



**Australian Government**  
**Department of the Environment**

# Lead Alert: The six step guide to painting your home



Fifth edition

## Acknowledgments

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### **Fifth Edition**

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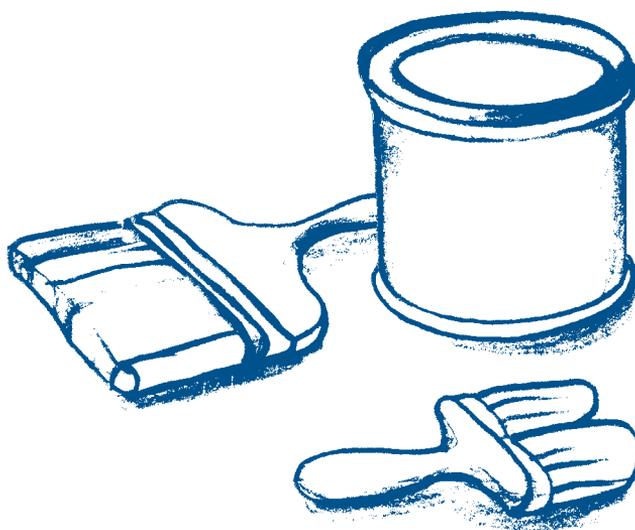
# Did you know housepaints can contain lead?

Renovating or repainting can expose people to lead.

Lead can be dangerous for men, women and children—especially young children and pregnant or breastfeeding women.

Homes built before 1970 are most at risk, but those built more recently may also have paint containing lead.

If you are renovating or repainting your home, or if you live in a home built before 1970 with flaking or peeling paint, read this booklet for more information.



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# This booklet

Paint containing lead was used in many Australian homes prior to 1970, but those built more recently may also present a risk to your health.

Exposure to lead is a health hazard. Even small amounts of dust or chips of paint containing lead can be a health risk.

Anyone painting a house or doing maintenance that could disturb paint containing lead should avoid exposing themselves and their families, neighbours and pets to its hazards.

This booklet aims to provide basic information for do-it-yourself renovators on the risks associated with paint containing lead and on practical steps to keep those risks as low as possible.

Ideally, homes with paint containing lead should be assessed and remediated by trained professionals.

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# Lead in paint—Take it seriously

Lead is a health hazard. It is stored in your bones and teeth, and may damage parts of your body, including your liver, kidneys and your brain.

**Lead in paint can be dangerous if paint dust, flakes or fumes are swallowed or inhaled.**

Exposure to lead can affect the health of children, unborn babies and adults.

Once in the body, lead circulates in the blood; while most is excreted, some can remain in the tissues, organs and bones.

Young children are at the greatest risk. They absorb the lead when they touch contaminated dust or soil and then put their fingers or toys in their mouths. Children are still growing and they can absorb up to 60 per cent of the lead that they swallow. Adults absorb approximately one tenth.

A small exposure to lead does not always result in symptoms of lead poisoning in either adults or children. However, lead can gradually build up in the body to cause health problems if exposure continues.

A single exposure, like eating a leaded-paint flake the size of a five cent piece, can increase blood-lead levels for several weeks. Some of this lead will remain in the body for life.

## Children

Lead exposure can permanently damage the brain and impair intellectual development. Children under five years of age are particularly vulnerable to lead exposure because:

- They frequently put their hands to their mouths.
- They absorb and retain more lead from the gut and airways than adults do.
- Their developing brains are more sensitive to the effects of lead.

Note: Children with pica—a behaviour that leads them to eat non-food substances such as old peeling paint flakes, soil or stones—are also at an increased risk of lead exposure.

## Pregnant women (unborn babies)

Exposure to lead can be harmful to the unborn baby because lead in the mother's blood passes through the placenta. Complications from high levels of exposure include premature birth, low birth weight, or even miscarriage or stillbirth.

Breastfeeding mothers can also pass lead on to their infants via their breastmilk.

The effects of lead exposure continue after birth and can result in impaired learning and mental ability.

## Symptoms of acute lead poisoning

The symptoms of acute lead poisoning (a high level at one time) include:

- Muscle pains
- Fatigue
- Abdominal pains
- Headache
- Nausea and vomiting
- Seizures
- Coma.

## Symptoms of chronic lead poisoning

Chronic (long-term or ongoing) exposure to lower levels of lead may produce symptoms such as:

- Irritability
- Lack of energy
- Loss of appetite
- Learning disabilities
- Behavioural problems
- Poor coordination
- Impaired growth.
- Anaemia
- Increased blood pressure
- Heart rate variability
- Fertility issues

A video on the physiological effects of lead paint can be found here:

**[www.painters.edu.au/Consumer-Information/Lead-Paint-Hazards.htm](http://www.painters.edu.au/Consumer-Information/Lead-Paint-Hazards.htm)**

Please note that many of these symptoms could be caused by other conditions, so it is important to see a doctor if you are worried.

Some children or adults may not have any symptoms at all.

## Be sure to be safe

Ask your doctor for a blood test if you think you or your family have been exposed to lead.

**It will help you make a decision about what type of action you may need to take to protect your own, and your family's health.**

If you have had paint containing lead removed because a child has a high blood-lead level, you should only move the child back in after clearance testing (see page 26) shows that it is safe. Follow-up blood tests should also be conducted four weeks after the child moves back in.

The national recommendation for all Australians is to have a blood lead level below  $10\mu\text{g}/\text{dL}$  (micrograms per decilitre) as determined by the National Health and Medical Research Council (NHMRC): <https://www.nhmrc.gov.au/guidelines/publications/eh55>



# When was paint containing lead used?

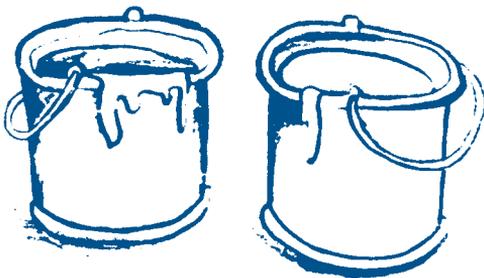
Paints containing as much as 50 per cent lead were used on the inside and outside of homes built before 1950. Until the late 1960s, paint with more than 1 per cent lead was still being used.

