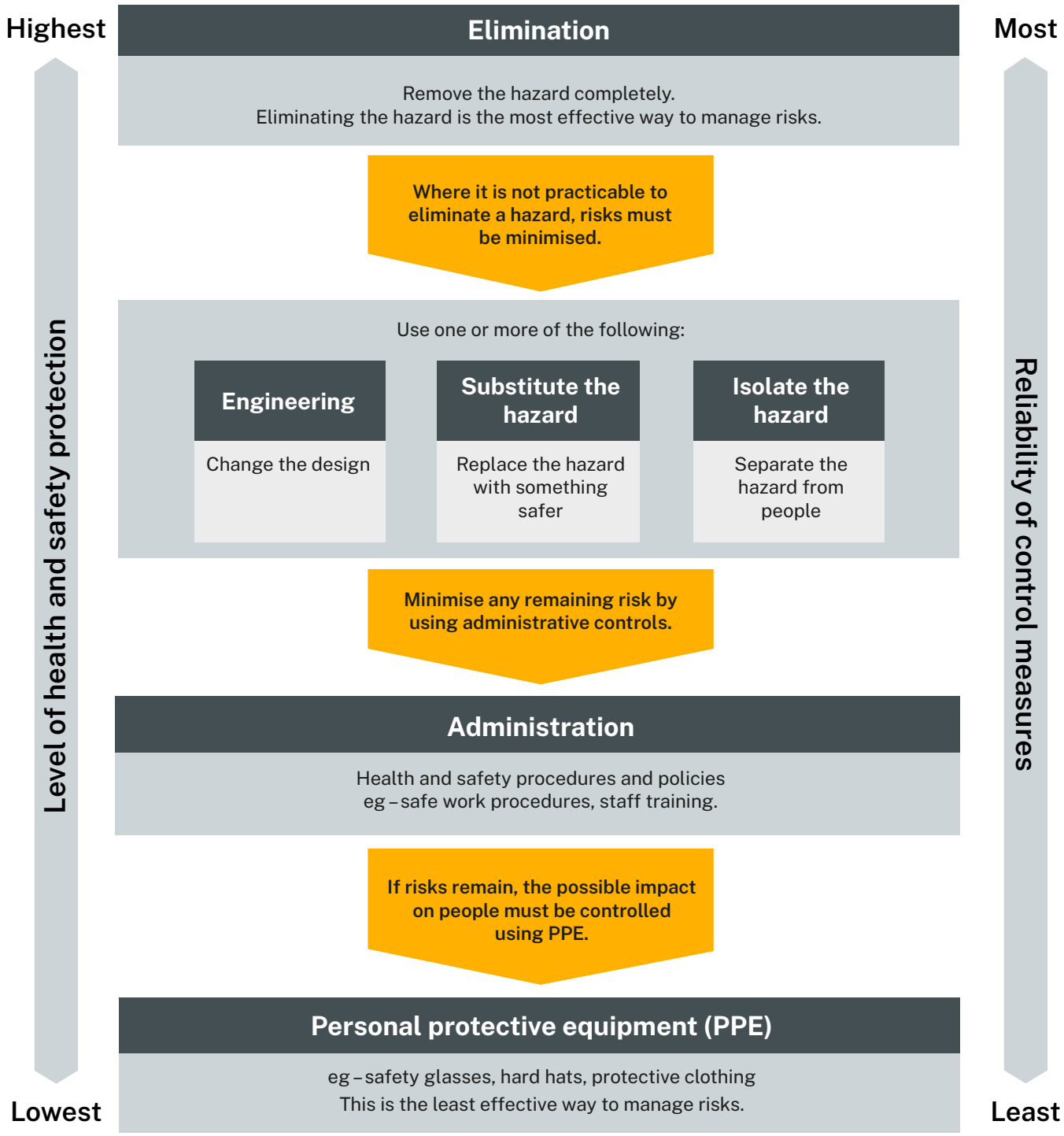


Figure 1: An overview of the hierarchy of control measures

Further risk management guidance is available in the:

- *Code of practice: How to manage work health and safety risks*
- *Code of practice: Managing psychosocial hazards at work*
- *Code of practice: Sexual and gender-based harassment*

3. Managing risks

WHS Regulation section 351

Management of risks to health or safety

A written risk assessment is not mandatory for hazardous chemicals under the WHS Regulation. However in many circumstances, this will be the most effective way for a PCBU to determine the measures that should be implemented to control risks.

Appendix C provides a checklist of the risk assessment process.

The risk assessment will:

- identify which workers are at risk of exposure,
- determine what sources and processes are causing that risk,
- identify if and what kind of control measures should be implemented,
- check the effectiveness of existing control measures.

In managing risks the PCBU must have regard to the following —

- the hazardous properties of the hazardous chemical,
- any potentially hazardous chemical or physical reaction between the hazardous chemical and another substance or mixture, including a substance that may be generated by the reaction,
- the nature of the work to be carried out with the hazardous chemical,
- any structure, plant or system of work —
    - — that is used in the use, handling, generation or storage of the hazardous chemical, or
    - — that could interact with the hazardous chemical at the workplace.

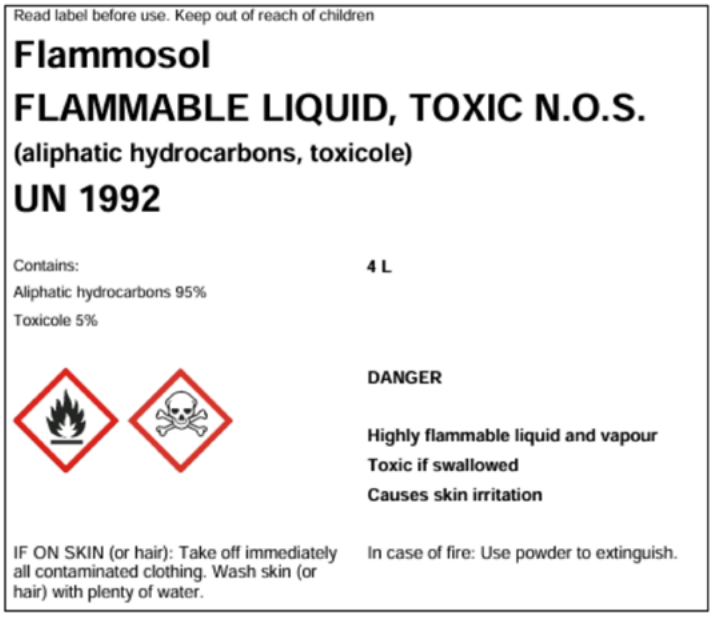
3.1 Identifying the hazards

The first step in managing risks, involves identifying all the chemicals that are or are likely to be used, handled, stored or generated at the workplace in consultation with workers. Identifying chemicals in the workplace can usually be determined by looking at the label or the Safety Data Sheet (SDS).

Key sections within the SDS to assist in identifying and managing hazardous chemical risks are:

- Section 1 – Identification
- Section 2 – Hazard(s) Identification
- Section 4 – First-aid measures
- Section 5 – Fire-fighting measures
- Section 6 – Accidental release measures
- Section 7 – Handling and storage
- Section 8 - Exposure controls and personal protection.

There may be circumstances where a preservative does not meet the definition of a hazardous chemical however may still pose a hazard to worker health and safety. In these circumstances, the use, storage and handling of the product prescribed by the manufacturer / supplier should be followed. For an example label and SDS see **Figures 2 and 3**.



Read label before use. Keep out of reach of children

Flammosol

FLAMMABLE LIQUID, TOXIC N.O.S.

(aliphatic hydrocarbons, toxicole)

UN 1992

Contains:
Aliphatic hydrocarbons 95%
Toxicole 5%

4 L

DANGER

Highly flammable liquid and vapour
Toxic if swallowed
Causes skin irritation

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash skin (or hair) with plenty of water.

In case of fire: Use powder to extinguish.

Figure 2: Example of a hazardous chemical label

SAFETY DATA SHEET
Flammosol

1. IDENTIFICATION

Product identifiers

Product name : Flammosol
Brand : Madeup Chemical Co.
CAS-No. : 001-01-0
Product Number : 1000000
Index-No. : 000-000-00-01

Recommended use of the chemical and restriction on use

Company Details
Madeup Chemical Company
999 Chemical Street
Chemical Town, My State
Tel No. : 1300 000 000
Email: info@madeupchemical.gov.au
Website: www.madeupchemicalcompany.com.au

Emergency telephone number
Emergency Tel No. : 1300 000 001

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Flammable liquids (Category 2)
Acute Toxicity – Oral (Category 3)
Skin corrosion / irritation (Category 2)

Label elements
Pictograms:

Signal word: Danger
Hazard statement(s):
H225 Highly flammable liquid and vapour
H301 Toxic if swallowed
H302 Harmful if swallowed
H315 Causes skin irritation

Precautionary statement(s):
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed
P241 Use explosion proof electrical equipment
P242 use only non sparking tools
P243 Take precautionary measures against static discharge
P264 Wash hands thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P281 Use personal protective equipment as required

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Store in a well-ventilated place. Keep cool.

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Figure 3: Example of a safety data sheet

3.2 Assessing the risks

The assessment of health risks from hazardous chemicals involves gaining an understanding of situations where people can be exposed to, or come into contact with the chemicals, the extent of exposure and how often this can occur. Health risk depends on hazard severity and level of exposure and thus depends on both the type of chemical and the nature of the work.

As with all risk assessments, the assessment of chemical hazards should consider all workers potentially at risk, including those not directly involved in a work activity, as well as other people such as visitors to the workplace. Things to consider for risks from hazardous chemicals include:

- routes of entry through which the chemical can affect health,
- the physical form and concentration of the chemical,
- the chemical and physical properties of the chemical,
- determining who could be exposed, and when this could occur,
- how often is exposure likely to occur and for how long,
- where the exposure can occur (indoors vs outdoors),
- what is the estimated exposure to the chemical,
- compliance with exposure standards.

3.3 Controlling the risks

Hazard control

Risks to health and safety must be eliminated so far as is reasonably practicable, if it is not reasonably practicable to eliminate risks to health and safety — risks must be minimised so far as is reasonably practicable. Control measures for handling timber preservatives and treated timber may include:

- selection of treatment processes that minimise and ultimately eliminate the exposure of workers handling treated products,
- substitution of hazardous chemicals with lesser hazardous chemicals,
- engineering controls, such as containment of processes involving timber treatment and the addition of local exhaust ventilation prior to opening pressure doors for venting,
- automation of mixing and the transferring of the concentrated wood preservative,
- provision of adequate and approved drainage to remove excess preservatives,
- ensuring that contaminated protective clothing is not re-used and is laundered at a facility that is able to launder clothing that has contacted hazardous chemicals.

Personal protective equipment (PPE)

PPE must be provided and used when identified higher order controls alone cannot eliminate or minimise potential exposure. Examples of PPE may include:

- eye protection / splash-proof goggles,
- gloves / gauntlets: PVC / nitrile gloves are an example that provide resistance to waterborne treatments, whilst neoprene gloves may be used for solvent-borne treatments,
- gum boots / impervious footwear,

- protective clothing / coveralls,
- hearing protection,
- respirator / dust mask.

Note: a gas and/or particulate respirator will only be effective when fitted with the correct filter(s) and the oxygen level is not depressed. Compressed air-fed respirators are recommended for use when confined spaces are entered unless an adequate supply of fresh air can be guaranteed by other means.

Where PPE is required, careful selection, proper fitting and maintenance of PPE is important to ensure it is suitable for the task being carried out and it continues to provide the level of protection that it is designed to achieve. PPE must be:

- selected to minimise risk to health and safety,
- suitable for the nature of the work and any hazard associated with the work,
- a suitable size and fit and reasonably comfortable for the person wearing it,
- maintained, stored, repaired or replaced so it continues to minimise the risk,
- used or worn by the worker, so far as is reasonably practicable.

All protective clothing and equipment should conform to relevant Australian or International Standards. For specific information on the required PPE refer to the manufacturer's SDS.

Maintenance of PPE

Protective gloves should be inspected daily for signs of cracking or other deterioration and replaced if found defective. At the end of each day workers should wash gloves inside and out and hang them up to dry.

Respirator filters used should be replaced when:

- the life of the device has lapsed (as recommended by the supplier), or
- users have difficulty in breathing (for particulate filters), or
- the respiratory program in place identifies the longevity of the capacity dependent on the airborne exposure profile, or
- the filter or canisters show any sign of damage.

4. Safe design

4.1 General design principles

This section provides an overview of the principles of the design and operation of treatment plants and processes, including storage of preservatives and treated timber. This section establishes the precautions necessary to protect the work environment and workers from treatment chemicals.

The areas utilised in treatment processes can be summarised as follows:

(a) Storage area of untreated timber.

(b) Storage of the preservative chemical and equipment used for treatment process.

(c) Drip pads.

(d) Storage area of treated timber.

The second and third points above make up the treatment area and pose the greatest risk to the environment and to workers.

For more information related to treatment plant design and operation refer to Australian / New Zealand Standard *AS/NZS 2843.1:2006 Timber preservation plants, Timber preservation plant site design*.

4.2 Site selection and layout of treatment plants

The operational site and layout of treatment plants, including processing areas, should be established to ensure that hazardous chemicals used, stored and handled, including any associated vapours / mists / liquids, are contained within the perimeter of the site.

Select new sites with careful consideration of surface and underground water, soil type, and ensure they are not prone to surface flooding or other known hazards.

Advice should be sought from local councils on the location of treatment plants and any plans required e.g. drainage plans showing the isolation of treatment, dripping and storage areas from overload storm water flows.

4.3 Access of operational areas

Authorised access should only be provided to those persons who have received information, training and instruction in the work activities undertaken in the operational area.

Walkways should have sufficient space (600 mm - the minimum width of a walkway) for safe access to the plant for operation, cleaning, maintenance, inspection and emergency evacuation.

Refer to Australian Standard *AS 1657:2018 Fixed platforms, walkways, stairways and ladders - Design, construction and installation*.

4.4 Containment of preservative and contaminated dust

- The plant, its associated loading and/or unloading area (drip-pads) and preservative storage tanks should be located within secondary containment, generally provided by bunding. This bunding should be impervious to the treatment chemical being used and made of, or sealed with, a substance resistant to the chemicals being used and be strong enough to withstand the hydrostatic pressure when the bund is full of liquid.
- If preservatives have been identified as flammable or combustible reference should be made to Australian Standard *AS 1940:2017 – The storage and handling of flammable and combustible liquids.*

- In most situations, a cast-concrete or steel construction is preferable to block or brick for a long service life. A cast concrete foundation should be reinforced with fibres to reduce the need for joining.
- Some plant designs contain an integral bund where the plant is enclosed within its own bund. Services should not pass through bund walls or bund floors. Sumps should be included to facilitate the collection and removal of any fluids from the bund.
- The bund should be in a covered and enclosed area to avoid the collection of rainwater and the possible contamination with treatment fluid.
- Provision should be made for the secure and contained storage of packaging that contains wood preservatives such as drums or intermediate bulk containers (IBCs).
- Bunded areas should be maintained in a dry, clean condition to facilitate regular inspection and maintenance. No items should be left within the bunded area as to affect the potential displacement of preservatives. The bund should be constructed so as to catch spillage from the vessel door in the event of a door-seal failure (door baffles may be required to achieve this).
- Adequate space should be provided between the plant and the bund wall to enable a person to inspect the walls of the bund. It may be necessary to create a walkway to allow safe access. This should be taken into account when assessing bund capacity.
- The bund should be examined regularly for cracks, faults or signs of decay or corrosion. A record of routine inspections and remedial action should be kept on site as part of the planned preventative maintenance schedule.
- To reduce the possibility of contaminated yard dust, chemicals and other contaminants from being discharged into the environment, drip pads should be designed to be hosed down and the washings collected.

4.5 Storage

WHS Regulation sections 363 – 367

Storage and handling systems

Delivery of bulk treatment preservatives

The risk of chemical spillage is greatest at the delivery and handling stages. If tanker deliveries are necessary, they should be made in accordance with a supervision procedure that includes all the safety critical steps in the delivery process:

- Provision should be made to contain any potential spillage from the tanker, delivery and/or handling vehicle, taking the discharge system into account. For example, situating the tanker in a containment area during discharge or incorporating a suitable emergency sump with shut-off valves, which are closed during deliveries, prevents any liquids from leaving the site in the drains.
- Tankers that deliver chemicals in bulk should discharge to storage via a lockable fixed coupling within the containment area.
- Receiving points must be marked with appropriate hazardous chemical labelling.
- Tanker access to the plant should be unobstructed to minimise the length of discharge hose necessary.
- Bulk storage tanks should be fitted with a high-level volume alarm. Such alarms should ideally be powered independently of the plant itself.
- A trained representative of the receiving company should authorise and attend the receipt of the product. The operation should not be left unattended by either the tanker driver or the company representative, and the procedure should be covered in the site emergency plan.