As a rule of thumb, the lead content of paint was limited to 1 per cent by 1970. However, **homes built after 1970 might still contain paint with more than 1 per cent lead**, particularly if old paint, industrial paints, or marine paints have been used.

In 1992, a 0.25 per cent limit on the maximum allowable amount of lead in house paint was recommended. This has been reduced to **0.1 per cent since December 1997**.

Some industrial coatings and specialised paints used today contain lead. These products must be labelled if they contain more than 0.1 per cent—so you need to read the label.

Domestic paints are available that also comply with the safety of toys standard (Australian Standard 8124.3), which limits leachable lead to 90mg/kg.



# Where was paint containing lead used?

White lead (basic lead carbonate) was used as the main white pigment in most interior and exterior housepaints for many years.

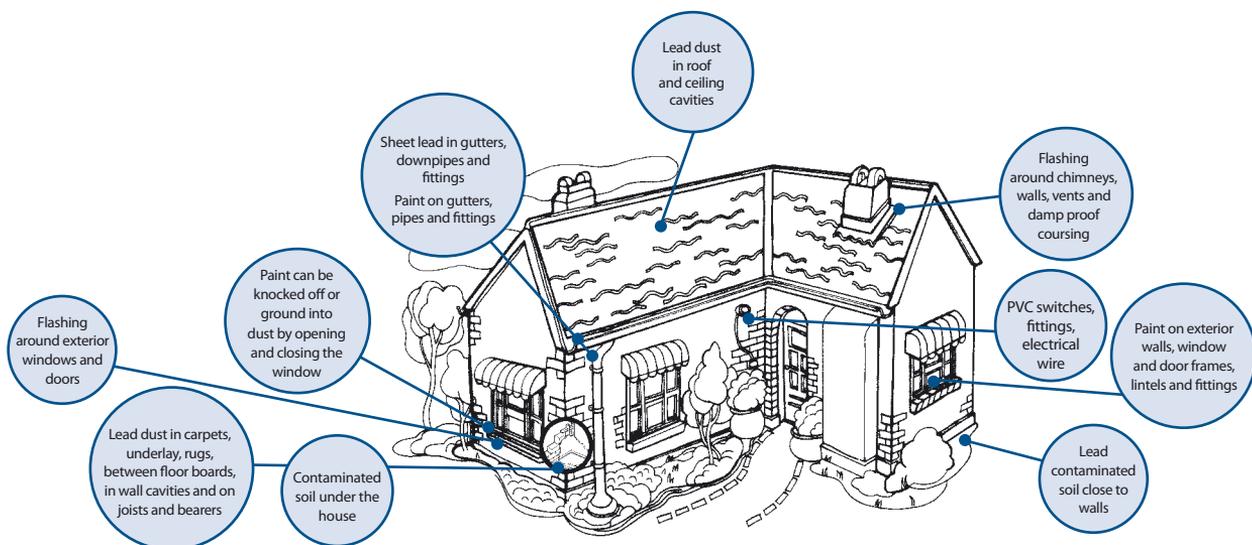
It was used in topcoats for structural timbers, weatherboards, window and doorframes, in cement-rendering on homes, and on fences and railings. It was also blended with coloured pigments to produce a wide range of pastel and mid-strength colours.

**'Pink primer'** (a mixture of red and white lead pigments) was used in undercoats applied to both interior and exterior timbers and as a priming coat to trowelled plaster walls, to cement-rendered surfaces and as a top coat on external weather boards.

**Red-lead primer** was often used on timber window sills and exposed timber well into the 1970s.

Galvanised iron fences built from recycled roof iron often have the laps (overlapping sections) painted with red lead paint.

Other lead compounds used in house paints included lead monoxide (litharge), lead orthoplumbate (red lead primer), lead silicates (base for white topcoats); lead chromates (pigment colours in the yellow, green, orange and red range); lead salts (paint driers); and calcium plumbate (used in imported metal roofing paints well into the 1980s).



# Where else can you find lead in your home?

Paint is not the only source of lead in your home that you might find when you are renovating or when weather events cause damage to ceilings or walls.

Other sources might include:

- **lead pipes**, fittings and lead soldered joints, if work is being done on plumbing
- **lead flashing**
- **household dust**, which might be released from the ceiling or wall cavities, or during maintenance of heating, ventilation and air conditioning ducts
- **lead in soil** from lead-based paint from home renovation, or from industry, mining, leaded—petrol emissions or contamination.

You might also find lead in **other places**, such as:

Lead in **food and drink**: if it is contaminated from lead dust, grown in contaminated soil, or when acidic food or drink is stored in lead crystal glassware or in pottery with lead-based ceramic glazes.

Lead use in **hobbies and at work**: people can take lead residues into their homes on work clothes and equipment, skin, and hair after contact with lead in their work or hobbies.

Lead in **children's toys and finger paints**: when sold in Australia, children's toys must comply with the mandatory limit in Australian Standard 8124, however, not all Australian-made (especially craft market or second-hand) painted toys, or imported products are tested. Toys that are made of lead metal, leaded alloys, leaded PVC (e.g. on coated cabling) or toys that are stuffed or weighted with lead shot are not covered by the standard (unless they also present a choking or other safety hazard). See the product safety bulletin from the Australian Competition and Consumer Commission for more information:

[www.productsafety.gov.au/content/index.phtml/itemId/981406](http://www.productsafety.gov.au/content/index.phtml/itemId/981406)

# Step One—before you start

## Find out how much lead is in your paint

**WARNING: Colour-change test kits can give false negative and false positive results. The colour change is difficult to detect on dark-coloured paint surfaces.**

**You can screen for lead in your paint** using either a colour-change test kit or portable XRF (X-ray fluorescence) equipment. Screening is useful for convincing your landlord that laboratory analysis is required, or if you have a room full of toys (or lots of jewellery) and you cannot afford to test all of them at a lab.