- Refillable bulk containers should be stored and emptied in a secure bunded area. The risk of spillage during the loading and handling of smaller containers or packages, such as IBCs or drums, is significant. Measures should be taken for these deliveries similar to those detailed above for tankers.

Storage of chemicals

- Containers that prevent escape of vapour and spillage / leakage of liquid should be used to store treatment solutions. Organic preservatives should be stored in a well-ventilated area. Storage should be well away from food, food containers, food preparation areas, consumption areas and office spaces.
- Separate lockable storage should be provided for chemicals that require restricted access.
- Liquid chemicals should be stored within a non-permeable bunded area capable of containing at least 120% of the total volume of the chemicals stored, as per Australian / New Zealand Standard *AS/NZS 2843.1:2006 – Timber preservation plant, Timber preservation plant site design*.
- The transfer of concentrates from original to subsequent containers, other than for direct usage, should be avoided, but if transfers are made the new containers must be appropriately labelled.
- The location and design of the storage area should take into account the risks of fire and explosion.
- Chemicals should be stored so that decontamination of a spill can be facilitated.

Storage of timber following treatment

Recently treated timber should be stored in well-ventilated areas in such a manner as to prevent contamination of other materials with the treatment fluid. Such timber should be stored over an approved drainage and collection area for sufficient time to permit drainage and surface drying. Treated timber should only be removed from the treatment area once the timber is drip-free and/or preservative fixation has been confirmed.

4.6 Signage

WHS Regulation sections 349

Outer warning placards — requirement to display

WHS Regulation sections 350

Placard — requirement to display

Placarding for treatment plants

The types of placards under the WHS Regulation include:

- outer warning placard for the entrance to the workplace,
- information placards for hazardous chemicals in bulk (i.e. tanks and stockpiles),
- information placards for hazardous chemicals in packages.

Outer warning placards

An outer warning placard, or HAZCHEM sign, is required at the entrance to the workplace when the prescribed placarding quantities, as detailed in Schedule 11 of the WHS Regulation, are met. The placard must conform to the design in Schedule 13 of the WHS Regulation as shown in Figure 4. The word HAZCHEM must be in red lettering, not less than 100mm high, on a white or silver background.

Figure 4: Outer warning placard

Information placards for hazardous chemicals in bulk

Schedule 13 of the WHS Regulation requires bulk containers (e.g. tanks) used for hazardous chemicals to have specific information placards showing form and dimensions, as shown in Figure 5. An example of this is holding tanks for concentrated and dilute forms of timber preservatives.

Note: Bulk means any quantity of a hazardous chemical that is in a container with a capacity exceeding 500L or net mass of more than 500kg, or if the hazardous chemical is a solid; an undivided quantity exceeding 500kg.

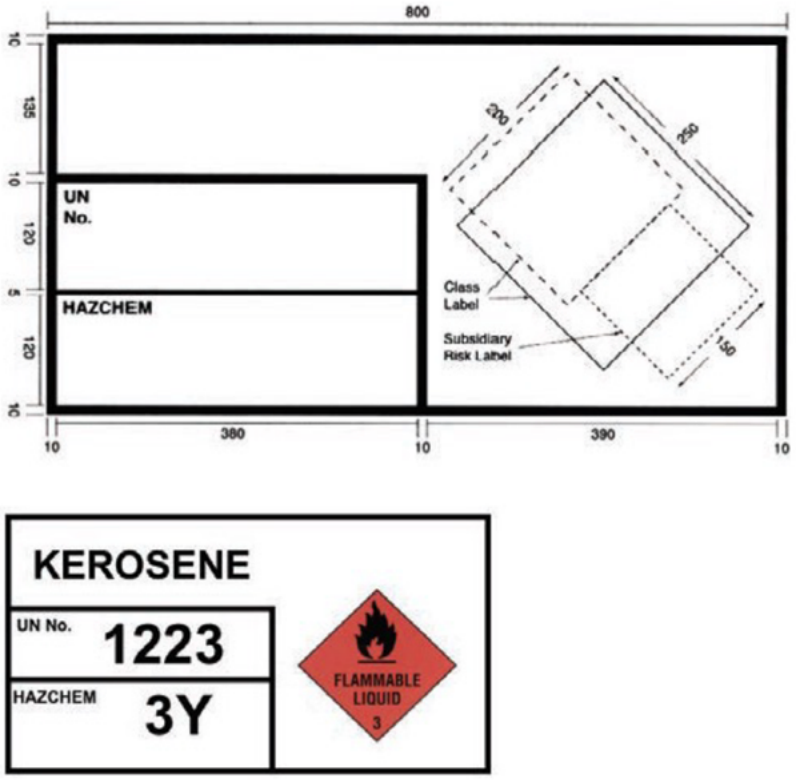

Figure 5: Example information placard for hazardous chemicals in bulk

Information placards for hazardous chemicals in packages

Packaged hazardous chemicals are Schedule 11 hazardous chemicals stored in containers with a capacity of 500L or less or a net mass not exceeding 500kg. This includes drums and cylinders. Individual storage areas where hazardous chemicals in packages are kept must display an information placard when the prescribed placarding quantities in Schedule 11 table are exceeded. The form and dimension of placards for hazardous chemicals in packages are shown in Figure 6.

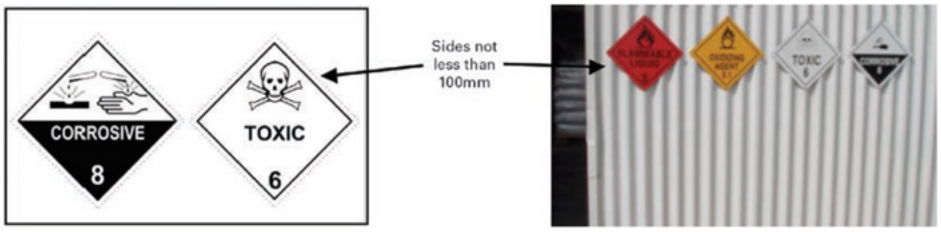

Figure 6: Example information placards for hazardous chemicals in packages

Examples of common hazardous chemicals used for timber treatment and their placard / manifest quantities can be found in **Appendix D**.

4.7 General controls for treatment plants

- Only operators who are trained or are under supervised training are to operate treatment plants.
- Treatment plants use hazardous chemicals. Hazardous chemicals are required to have a SDS from the manufacturer or importer of the chemical and must be made readily accessible to anyone who is involved in using, handling or storing the hazardous chemical at the workplace. SDS contains critical health and safety information about the chemical hazards. The advice contained in the SDS must be followed and used when conducting a risk assessment of an activity involving a hazardous chemical.
- Operators should be familiar with the SDS for the hazardous chemicals used, stored and handled.
- Operators must be trained in the safe storage, handling and use of the hazardous chemicals involved in the treatment processes.
- Emergency procedures for the hazardous chemicals being used should be displayed.
- Where required by the SDS, emergency eyewash and emergency shower facilities should be located at the treatment plant.
- Food and drink should not be stored or consumed in the treatment plant to eliminate the risk of being exposed to toxic substances (e.g. timber preservative chemicals).
- Only trained operators and authorised personnel are permitted in the treatment plant work area. Appropriate PPE must be worn as advised by the SDS when handling timber preservative, treated product or waste material.
- Work area and drip pads must be kept in a tidy condition (e.g. treated debris picked up and drip pads hosed down).
- All run-off from drip pads must be contained within the bunded area, ideally, flowing to a sump drain to be recycled.
- The treatment area plus treatment and storage tanks must be contained in a bunded area.
- Where the operator is not in continuous attendance, a safety shut-down system should be provided in case of system failure.
- All safety devices, pressure vessels, valves, pumps and trolleys should be serviced and maintained at regular intervals.

5. Safe work practices

5.1 General

Skin contact is the most likely route for preservative absorption and, as such, skin contact with treatment solutions, including the wet residue on treated timber, should be avoided.

Inhalation of sprays, mists or dusts should also be avoided. While handling preservative chemicals, workers should not smoke, eat, drink or use toilet facilities. Before engaging in these activities, hands and exposed skin should be washed.

5.2 Handling preservatives

The specific requirements for the safe use of any hazardous chemical should be read in conjunction with the information and instructions contained on the label or SDS.

General controls

- Manual application must, so far as is reasonably practicable, be conducted in well-ventilated environments.
- Avoid manual handling or sawing of recently treated timber until fixation has occurred and in accordance with the SDS of the treated timber.
- The gloves used should be impervious to the preservative chemicals being used and conform to Australian/New Zealand Standard *AS/NZS 2161 (Series): Occupational protective gloves*.
- The respirator used should be selected based on the specific preservative being used, additional guidance can be found in Australian/New Zealand Standard *AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment*. Respiratory protective equipment should comply with Australian/New Zealand Standard *AS/NZS 1716:2012 Respiratory protective devices*.
- Sawing timber treated with preservatives creates heat at the cutting face whereby vapour can be produced. Greater concentrations of vapour are produced with the use of power tools. Exposure of skin to, and inhalation of, both vapour and contaminated timber dust may occur.
- Where workers are likely to be exposed to harmful vapours, fumes or dusts which cannot be adequately contained by enclosing the source, suitable mechanical extraction or ventilation must be provided, so far as is reasonably practicable, to reduce the concentration to the lowest level below the Workplace Exposure Standard (WES). The ventilation system should also consider the use of filters and/or scrubbers necessary to reduce the atmospheric discharge of hazardous chemicals.
- Regular housekeeping should be conducted to reduce the build-up of chemical residue. Vacuuming and regularly hosing down with water into collection sumps are preferred methods for cleaning.

5.3 Personal hygiene

Strict personal hygiene procedures should be developed in consultation with workers. A PCBU must provide supervision to a worker that is necessary to protect the worker. As part of supervision, the PCBU must ensure that the supervision of the worker is suitable and adequate having regard to:

- the nature of the risks associated with the hazardous chemical and,
- the information, training and instruction required as part of their general WHS obligations.

The following should be considered when providing supervision for workers related to personal hygiene:

- prohibition of eating, drinking or smoking within the treatment area,
- before eating, drinking, smoking, or using toilet facilities, workers that have handled treatment preservatives or treated timber should thoroughly wash exposed areas, such as hands and face, with a mild soap and water,
- information, training and instruction must be provided on the proper use of PPE during operations and how the PPE is to be stored and maintained,
- at the end of the job, a cleanup and decontamination procedure should be strictly followed prior to leaving the treatment area. This includes the general area, specific process/plant and the decontamination of PPE,
- contaminated protective clothing should not leave the treatment area and should be laundered/disposed of by the PCBU.

5.4 Air monitoring

WHS Regulation section 49

Ensuring exposure standards for substances and mixture not exceeded

WHS Regulation section 50

Monitoring airborne contaminant levels

A PCBU must ensure that no-one in the workplace is exposed to airborne contaminants of substances and/or mixture above the exposure standard.

Air monitoring must be carried out when the PCBU:

- is unsure on reasonable grounds if the exposure standard has been exceeded,
- it is necessary to determine if there is a risk to health.

In many cases, compliance with the regulations can be achieved through the application of basic, well-known exposure controls. Where it has been determined that air monitoring is required, it should be conducted after known exposure controls have been put in place.

Records of atmospheric monitoring results must be kept for 30 years. Results must be readily accessible to anyone on whom air monitoring has been conducted and to anyone who has been (or might be) exposed.

For a list of exposure standards, see Safe Work Australia's *Workplace exposure standards for airborne contaminants*. From 1 December 2026, Australia will adopt the Workplace Exposure Limits (WEL) list, replacing the WES list.

For practical information about specific groups of substances, complying with exposure standards and adjusting exposure standards for extended work shifts, see Safe Work Australia's *Guidance on the interpretation of workplace exposure standards for airborne contaminants*.

5.5 Hazardous chemicals register

WHS Regulation section 346

Hazardous chemicals register

A hazardous chemicals register is a list of all hazardous chemicals stored, handled or used at a workplace and must be prepared and kept at the workplace – the current SDS for each of the hazardous chemicals listed must be included with the register.

- The register must be readily accessible to all workers involved in the use, storage and handling of the hazardous chemicals and anyone else who is likely to be affected by a hazardous chemical at the workplace.
- The register must be maintained to ensure the information in the register is up to date. Commonly, SDS have a 5-year expiration date.
- The register must be kept in a format that is accessible to workers. An electronic register may be suitable at workplaces where workers have access to a computer and can obtain the SDS.

Refer to Safe Work Australia's *Hazardous chemicals register* resource for further information.

5.6 Manifest of hazardous chemicals

WHS Regulation section 347

Manifest of hazardous chemicals

WHS Regulation section 348

Regulator must be notified if manifest quantities to be exceeded

WHS Regulation Schedule 11

Placard and manifest quantities

WHS Regulation Schedule 12

Manifest requirements

A manifest quantity refers to hazardous chemicals in quantities that exceed those specified in Schedule 11 of the WHS Regulation.

A PCBU must prepare a manifest of Schedule 11 hazardous chemicals at the workplace when a prescribed Schedule 11 manifest quantity is exceeded.

A PCBU must ensure that SafeWork NSW is given written notice where a quantity of a Schedule 11 hazardous chemical or group of Schedule 11 hazardous chemicals exceed the manifest quantity. Additionally, as a result of exceeding quantities specified as above, a written emergency plan must be developed and lodged with the relevant emergency services, for example Fire and Rescue NSW. Further information can be found below at 'Emergency Planning'.

A manifest is different from a hazardous chemicals register. A manifest is a written summary of specific types of hazardous chemicals with physical hazards, acute toxicity or skin corrosion that are used, handled or stored at a workplace.

A manifest is only required where the quantities of those hazardous chemicals exceed prescribed threshold amounts. It contains more detailed information than a register of hazardous chemicals as its primary purpose is

to provide the emergency services organisations with information on the quantity, classification and location of hazardous chemicals at the workplace. It also contains information such as site plans and emergency contact details.

The manifest must comply with the requirements of Schedule 12 of the WHS Regulation and it must be amended as soon as practicable after any changes to the amount or types of Schedule 11 hazardous chemicals being used, stored, handled or generated at the workplace or there is a significant change in the information required to be recorded in the manifest.

Examples of common hazardous chemicals used for timber treatment and their placard / manifest quantities can be found in **Appendix D**.

More information about hazardous chemical registers can be found in SafeWork NSW's *Notifications for schedule 11 hazardous chemicals and abandoned tanks – guidance material* and Fire and Rescue NSW's *Fire safety guideline, technical information – hazardous chemicals manifest*.

For submitting a notification of exceeded Scheduled 11 hazardous chemicals refer to SafeWork NSW website.

5.7 Hazardous chemicals labelling

WHS Regulation section 341

Labelling hazardous chemicals – general requirement

A PCBU that uses, handles or stores hazardous chemicals must ensure that any hazardous chemical that is used, handled or stored at the workplace is correctly labelled in accordance with section 341 of the WHS Regulation.

A hazardous chemical is correctly labelled if —

(a) the selection and use of label elements is in accordance with the Globally Harmonized System (GHS) and it complies with Schedule 9 Part 3, or

(b) the label includes content that complies with another labelling requirement imposed by the WHS Regulation or by another law of New South Wales or of the Commonwealth and the content is the same, or substantially the same, as the content that is required by Schedule 9 Part 3.

The general requirements of Schedule 9 Part 3 are listed below:

A hazardous chemical is correctly labelled if the chemical is packed in a container that has a label in English including the following -

(a) the product identifier,

(b) the name, and the Australian address and business telephone number of:

i. the manufacturer, or

ii. the importer,

(c) for each ingredient of the chemical — the identity and proportion disclosed in accordance with Schedule 8,

(d) any hazard pictogram consistent with the correct classification of the chemical,

(e) any hazard statement, signal word and precautionary statement consistent with the correct classification of the chemical,

(f) any information about the hazards, first aid and emergency procedures relevant to the chemical, not otherwise included in the hazard statement or precautionary statement referred to in paragraph (e),

(g) if the chemical has an expiry date — the expiry date.

In many circumstances, treatment preservatives will be hazardous chemicals that are deemed agricultural or veterinary chemicals. The labelling requirements for these chemicals are as follows:

(a) the chemical is labelled in accordance with the requirements of the Australian Pesticides and Veterinary Medicines Authority, and

(b) the label is in English and includes the following:

i. any hazard statement consistent with the correct classification of the chemical,

ii. any precautionary statement consistent with the correct classification of the chemical.

Decanted or transferred hazardous chemicals

If a hazardous chemical is decanted or transferred from the container in which it was packed and it will not be used immediately or it is supplied to someone else, the label must at a minimum, be written in English and include the following:

- the product identifier, and
- a hazard pictogram or hazard statement consistent with the correct classification of the chemical.

Where the entire amount of a decanted hazardous chemical will be used immediately, labelling of its container is not required. A decanted hazardous chemical can only be considered to be used immediately in situations where:

- it is not left unattended by the person who decanted it,
- it is used only by a person present at the decanting process,
- the container is subsequently rendered free from any hazardous chemical immediately after use, so the container is in the condition it would be in if it had never contained the chemical.