- **Colour-change test kits**

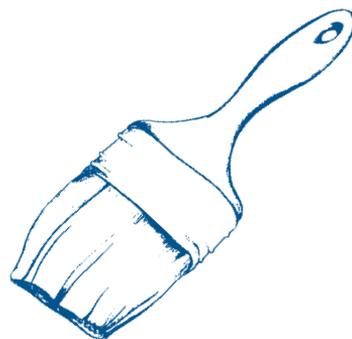
Colour-change test kits for use by non-professionals are available from most hardware stores, paint or safety equipment suppliers and range in price from \$25 – \$100. A list of test kit suppliers can be found here: [www.lead.org.au/clp/leadtestall.html](http://www.lead.org.au/clp/leadtestall.html)

**DIY-Sampling Lab Lead Analysis Kits** are available from The LEAD Group either online ([www.leadsafeworld.com/solutions/lead-group-diy-sampling-lab-analysis-lead-test-kits/](http://www.leadsafeworld.com/solutions/lead-group-diy-sampling-lab-analysis-lead-test-kits/)) or by phoning (02) 9716 0014 or 1800 626 086. A LEAD Group kit includes equipment and instructions for sample collection of a variety of sample types (paint, dust, soil, water, toy paint, etc) and analysis of the samples by a National Association of Testing Authorities (NATA) registered laboratory, as well as a report with recommendations on what to do about your results.

A **portable XRF** (X-ray fluorescence) **machine** (available to the public in Melbourne and Perth) has the advantage that it does not damage the paint surface and it gives an instant indication as to the presence of lead. However, it is a specialised piece of equipment, and that means you will have to hire a professional to operate it. You get a printout but they don't interpret the results for you.

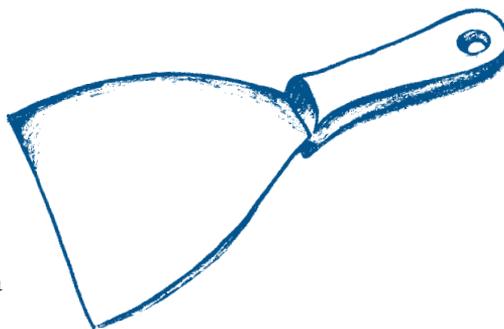
Two companies offer portable XRF testing. Samples can either be sent to the companies, or you pay for them to come to you:

- Sampling Technologies in Melbourne  
[www.sampletech.com.au](http://www.sampletech.com.au)  
Ph. 1800 453 394
- Portable XRF Services in Perth  
Ph. (08) 9321 2830  
[www.pxrf.com.au](http://www.pxrf.com.au)



- **Laboratory testing**

Samples to be analysed at a laboratory can be collected by you, e.g. by buying a DIY-sampling kit; or by a professional (environmental consultant or occupational hygienist) who you pay to collect samples, have them analysed at a lab and to write a report about the results.



**Analytical laboratories** can provide an accurate analysis of lead present in a paint sample sent to them, for a cost of \$25 to \$100 per sample, but labs do not interpret the results for you. Only laboratory analysis can determine whether working on the paint is “lead risk work” which contractors must notify the state or territory safe work authority about, in advance. Use only a laboratory that has experience in testing lead and which participates in proficiency testing programs. Ensure that the laboratory is NATA (National Association of Testing Authorities) accredited.

The Yellow Pages lists names of laboratories under Analysts and names of Consultants under *Environment and/or Pollution Consultants or Occupational Hygienists*.

For all methods of testing for lead in paint, it is important to follow the instructions for use. **Be sure to test all layers of paint—or at the least, the oldest layers.** This is best done using paint chips that are removed at an angle to expose as many layers as possible.

As a general rule, **test the bottom side of the flake** as the older layers are more likely to contain lead. If no loose chips are available, test an area where many layers are exposed. The swab will change colour if it detects lead above a certain concentration (which varies according to the brand).

If the swab does not change colour it may not mean that there is no lead in that sample. However, if the age of your house or its maintenance history suggests that paint containing lead could have been used, assume that paint containing lead is present or have the paint tested by a laboratory.

This is particularly important if young children or pregnant or breastfeeding women are in the house.

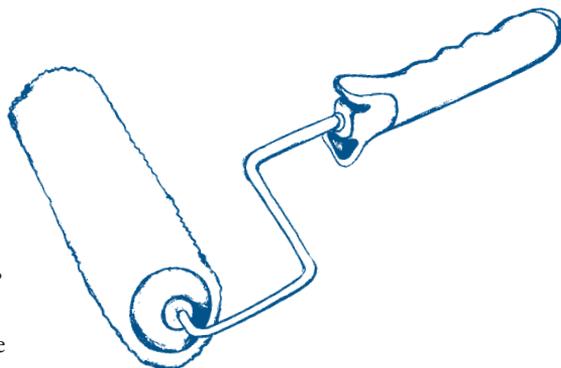
# Consider your options

**If it is necessary to disturb surfaces with paint containing lead, it is recommended that a contractor with lead paint management training do the job.**

- If the paint contains lead and it is flaking or chalking, consider full paint removal or replacement of the painted component. Replacing some items with new ones can be a good option for skirting boards, architraves and window sashes.

Temporary fixes include painting over lead paint with as little preparation (e.g. sanding) as possible, or covering it with another material. Consider removing paint containing lead from areas that are likely to be knocked, chipped, chewed by children, or subject to friction. These include architraves, skirting boards, balustrades, stair treads and sash windows.

- If the home was built before 1970, the paint is in good condition, and pre-school aged children or pregnant or breastfeeding women live there, consider delaying the paint management until the home can be vacant or all the children are older.



**Covering the paint containing lead may be a cheaper (in the short-term) option than removing it. Don't forget to inspect affected areas regularly for any signs of deterioration or damage.**

# Plan your options

**Plan your options** for dealing with paint containing lead in different parts of the home. You may be able to cover some areas, you may have to remove the paint in others, or remove the painted areas entirely such as skirting boards.

**Plan how you will do the job safely.** Work out in advance which areas you will work on first, where you or your family will live, what tools you will use, and exactly how you will go about the job itself.

**Plan what method you will use** to cover or remove the paint containing lead.

**Plan how you will clean up** at the end of each day and after the job is finished.

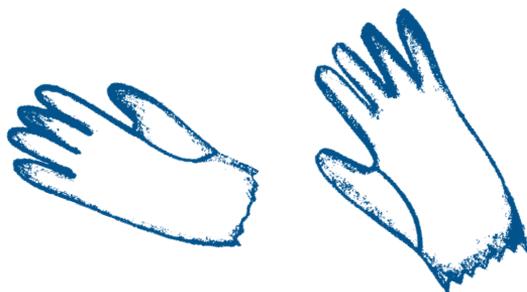
**Plan how you will dispose of waste** materials containing lead—these include dust, paint flakes and waste water.

The National Institute of Painting and Decorating has created a series of videos on safe-lead removal. These videos meet the requirements of the Australian Standard Guide to Lead Paint management Part 2: Residential and Commercial Building (Australian Standard 4361.2).

The videos are available here:

[www.painters.edu.au/Training-Resources/Lead-Paint-and-Asbestos.htm](http://www.painters.edu.au/Training-Resources/Lead-Paint-and-Asbestos.htm)

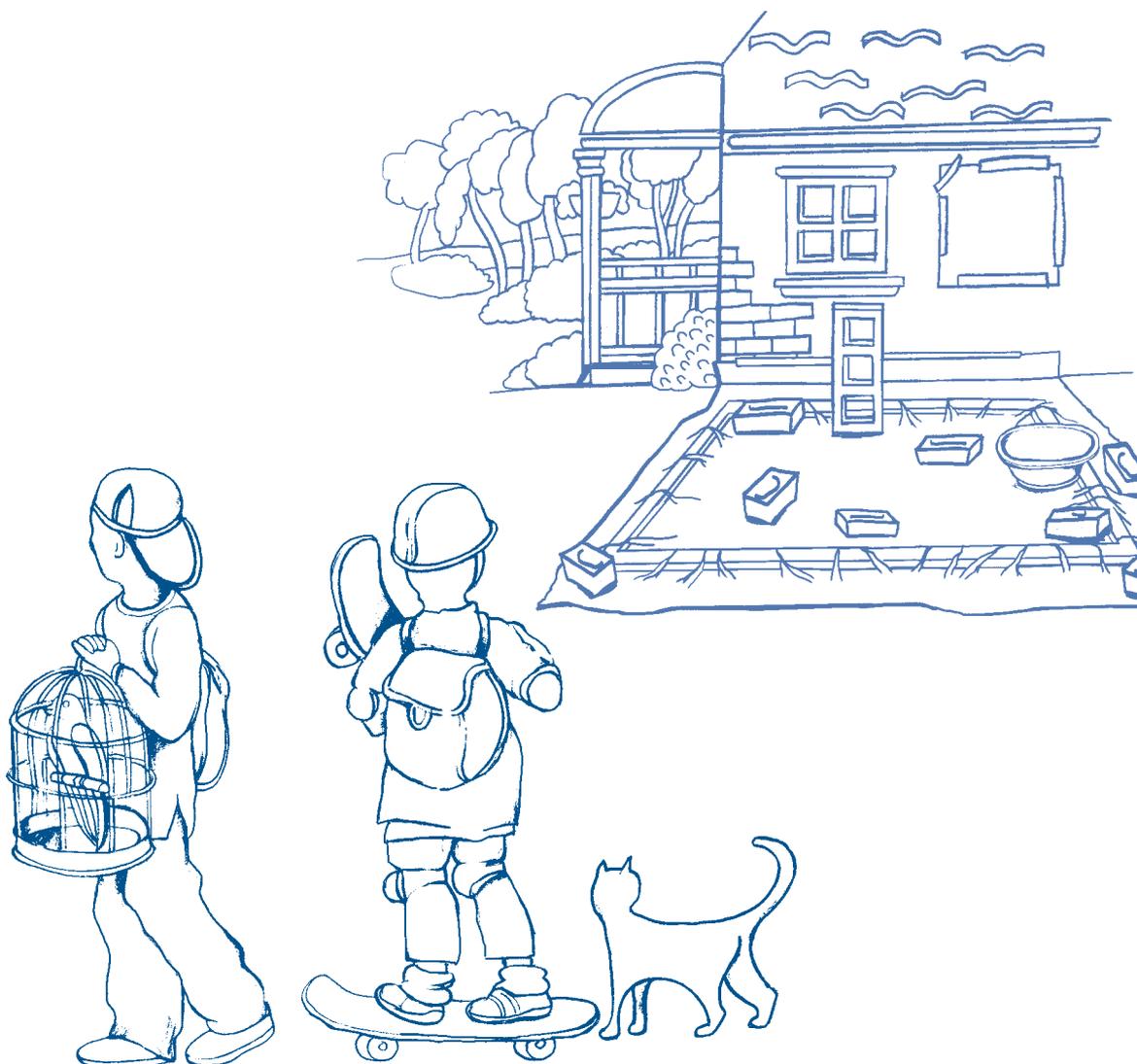
These resources were developed in consultation with the LEAD Group, Macquarie University and the Construction and Property Industry Services Skills Council Painting and Decorating Co-operative.