Note: In this section, agricultural or veterinary chemical means an agricultural chemical product or veterinary chemical product under the *Agricultural and Veterinary Chemicals Code Act 1994* (Cth).

More information about hazardous chemical registers can be found in Safe Work Australia's *Hazardous Chemicals Register Fact Sheet* and from the Australian Pesticides and Veterinary Medicines Authority (APVMA).

5.8 Emergency equipment and safety equipment

WHS Regulation section 359

Fire protection and firefighting equipment

WHS Regulation section 360

Emergency equipment

WHS Regulation section 362

Safety equipment

A PCBU that uses, handles, generates or stores hazardous chemicals must ensure that equipment is always available at the workplace for use in an emergency. The type of emergency equipment required to respond to an emergency, contain and clean up spills and assist workers in conducting emergency procedures safely will vary depending on the type and quantities of hazardous chemicals at the workplace.

Equipment must be located so it is readily accessible for all workers if an emergency arises. If safety equipment is needed to respond to an emergency, a PCBU must ensure that it is provided, maintained and readily accessible at the workplace. Safety equipment for use with hazardous chemicals should be compatible with the hazardous chemicals they may come in contact with.

Examples of emergency equipment that may be required when using timber preservatives in the workplace may include:

- over packs such as oversized drums for containing leaking containers,
- absorbent material suitable for the chemical likely to be spilled,
- booms, plates and/or flexible sheeting for preventing spillage from entering drains and waterways,
- fire extinguishers,
- neutralising agents such as lime and soda ash,
- suitable pumps and hoses for removing spilled material,
- first aid kits (including antidotes for specific chemical exposures such as cyanide),
- emergency showers and eye wash stations,
- hand tools such as mops, buckets, squeegees and bins,
- suitable protective clothing and equipment to protect the safety and health of workers involved in the clean-up.

A PCBU must ensure that the workplace is provided with fire protection and firefighting equipment that is designed and built for the types of hazardous chemicals at the workplace in the quantities in which they are used, handled, generated or stored. A PCBU must have regard for the following:

- the fire load of the hazardous chemicals, and
- the fire load from other sources, and
- the compatibility of the hazardous chemicals with other substances and mixtures at the workplace.

When assessing fire protection and firefighting equipment, PCBUs must have regard for:

- the fire protection and firefighting equipment compatibility with firefighting equipment used by primary emergency service organisation,
- the fire protection and firefighting equipment is properly installed, tested and maintained,
- a dated record is kept of the latest testing results and maintenance until the next test is conducted.

If part of the fire protection and firefighting equipment becomes unserviceable or inoperative, the PCBU must assess the implications of the equipment being unserviceable / inoperative, and, that alternative measures are taken to manage the risk.

The PCBU must ensure that fire protection and firefighting equipment is returned to full operation as soon as practicable.

5.9 Emergency planning

WHS Regulation section 43

Duty to prepare, maintain and implement emergency plan

WHS Regulation section 361

Emergency plans

A PCBU must ensure that an emergency plan is prepared and maintained so it remains effective for the workplace and must provide for the following:

- emergency procedures including:
  - an effective response to an emergency,
  - evacuation procedures,
  - notifying emergency service organisations at the earliest opportunity,
  - medical treatment and assistance, and
  - effective communication between the person authorised by the PCBU to coordinate the emergency response and all persons at the workplace.
- testing of the emergency procedures including the frequency of testing, and
- information, training, and instruction to relevant workers in relation to implementing the emergency procedures.

Planning for emergencies should include:

- evacuating work crews quickly when required,
- testing the communication systems within the site and to external contacts,
- establishing an emergency meeting point and making sure it is known to workers and is communicated to the emergency services, e.g. a signposted location or road intersection,
- the emergency evacuation point identified within the medical emergency evacuation procedures,
- listing phone contacts in case of emergency with details stored at multiple known locations,
- ensuring transport is available for an evacuation,
- confirming emergency procedures for working alone, remotely and in isolation and 'report in' protocols,
- briefing workers including contractors and visitors who will be on site, about the emergency procedures.

Emergency procedures should be tested in accordance with the emergency plan in which they are contained.

Where manifest quantities are exceeded in accordance with specified legislation, the emergency plan developed must be lodged with the relevant emergency services, for example Fire and Rescue NSW. Further information can be found on the Fire and Rescue website 'Lodge an Emergency Plan'.

Refer to Australian Standard *AS 3745:2010 Planning for emergencies in facilities*.

5.10 Noise

WHS Regulation Chapter 4 Hazardous work, Part 4.1

Noise

A PCBU must, in accordance with Part 3.1 of the WHS Regulation, manage risks to health and safety relating to hearing loss associated with noise. The noise a worker is exposed to at the workplace must not exceed the exposure standard for noise.

A PCBU must provide audiometric testing to a worker who is frequently required by the PCBU to use PPE to protect the worker from the risk of hearing loss associated with noise that exceeds the exposure standard for noise.

Audiometric testing must be provided within three months of the worker commencing work where hearing protectors is required. Starting the audiometric testing before people are exposed to hazardous noise (such as new starters or those changing jobs) provides a baseline as a reference for future audiometric test results. Regular follow-up tests must be carried out at least every two years. These should be undertaken well into the work shift so that any temporary hearing loss can be picked up.

Further information is available from the *Code of practice: Managing noise and preventing hearing loss at work*.

5.11 Plant

WHS Regulation Chapter 5

Plant and structures

Plant includes machinery, equipment, appliances, containers, implements and tools and any components or anything fitted or connected to those things. Plant includes items as diverse as pressure vessels, cranes, computers, machinery, conveyors, forklifts, vehicles and power tools.

The application of timber preservatives may utilise a range of plant such as forklifts, overhead cranes and pressure vessels. A person with management or control of plant at a workplace must:

- not commission the plant unless the person has established that the plant is, so far as is reasonably practicable, without risks to the health and safety of any person,
- not decommission or dismantle the plant unless the decommissioning and dismantling can be carried out, so far as is reasonably practicable, without risks to the health and safety of any person,
- ensure that a person who installs, assembles, constructs, commissions, decommissions or dismantles the plant is a competent person, and is provided with all the information necessary to eliminate or minimise risks to health and safety,
- ensure that the processes for the installation, construction, commissioning, decommissioning and dismantling of plant include inspections that ensure, so far as is reasonably practicable, the risks associated with these activities are monitored,
- so far as is reasonably practicable, prevent alterations to or interference with the plant that they have not authorised,
- take all reasonable steps to ensure the plant is only used for the purpose for which it is designed, unless they have assessed that the proposed use does not increase the risk to health and safety,
- in determining whether or not the proposed use of plant increases the risk to health and safety, ensure that the risk associated with the proposed use is assessed by a competent person,

- take all reasonable steps to ensure that all safety features, warning devices, guarding, operational controls, emergency stops are used in accordance with instructions and information that they have provided.

For powered mobile plant (forklifts), consideration must be made for the following:

- the plant overturning,
- things falling on the operator of the plant,
- the operator being ejected from the plant,
- the plant colliding with any person or thing,
- mechanical failure of pressurised elements of plant that may release fluids that pose a risk to health and safety.

PCBUs must not direct or allow a worker to carry out high risk work (HRW) for which a high-risk work licence is required unless the PCBU has sighted written evidence provided by the worker that they have the relevant high risk work licence or evidence of satisfactory assessment and application for a HRW licence, e.g. forklift truck.

Registration of plant design and plant item

WHS Regulation section 243

Plant design to be registered

WHS Regulations section 246

Items of plant to be registered

Schedule 5 of the WHS Regulation specifies certain plant designs and plant items that must be registered before use at a workplace, this will include certain pressure vessels. Pressure equipment, other than pressure piping categorised as hazard level A, B, C or D according to the criteria in section 2.1 of Australian Standard *AS 4343:2014 Pressure equipment — Hazard levels,* require plant design registration.

Pressure vessels categorised as hazard level A, B or C according to the criteria in section 2.1 of Australian Standard *AS 4343:2014 Pressure equipment — hazard levels* (except gas cylinders); LP Gas fuel vessels for automotive use; serially produced pressure vessels; or pressure vessels that do not require periodic internal inspection) require plant item registration.

For further information and details on how to register plant designs and plant items refer to the SafeWork NSW website.