# Step Two—Plan to stay safe

## Protect your family, neighbours and pets

- Pregnant or breastfeeding women and women wishing to conceive, young children and pets should leave the home whenever paint containing lead is disturbed. They should not return until all dust and debris has been cleared away.
- Tell neighbours about the job. Try to keep paint flakes and dust out of the neighbours' property.
- Do not work outdoors on a windy or wet day as dust can be blown or washed off plastic sheets.
- Do not remove paint by dry abrasive blast cleaning or dry mechanical sanding.

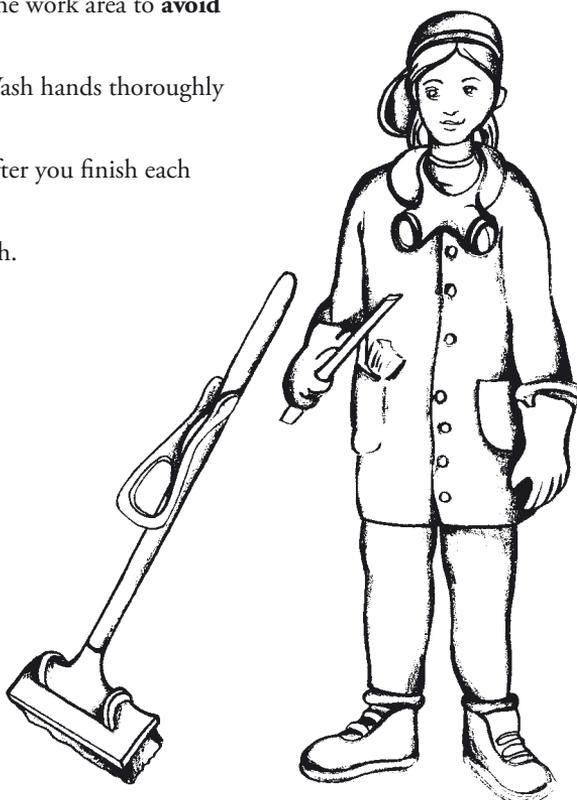
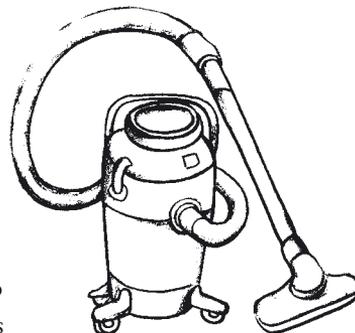


# Look after yourself

**Wear protective clothing when in contact with dust and fumes.**

**This means wearing at all times: a respirator, disposable coveralls, disposable overshoes, a hat and gloves when doing tasks that could generate dust containing lead.**

- **Use a particulate or air purifying respirator that meets Australian Standard 1716.** Make sure it fits and seals your face. Half-face respirators fitted with type P1 (dust) or P2 (dust and fumes) particulate filter cartridges are most commonly used, but they will not seal around beards or moustaches and a full face cartridge respirator or a powdered air purifying respirator is then needed.
- Look after the respirator. Store it face down, away from dust and do not hang it by the straps. Before using it, check that the respirator is free of dust inside, that all valves are in good condition and that the correct cartridges in good operating condition are fitted.
- **Leave the respirator on until you have taken off your protective clothing.**
- Change coveralls and overshoes before you leave the work area to **avoid contaminating other areas.**
- Do not smoke, eat or drink near the work area. Wash hands thoroughly before doing any of these activities.
- **Shower and wash your hair** as soon as possible after you finish each day's work.
- Wash work clothes separately from the family wash.



# Use the right tools and equipment for the job

<p><b>A High Efficiency Particulate Air (HEPA) filter fitted to a suitable commercial vacuum cleaner, while more effective than ordinary cleaners, is not particularly effective for removing lead dust from carpet.</b></p>	<p>Only a HEPA filter can capture the small lead particles. Other filters and ordinary vacuum cleaners are dangerous because they allow lead dust out through their exhausts and spread it more widely. A number of commercial vacuum cleaners can be equipped with a HEPA filter. A suitable cleaner and HEPA filter can be bought for about \$800 from retailers of cleaning products.</p>
<p><b>A half-face respirator meeting requirements of Australian Standard 1716.</b></p>	<p>This is a half-face mask that can be bought from a major hardware store. Use class P1 (dust) or P2 (dust and fumes) filters. A half-face respirator will not seal around bearded faces. People with beards should use a powered air-purifying respirator. Ordinary dust masks are not effective in preventing the inhalation of lead dust or fumes. A respirator cartridge for organic vapours will be required if solvent strippers are used.</p>
<p><b>Protective clothes</b></p>	<p>Coveralls, disposable overshoes, work gloves, hat. Available from suppliers of protective clothing listed in the Yellow Pages.</p>
<p><b>Heavy-duty plastic sheeting</b></p>	<p>To seal off work areas and for the collection of debris. Sheeting can be bought from hardware stores.</p>
<p><b>Heavy-duty tape</b></p>	<p>To hold plastic in place. Can be bought from hardware stores.</p>
<p><b>Wet-and-dry sandpaper pre-sanding sponges</b></p>	<p>Can be bought from hardware stores.</p>
<p><b>Spray bottles</b></p>	<p>For wetting surfaces to keep dust from spreading. Can be bought from retail and garden stores.</p>
<p><b>Cleaning solutions</b></p>	<p>High-phosphate solution (containing at least 5 per cent trisodium phosphate, also known as TSP) or other lead-specific cleaning agent.</p> <p>TSP should be mixed at the ratio of at least 25g of 5 per cent TSP to each 5 litres of hot water. TSP can be bought from industrial cleaner stockists. Sugar soap that contains TSP is available from hardware stores and supermarkets.</p> <p><b>Note:</b> Not all brands of sugar soap contain TSP and ingredients are not required on the labels—users will need to check the manufacturer’s website to ensure TSP is present.</p>
<p><b>Mops</b></p>	<p>For cleaning hard surfaces.</p>
<p><b>Disposable cleaning items</b></p>	<p>Rags, sponges and lint-free towels.</p>