Second-hand plant

Second-hand plant is more likely to have outdated or missing safety features. In these circumstances suppliers of second-hand plant must do what is reasonably practicable to supply equipment safe for use at work and to identify faults in the plant that is being supplied. The degree of risk posed by the plant must be weighed up against the cost of implementing measures to minimise it.

Suppliers of second-hand plant must ensure, so far as is reasonably practicable, that:

- all faults in the plant are identified,
- prior to providing plant, provide written notice of:
  - condition of the plant,
  - faults identified.

Suppliers should also consider:

- if it is reasonably practicable to retrofit or modify the plant to improve its safety having regard to improvements to that type of plant since its manufacture,
- the information that needs to be provided to the buyer about relevant matters including the purpose for which the plant was designed or manufactured and conditions necessary to ensure the plant is without risks to health and safety when properly used.

Further information on plant can be found in the *Code of practice: Managing the risks of plant in the workplace.*

5.12 Confined spaces

WHS Regulation Chapter 4 Hazardous work, Part 4.3

Confined Spaces

A 'confined space' is defined as an enclosed or partially enclosed space that:

- is not designed to be occupied by a person, and
- is intended to be at normal atmospheric pressure while any person is in the space, and
- is or is likely to be a risk to health and safety from:
  - an unsafe oxygen level, or
  - contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion, or
  - harmful concentrations of any airborne contaminants, or
  - engulfment.

There are likely to be circumstances in which entry into vessels or tanks will be required, for example to remove splintered timber, carry out planned maintenance or repairs, or perform detailed cleaning. In such situations a dangerous atmosphere may be present such as an oxygen deficient or hazardous atmosphere from treatment preservatives.

A PCBU must ensure so far as is reasonably practicable that a worker does not enter a confined space until the following has been addressed:

- a written risk assessment has been completed for that space,
- a confined spaces entry permit has been issued for the work to be undertaken,
- appropriate signage has been displayed,
- appropriate communication and safety monitoring has been implemented,
- specific controls are in place to manage introduced plant or services, atmospheric contaminants, flammable gases and vapours, fire and explosion in that space,
- emergency procedures have been established,
- appropriate PPE has been issued to all persons who may need to enter that space to carry out first aid or rescue procedures in an emergency,
- appropriate information, training and instruction has been provided to all workers who will or may need to enter that space.

Further information on confined spaces can be found in the *Code of practice: Confined spaces* and Australian / New Zealand Standard *AS/NZS 2865:2009 Confined spaces*.

5.13 Disposal of treated timber and waste generated

PCBUs must ensure that any containers of waste produced or generated at a workplace from the use, storage and/or handling of a hazardous chemical are labelled. The label should reflect the nature of the waste, e.g. CCA treated timber. Waste may also include disposable clothing such as PPE and rags used to clean the work area or equipment that cannot be decontaminated and are no longer required.

PCBUs should have a waste management system in place that eliminates the risk of timber preservatives being released and becoming airborne or making contact with the skin of workers / others.

Treated timber should be disposed of at licensed landfills in accordance with the instructions of relevant waste management authorities, such as local councils and the NSW Environment Protection Authority (EPA). Burning treated timber is not recommended since various harmful decomposition products may be released.

6. Monitoring and reviewing

6.1 Health monitoring

WHS Regulation Part 7.1 Division 6

Health monitoring

A PCBU must ensure health monitoring is provided to a worker carrying out work for the business or undertaking if:

- the worker is carrying out ongoing work using, handling, generating or storing hazardous chemicals and there is a significant risk to the worker's health because of exposure to a hazardous chemical referred to in Schedule 14, table 14.1 of the WHS Regulation,
- the person identifies that because of ongoing work carried out by a worker using, handling, generating or storing hazardous chemicals there is a significant risk that the worker will be exposed to a hazardous chemical (other than a hazardous chemical referred to in Schedule 14, table 14.1 of the WHS Regulation) and either:
  - valid techniques are available to detect the effect on the worker's health, or
  - a valid way of determining biological exposure to the hazardous chemical is available and it is uncertain, on reasonable grounds, whether the exposure to the hazardous chemical has resulted in the biological exposure standard being exceeded.

Health monitoring of a worker means monitoring the worker to identify changes in their health status because of exposure to certain substances. It involves the collection of data to measure exposure or evaluate the effects of exposure and to determine whether or not the absorbed dose is within safe levels.

Health monitoring allows decisions to be made about implementing ways to eliminate or minimise the worker's risk of exposure, for example reassigning a worker to other duties that involve less exposure or improving control measures.

Schedule 14, table 14.1 includes the type of health monitoring that must be carried out for each hazardous chemical listed, unless:

- an equal or better type of health monitoring is available,
- the use of that other type of monitoring is recommended by a registered medical practitioner with experience in health monitoring.

Health monitoring is not an alternative to implementing control measures. Health monitoring is a way of identifying if control measures are effective. If the results of health monitoring indicate that a worker is experiencing adverse health effects or signs of exposure to a hazardous chemical, the control measures must be reviewed and if necessary revised.

PCBUs must:

- inform workers and prospective workers about health monitoring requirements,
- ensure health monitoring is carried out by or under the supervision of a registered medical practitioner with experience in health monitoring,
- consult workers in relation to the selection of the registered medical practitioner,
- pay all expenses relating to health monitoring,
- provide certain information about a worker to the registered medical practitioner,
- take all reasonable steps to obtain a report from the registered medical practitioner as soon as practicable after the monitoring has been carried out,

- provide a copy of the report to the worker as soon as practicable after obtaining the report,
- provide a copy of the report to SafeWork NSW if the report contains test result that indicate the worker may have contracted a disease, injury or illness or recommends remedial measures should be taken as a result of the work that triggered the requirement for health monitoring,
- provide the report to all other persons conducting a business or undertaking who have a duty to provide health monitoring for the worker as soon as reasonably practicable after obtaining the report,
- keep reports as confidential records for at least 30 years after the record is made, and
- not disclose the report to anyone without the worker's written consent unless required under the WHS Regulation.

Table 1 lists the requirements as per Schedule 14 for chemicals that are commonly found within timber preservatives and treated timber.

Table 1: Health Monitoring for hazardous chemicals within timber preservatives

Hazardous Chemical	Type of Health Monitoring
Arsenic (inorganic)	Demographic, medical and occupational history. Records of personal exposure. Physical examination with emphasis on the peripheral nervous system and skin. Urinary inorganic arsenic.
Chromium (inorganic)	Demographic, medical and occupational history. Physical examination with emphasis on the respiratory system and skin. Weekly skin inspection of hands and forearms by a competent person.
Creosote	Demographic, medical and occupational history. Health advice, including recognition of photosensitivity and skin changes. Physical examination with emphasis on the neurological system and skin, noting any abnormal lesions and evidence of skin sensitisation. Records of personal exposure, including photosensitivity.
Organophosphate pesticides	Demographic, medical and occupational history including pattern of use. Physical examination. Baseline estimation of red cell and plasma cholinesterase activity levels by the Ellman or equivalent method. Estimation of red cell and plasma cholinesterase activity towards the end of the working day on which organophosphate pesticides have been used.

Further information on health monitoring can be found in the Safe Work Australia's *Health Monitoring Guide for persons conducting a business or undertaking* and *Health Monitoring guides for specific hazardous chemicals.*

6.2 Review of control measures

WHS Regulation sections 38 and 352

Review of control measures

A PCBU must also ensure that any measures implemented to control risks in relation to a hazardous chemical at the workplace are reviewed and as necessary revised. Control measures must be reviewed (and revised if necessary) in the following circumstances:

- when the control measure does not control the risk it was implemented to control so far as is reasonably practicable,
- before a change at the workplace that is likely to give rise to a new or different risk to health and safety that the measure may not effectively control,
- a new relevant hazard or risk is identified,
- the results of consultation indicate that a review is necessary,
- if an SDS or register of hazardous chemicals is changed,
- if a health monitoring report for a worker contains:
  - test results to indicate an elevated level of metabolites in their body for that hazardous chemical, or
  - any advice that indicates the worker may have contracted a disease, injury or illness as a result of conducting work with the hazardous chemical,
  - any recommendation that the PCBU take remedial measures, including whether the worker can continue to carry out the type of work that triggered the requirement for health monitoring.
- if atmospheric monitoring indicates that the airborne concentration of a hazardous chemical at the workplace exceeds the relevant exposure standard,
- a health and safety representative requests a review if that person reasonably believes that:
  - a circumstance in any of the above points affects or may affect the health and safety of a member of the work group represented by the health and safety representative,
  - the control measure has not been adequately reviewed in response to the circumstance.
- at least once every five years.

Note: A change at the workplace includes:

- a change to the workplace itself or any aspect of the work environment, and
- a change to a system of work, a process or a procedure.

6.3 Record keeping

There are requirements for record keeping related to the process of timber treatment chemicals. Record keeping requirements include:

- Health monitoring: These records must be kept as a confidential record, identified as a record in relation to the worker and kept for at least 30 years.
- Air monitoring: Records of atmospheric monitoring must be kept for at least 30 years. Results must be readily accessible to anyone on whom personal monitoring has been conducted and to anyone who has been (or might be) exposed.

- Confined space entry permit / risk assessment:
  - A copy of the confined space permit must be kept until the work to which it relates is completed. A copy of the risk assessment must be kept until at least 28 days after the work to which it relates is completed.
  - If a notifiable incident occurs in connection with the work where the assessment or permit relate, these records must be kept for at least 2 years after the incident occurs.
- Registered plant: records of all tests, inspections, maintenance, commissioning, decommissioning, dismantling and alterations of the plant must be kept until the person relinquishes control of the plant.

Note: Compulsory record keeping for pesticide use may be a requirement of other legislation such as the *Pesticides Regulation 2017 (NSW).*

6.4 Branding and provision of information

Information contained in the brand is to inform those who need to know (builders, merchants, building officials, arbitrators, consumers) the identity of the treater, the preservative used and the hazard class to which the timber was treated. A numbering system is used to identify the treater and preservative:

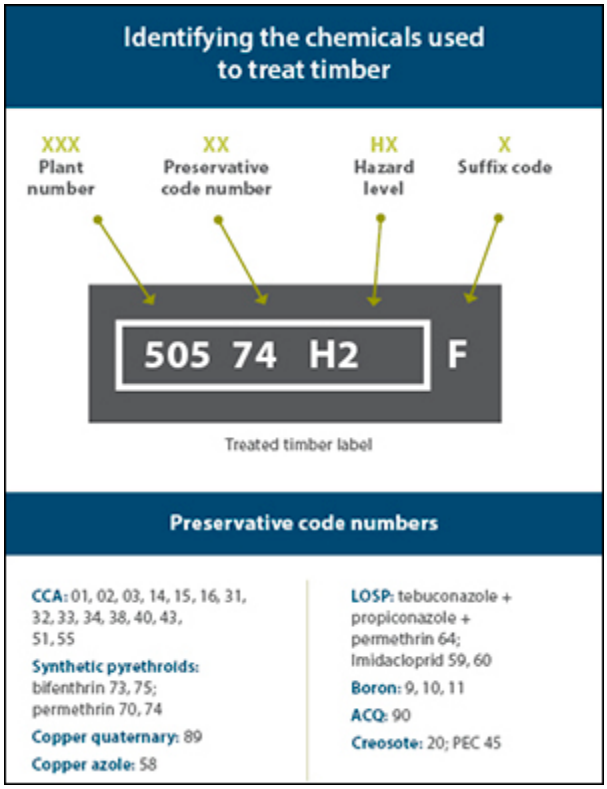

Figure 7: Treated Timber Code (Reference: NSW Environment Protection Authority (EPA))

PCBUs using treated timber should compile a register of the classes of treated products used on their premises or in their operations and give all workers and their representatives access to this register.

Further information regarding branding and provision of information on treated timber can be found in Australian / New Zealand Standard *AS/NZS 1604 (Series) Preservative-treated wood-based products*.

6.5 Incident notification

Part 3 of the WHS Act

WHS Act section 35

What is a "notifiable incident"

WHS Act section 38

Duty to notify of notifiable incidents

A 'notifiable incident' is:

- the death of a person,
- a 'serious injury or illness', or
- a 'dangerous incident' that exposes someone to a serious risk (even if no one is injured)

arising out of the conduct of a business or undertaking at a workplace.

'Notifiable incidents' may relate to any person — whether an employee, contractor or member of the public.

A PCBU must ensure that SafeWork NSW is notified immediately after becoming aware that a notifiable incident has occurred. Notifications can be made by contacting SafeWork NSW on 13 10 50 or via the SafeWork NSW website: *Notify SafeWork*.

When a PCBU is made aware that a notifiable incident has occurred, the PCBU must:

- report it to SafeWork NSW immediately, and
- preserve the incident site so far as is reasonably practicable until an inspector arrives or directs otherwise. This doesn't prevent help being provided to an injured person, removing a deceased person, making the site safe to minimise the risk of a further notifiable incident, or to facilitate a police investigation.

Incidents involving multiple businesses or undertakings

If a 'notifiable incident' arises out of more than one business or undertaking then each must ensure that the incident has been notified to SafeWork NSW.

There is no need for all duty holders to notify — only one needs to. However, all duty holders retain their responsibility to ensure SafeWork NSW is notified, regardless of any agreement between them.

In these circumstances the duty holders must, so far as is reasonably practicable, consult, cooperate and coordinate to put appropriate reporting and notification arrangements in place.

Examples of these incidents are available in Safe Work Australia's *Incident notification fact sheet*.

Enforcement action may be taken and penalties may be applied for not notifying notifiable incidents to SafeWork NSW. For more information see the SafeWork NSW website.

7. Appendices

7.1 Appendix A - Glossary

Terms used to throughout this Code that require definitions or descriptions.

Term	Description
Competent person	A person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.
Dangerous incident	An incident in relation to a workplace that exposes a worker or any other person to a serious risk to a person's health or safety emanating from an immediate or imminent exposure to — (a) an uncontrolled escape, spillage or leakage of a substance, or (b) an uncontrolled implosion, explosion or fire, or (c) an uncontrolled escape of gas or steam, or (d) an uncontrolled escape of a pressurised substance, or (e) electric shock, or (f) the fall or release from a height of any plant, substance or thing, or (g) the collapse, overturning, failure or malfunction of, or damage to, any plant that is required to be authorised for use in accordance with the regulations, or (h) the collapse or partial collapse of a structure, or (i) the collapse or failure of an excavation or of any shoring supporting an excavation, or (j) the inrush of water, mud or gas in workings, in an underground excavation or tunnel, or (k) the interruption of the main system of ventilation in an underground excavation or tunnel, or (l) any other event prescribed by the regulations, but does not include an incident of a prescribed kind.
Duty holder	Any person who owes a work health and safety duty under the WHS Act including a PCBU, a designer, manufacturer, importer, supplier, installer of products or plant used at work (upstream duty holder), officer or a worker.
Hazard	A situation or thing that has the potential to harm a person. Hazards at work may include: noisy machinery, a moving forklift, chemicals, electricity, working at heights, a repetitive job, bullying and violence at the workplace.
Health and safety committee	A consultative body established under the WHS Act. The committee's functions include facilitating cooperation between workers and the person conducting a business or undertaking to ensure workers' health and safety at work, and assisting to develop work health and safety standards, rules and procedures for the workplace.

Term	Description
Health and safety representative	A worker who has been elected by their work group under the WHS Act to represent them on health and safety matters.
May	'May' indicates an optional course of action.
Must	'Must' indicates a legal requirement exists that must be complied with.
Officer	An officer under the WHS Act is: — an officer under section 9 of the *Corporations Act 2001* (Cth) — an officer of the Crown within the meaning of section 247 of the WHS Act, and — an officer of a public authority within the meaning of section 252 of the WHS Act. An elected member of a local authority while acting in that capacity, is not an 'officer'. A partner in a partnership is also not an officer, as each partner would be considered to be a PCBU.
Person conducting a business or undertaking (PCBU)	A PCBU is an umbrella concept which intends to capture all types of working arrangements or relationships. A PCBU includes a: — company — unincorporated body or association — sole trader or self-employed person. Individuals who are in a partnership that is conducting a business will individually and collectively be a PCBU. A volunteer association (defined under the WHS Act) or elected members of a local authority will not be a PCBU. *Note –* A person may be both a PCBU within the meaning of section 5 of WHS Act, and a worker within the meaning of section 7 of the WHS Act.
Psychosocial hazard	A psychosocial hazard is a hazard that — (a) arises from, or relates to — (i) the design or management of work, or (ii) a work environment, or (iii) plant at a workplace, or (iv) workplace interactions or behaviours, and (b) may cause psychological harm, whether or not it may also cause physical harm.
Psychosocial risk	A risk to the health or safety of a worker or other person arising from a psychosocial hazard.
Risk	The possibility harm (death, injury or illness) might occur when exposed to a hazard.