# Step Three—Set up properly

**For all jobs, you want to produce as little dust and other residue as possible, catch as much residue as you can, and cover or seal off everything in the areas around the job to avoid contaminating other areas.**

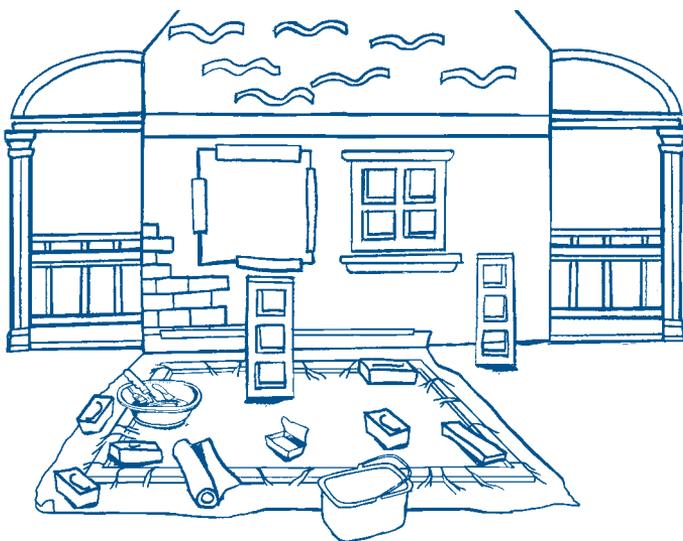
There are three different ways to set up:

- Exterior work
- Large jobs inside the home
- Small jobs inside the home

In all cases, it is better to use disposable polyethylene sheeting rather than reusable dust sheets. This will make sure that you don't contaminate other areas by forgetting to clean the dust sheets.

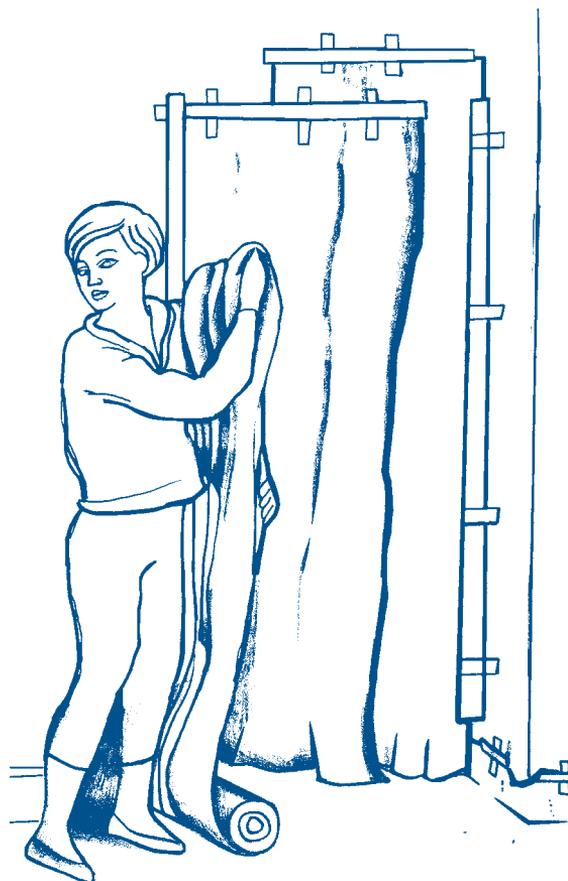
## 1. Exterior work

- **Avoid contaminating the soil.** Cover the ground and vegetation with plastic sheeting to catch dust and debris. The plastic should extend two metres from the base of the home, add an additional metre of plastic for each storey.
- Place wooden studs under the edges of the sheeting to contain liquid and use bricks or rocks to hold the edges of the plastic sheeting in place.
- Close windows and doors, and cover wall vents and air conditioning vents to **prevent dust from entering the building.**
- Do not work in wet or windy conditions, as the lead dust and paint might be washed or blown off the plastic sheeting.
- **Remove** play equipment, pets, personal belongings and vehicles away from the work area.
- **Cover** any sandpits, pools, herbs and vegetables.
- **Tell the neighbours** so that they can close windows and doors while exterior work is being done, move play equipment away from the boundary fence, and cover their own sandpit and pool. Homes from which paint containing lead has been safely removed can become re-contaminated by renovation in neighbouring homes.



## 2. Interior work—Large jobs

- **Close off the work area** by covering entrances with two lengths of plastic sheeting which overlap each other in the middle. Tape the outside edges at the top and sides to the door jams. Close the windows unless chemical strippers are being used. Extra ventilation is required when working with solvents.
- **Remove** furniture, rugs, light fittings, curtains, food, clothing and other household items such as books and toys.
- **Cover** the floor with disposable plastic sheeting and tape the sheeting to the walls. Given that it is difficult to remove lead dust from carpet, even with a HEPA vacuum, ensure that the carpet is securely covered or consider temporarily removing it. If the carpet has already been exposed to chalking or flaking paint, consider replacing it.
- If you do **remove the carpet** during the job, mist it with water spray to settle the dust, roll it inward and wrap it in plastic sheeting; use a HEPA vacuum to clean up the dust underneath.
- **Turn off** forced-air heating and air conditioning. **Cover and seal** doors and air ducts for heating and cooling systems.
- **Cover openings**, such as open fire places, gaps around pipes and between floorboards, with plastic sheeting and heavy-duty tape to prevent lead dust moving to other areas.
- **Cover immovable surfaces** such as counter-tops and shelves with plastic and tape down the edges so dust cannot enter.
- Maintain all the plastic sheets you use. Repair or replace sheets as soon as you find a tear.
- Tape around the door seals of refrigerators.
- **Wear coveralls and disposable overshoes.** Take them off before you leave the work area. Use a transition area for changing if possible.