Term	Description
Serious injury or illness	An injury or illness requiring the person to have – (a) immediate treatment as an in-patient in a hospital, or (b) immediate treatment for — (i) the amputation of any part of his or her body, or (ii) a serious head injury, or (iii) a serious eye injury, or (iv) a serious burn, or (v) the separation of his or her skin from an underlying tissue (such as degloving or scalping), or (vi) a spinal injury, or (vii) the loss of a bodily function, or (viii) serious lacerations, or (c) medical treatment within 48 hours of exposure to a substance, and includes any other injury or illness prescribed by the regulations but does not include an illness or injury of a prescribed kind.
Should	'Should' indicates a recommended course of action.
Work group	A group of workers established to facilitate the representation of workers by one or more health and safety representatives. A work group may be all workers at a workplace but it may also be appropriate to split a workplace into multiple work groups where workers share similar work conditions or are exposed to similar risks and hazards. For example all workers on night shift.
Worker	Any person who carries out work for a PCBU, including work as an employee, contractor or subcontractor (or their employee), self-employed person, outworker, apprentice or trainee, work experience student, employee of a labour hire company placed with a 'host employer' or a volunteer. *Note* – A person may be both a worker, within the meaning of section 7 of WHS Act, and a PCBU within the meaning of section 5 of the WHS Act.
Workplace	Any place where work is carried out for a business or undertaking and includes any place where a worker goes, or is likely to be, while at work. This may include offices, factories, shops, construction sites, vehicles, ships, aircraft or other mobile structures on land or water.

7.2 Appendix B - Common timber treatment chemicals

Table 2 lists preservatives that have been used in Australia along with their identification numbers. Refer to Australian / New Zealand Standard *AS/NZS 1604.1:2021 Preservative-treated wood based products* for further information.

Note: some preservatives listed are no longer in use.

Table 2 – Preservatives with identification numbers

Code No.	Preservative	Code No.	Preservative
01	CCA oxide type C	44b	TBTO + dieldrin + red dye
02	CCA salt type C	45	Pigment-emulsified creosote (PEC)
03	CCA salt type B	46a,b	CCA
08	Zinc borate	47a,b	CCA
09	Boron for H2	48	TBTO
10	Boron anti-sap-stain	49	CuN
11	Boron compounds for H1 and, for use in NZ, H1.2	50b	As + PCP
12	Sodium fluoride	51a	CCA
13b	Pentachlorophenol + aldrin/dieldrin (in heavy oil)	52b	PEC + aldrin/dieldrin
14a,b	CCA	53	CCA salt type C + PEC
15a,b	CCA	54	CCA oxide type C + PEC
16a,b	CCA	55	CCA type B
18b	Chlordane	56b	TBTO + chlordane/aldrin/dieldrin
19b	PCP + TBTO	57	Copper naphthenate + permethrin
20	Creosote	58	Copper + tebuconazole
21	Creosote + oil	59	Imidacloprid
22b	Creosote + aldrin/dieldrin	60	Imidacloprid for H2 envelope treatment and H2 outer treatment in plywood and LVL
23b	Creosote + oil + aldrin/dieldrin	61a,b	CCA A (L)
24	Copper naphthenate	62	TBTN + permethrin
25	CuN + TBTO	63	IPBC + permethrin
26	Copper naphthenate + dieldrin	64	Propiconazole + tebuconazole + permethrin
27	PCP + TBTO + dieldrin	65	Propiconazole + tebuconazole

28	Dieldrin	66	Triadimefon + cyproconazole + bifenthrin
29b	PCP + permethrin	67	Prop + Teb + Bifenthrin
30b	Copper + PCP	68	Copper + tebuconazole + propiconazole
31a	CCA	70	Permethrin
32a	CCA	71	Cypermethrin
33a	CCA	72	Deltamethrin
34a	CCA	73	Bifenthrin
35b	BFCA	74	Permethrin for H2 F
36a,b	CCAP	75	Bifenthrin for H2 F and surface treated LVL
37b	CCAP 3(S)	76	Thiacloprid
38a	CCA	77	Prop + Teb + Cypermethrin
39	Zinc naphthenate	78	Prop + Teb + Deltamethrin
40a	CCA type C	80	BAC benzalkonium chloride
41	TBTO	81	BAC + permethrin
42	N-Cyclohexyldiazeniumdioxy-potassium K-HDO	88	Micronized copper azole
43a	CCA	89	Micronized copper quat
		90	Alkaline copper quaternary

7.3 Appendix C - Risk assessment checklist

The following checklist has been sourced from the *Code of Practice: Managing risks of hazardous chemicals in the workplace*.

Questions	Yes	No
1. Does a risk assessment need to be carried out?	☐	☐
2. Has it been decided who should carry out the risk assessment?	☐	☐
3. Have all the hazardous chemicals in the workplace been identified? Has a hazardous chemical register been produced?	☐	☐
4. Has information about the hazardous chemicals been gathered? (refer to labels, SDS, placards and relevant Australian Standards for the type of hazardous chemical).	☐	☐
Q. 5–9 should be answered for each hazardous chemical or each process where hazardous chemicals are used in the workplace.		
5. Have you checked other records associated with the hazardous chemical? (consider previous assessments, monitoring records, injury or incident records, induction training, task-specific training etc). If 'Yes', are there any hazardous chemical risks previously assessed as 'high' or as 'significant risk'? Specify the risk(s).	☐	☐
6. Does the chemical have health hazards? (consider potential acute/chronic health effects and likely route of entry).	☐	☐
7. Does the hazardous chemical have physical hazards?	☐	☐
8. Does the hazardous chemical have an exposure standard? (refer to the Workplace Exposure Standards for Airborne Contaminants).	☐	☐
9. Do workers using the hazardous chemical require health monitoring? (refer to Part 7.1, Division 6 and Schedule 14 of the WHS Regulation). If 'Yes', air monitoring may be required.	☐	☐
10. Are workers, or can workers be potentially, exposed to hazardous chemicals at the workplace, including by-products and waste? For each hazardous chemical or group of hazardous chemicals in the work unit, find out: – Is the substance released or emitted into the work area? – Are persons exposed to the chemical? – How much are the persons exposed to and for how long? Air monitoring may be required to determine exposure. – Are there any risks associated with the storage and transport of the chemical?	☐	☐
11. Are control measures currently in the workplace well maintained and effective in controlling the hazards? If 'No', take appropriate action.	☐	☐

Questions	Yes	No
12. What are the conclusions about risk? Only answer 'Yes' to one conclusion. – Conclusion 1: risks are not significant, – Conclusion 2: risks are significant but effectively controlled. If you answer Yes to conclusion 1 or 2, go to Q.14. – Conclusion 3: risks are significant and not adequately controlled, – Conclusion 4: uncertain about risks. If you answer 'Yes' to conclusion 3 or 4, go to Q.13.	☐	☐
13. Have actions resulting from conclusion about risks been identified? – seek expert advice, – requires appropriate control measure, – requires induction training, – requires ongoing monitoring, – requires health monitoring, – requires emergency procedures and first aid.	☐	☐
14. Has the assessment been recorded?	☐	☐

7.4 Appendix D - Placard examples

The table below shows placard and manifest quantities of hazardous chemicals that may be used for timber treatment, as specified in Schedule 11 of the WHS Regulation. When determining placard and manifest quantity reference must be made to the SDS to determine the respective 'description of the hazardous chemical and category' and subsequent placard.

Note: Where the WHS Regulation (Schedule 13) requires a placard, the relevant dangerous goods class label (pictogram) must be displayed on the placard, rather than the corresponding GHS pictogram.

Table 3: Placard examples of timber treatment preservatives

Product Name	Description of Hazardous Chemical	Placard Quantity	Placard to display	Manifest Quantity
Bifenthrin	Acute Toxicity – Category 2	250kg or L		2500 kg or L
CCA Concentrated Solution	Skin Corrosion – Category 1A Acute Toxicity – Category 1	50kg or L		500kg or L
Light organic solvent preservative (LOSP)	Flammable Liquids – Category 4	10,000L		100,000L
Creosote, from beechwood tar	Acute toxicity, Oral (Category 3),	1,000kg L		10,000kg or L

Note: selected descriptions have been provided to enable reference to the respective placard. The entirety of all descriptors for the hazardous chemical have been omitted.

Disclaimer

This publication may contain information about the regulation and enforcement of work health and safety in NSW. It may include some of your obligations under some of the legislation that SafeWork NSW administers. To ensure you comply with your legal obligations you must refer to the appropriate legislation. Information on the latest laws can be checked by visiting the NSW legislation website www.legislation.nsw.gov.au This publication does not represent a comprehensive statement of the law as it applies to particular problems or to individuals or as a substitute for legal advice. You should seek independent legal advice if you need assistance on the application of the law to your situation.

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