### 3. Interior work—Small jobs

These relatively limited precautions are suitable for only very small jobs, like replacing an electrical fitting, patching broken plaster, removing chipped or peeled paint, replacing a broken window, or fixing a broken piece of electric moulding.

- **Remove** furniture, rugs, light fittings, curtains, food, clothing and other household items such as books and toys. **Cover** all carpet in the room as an extra protection.
- **Cover** the floor under the area to be worked on with disposable plastic sheeting and tape the sheeting to the walls above the skirting board.
- **Cover immovable surfaces** such as counter-tops and shelves with plastic and tape down the edges so dust cannot enter.
- Maintain all the plastic sheets you use. Repair or replace sheets as soon as you find a tear.
- If working on a wall, **tape** one side of a plastic shopping bag to the wall directly under the spot to be worked on. This will form a pouch to **catch any flakes** created by the work.
- **Wear protective clothing.** Make sure you remove all protective clothing before you leave the work area.



## Step Four—Cover or remove paint containing lead

Use methods that minimise generation of dust or fumes. Do not dry sand or use abrasive blasting as large amounts of dust or wastewater that contains lead can contaminate the home and garden.

**Avoid generating dust even if your paint contains less than 1 per cent lead.**

Removing paint by blasting, burning, dry scraping, dry sanding or power-tool cleaning creates the most serious dangers **because the particles are small** enough to be inhaled or deposited on furnishings and carpets. This makes it very **difficult to completely remove** lead contamination from your home.

Remove paint containing lead from outdoor surfaces before starting the interior work. Any dust or debris that enters the home during exterior work can be removed when you clean up, after you have finished the interior part of the job.



It can be difficult to completely remove lead from your home, because lead from paint can contaminate underlying timber. This means you should be careful when exposing old timber, even if you believe that all the paint containing lead has been removed.

Even if you decide to cover over the paint, it is still wise to remove paint containing lead from areas that are likely to be knocked, chipped, chewed by children, or subject to friction. These include architraves, skirting boards, balustrades, stair treads and sash windows. A good alternative to repainting is to replace existing skirting boards, architraves and window sashes with new ones.

**Don't forget:** you can get a contractor in to prepare the surface or even to remove the paint containing lead for you.

It is important that you **use the safest method possible** if you are removing or disturbing paint containing lead.



If paint containing lead is in good condition and it is not flaking or chalking, you can cover it by painting over it.

You will usually need to **wash the surface with** a trisodium phosphate solution to remove grease, grime or dirt. If the paint is flaking or chalking, you might also need to give the surface a **light, wet sanding** with wet- and- dry sandpaper to help the paint stick to the surface and prevent lead dust from spreading. You will need to **wash** down any walls you have sanded with the trisodium phosphate solution, rinse them and allow to dry before repainting.

**Take care not to generate lead dust** and ensure that the surrounding areas are not contaminated by water that might contain small particles released by the wet sanding process.

When repainting interior walls **seal the surface to be painted** with a good water or oil-based sealer before applying the topcoat. For painting over exterior surfaces, you can use a suitable water- based, flexible-acrylic paint for the topcoat, such as those used for water proofing walls and roofs. For advice about which paints to use, contact the Aussie Painters Network on **1800 355 344** or see **[www.homepaintersinfo.com/whatpaintwhere.html](http://www.homepaintersinfo.com/whatpaintwhere.html)**.

Remember that painting over is a temporary solution limited by the life of the paint and the condition of the surface. Prompt maintenance can be required because cracks and dampness can cause paint to deteriorate rapidly.

You can also **cover paint containing lead** with a material that is not easily damaged:

- Paint containing lead on exterior surfaces can be **covered with durable materials**, such as aluminium or brick cladding, cedar cladding, or weather- board. Make sure you completely seal all gaps.
- Internal surfaces can be covered with durable materials that will not tear, chip or peel. These include plasterboard, vinyl-wall coverings, wood panelling and floor coverings, such as carpet, tiles or vinyl.

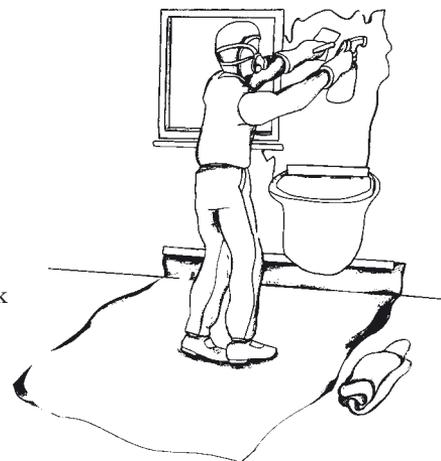
The only way to eliminate a lead hazard is to remove deteriorating paint containing lead, as long as the job is done safely. Otherwise, general wear and tear, disturbance through renovation or repair, or major events, such as fire, storms and water leaks may release paint dust, fumes or flakes into the environment.

## Wet scraping

**Wet the painted surface with a spray bottle and scrape the wet paint onto a plastic drop sheet.** The sheeting should be raised around the edges with wooden studs to prevent the dust escaping when the scraped paint dries.

Alternatively, tape a plastic shopping bag to the wall directly under the work and collect the flakes as you go.

**Wear a respirator and protective clothing.**



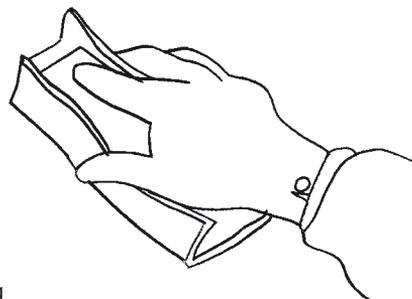
## Wet sanding

**Reduce dust by wetting paint work** using a spray bottle before rubbing down with wet and dry sandpaper.

Use a sponge to remove the powdered paint debris from the paint surface.

**Do not rub down with dry sandpaper** and especially not with an ordinary power sander. This will release lead-rich dust into the air and into the rest of the home.

**Wear a respirator and protective clothing.**



## Chemical stripping



Chemical stripping **cannot be carried out in a sealed room**. Vapours from paint strippers can contaminate other surfaces near where it is being used, making them unsafe.

Follow the manufacturer's directions when using chemical strippers.

Some are highly flammable, some are highly caustic. Wear clothes that cover all the skin, along with water proof gloves when using any chemical stripper.

Don't let the paint you have removed accumulate on the floor or on the ground because it can be sticky and difficult to remove from equipment such as shoes and ladders.

**Paint removers containing methylene chloride are not recommended** for use unless the area is well-ventilated. Even then they should be used only for touch-up work.

Prolonged exposure to methylene chloride vapour is harmful and it forms a dangerous gas when near radiators or a naked flame.

The **poultice method** of chemical stripping is worth considering. It involves covering the painted surface with a thick- alkaline paste then a laminated cloth. When the paint emulsifies, the cloth is peeled off with the help of a scraper, taking with it the paint and the paste.

Use a half-face or full-face **respirator with a Type A organic vapour cartridge** that meets the requirements of Australian Standard 1716 whenever you use a chemical stripper.

**Off-site chemical stripping centres** may be used for old decorative trim, moulding and doors that are going to be kept. This method involves removing the paint in a stripping bath. Some materials, including some laminated door panels, may react adversely to dipping baths.

Wood surfaces stripped with caustic strippers should be neutralised with acetic acid solution before painting. Check the instructions on the label before using.

## Dry power sanding with a HEPA vacuum attachment



**This method is not recommended for the home handy person.** It requires skill and it can be done safely only by contractors with the appropriate training and experience.

HEPA sanders are traditional electric sanders with special vacuum attachments which pass exhaust air through a HEPA filter to reduce the amount of airborne lead dust. The vacuum attachment must have a HEPA filter.

There are two main types of HEPA sanders. The first uses a flexible shroud to surround the sanding head. The shroud must be in constant contact with the surface to be effective, and so this method is not suitable for sanding the edge of protruding surfaces. If the shroud extends beyond the surface being sanded, large amounts of lead dust will be released into the air.

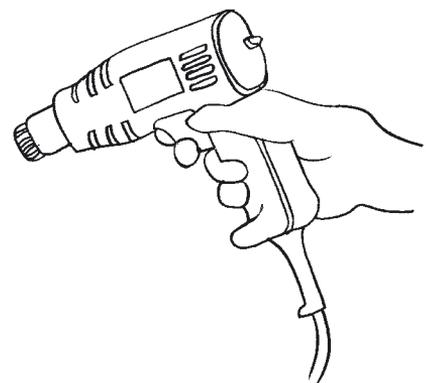
The second type of HEPA sander pierces the sandpaper with holes through which the vacuum draws dust. This allows the sander to be used on the edge of surfaces, but the sandpaper must be kept flat on the surface.

Neither of these methods is completely effective at trapping lead dust. They are **not suitable for removing paint from detailed mouldings.**

**Respirators meeting the requirements of Australian Standard 1716 must be used.**

## Low-temperature heat processes

The use of open-flame torches and high-temperature heat guns **can be especially dangerous.** The fumes generated contain lead and chemicals that are poisonous when inhaled. Make sure you **use a respirator** that meets the requirements of Australian Standard 1716. In some circumstances, electric heat guns are useful to soften very thick paint on flat surfaces. Nozzle temperatures should be below 370° C (700°F) because lead fumes are formed at higher temperatures.



**Do not hold the heat gun too close to the surface of the paint** as this can burn the paint, even at the lower temperature, and release dangerous fumes.

It is important to scrape the softened paint directly into a disposable container before it rehardens to avoid having to sand or scrape to clean it up.

## The methods

**The methods you could choose from include (in order of preference):**

- hire a suitably qualified and experienced contractor to do the job for you
- cover the paint containing lead
- remove and dispose of painted items (e.g. skirting boards) where possible
- wet scraping
- wet sanding
- chemical stripping
- dry power sanding with a HEPA vacuum attachment
- low temperature heat processes

Method	Advantages	Disadvantages
Do nothing	<ul style="list-style-type: none"> <li>• very cheap</li> <li>• safe if paint is in very good condition and not likely to be damaged by wear and tear or chewed by children</li> <li>• very easy</li> <li>• no cleaning up</li> <li>• produces no lead contaminated waste</li> </ul>	<ul style="list-style-type: none"> <li>• need to inspect painted surfaces regularly to make sure the paint containing lead is still in good condition</li> </ul>
Cover the paint containing lead	<ul style="list-style-type: none"> <li>• safe if little preparation is needed</li> <li>• produces little lead dust</li> <li>• relatively fast</li> <li>• inexpensive</li> <li>• produces little or no lead contaminated waste</li> </ul>	<ul style="list-style-type: none"> <li>• painting over is suited only to surfaces in good condition</li> <li>• the paint containing lead is still there when you have finished the job</li> </ul>
Remove painted items and replace with new	<ul style="list-style-type: none"> <li>• very safe</li> <li>• can be fast</li> <li>• may be the easiest option for some odd-shaped surfaces, like skirting boards</li> </ul>	<ul style="list-style-type: none"> <li>• can be difficult or expensive to find replacement items to match existing items in some older homes</li> <li>• not always possible for heritage listed buildings</li> <li>• need to dispose of unwanted items in a way that complies with the relevant government regulations</li> </ul>

Method	Advantages	Disadvantages
Wet scraping/ Wet sanding	<ul style="list-style-type: none"> <li>• inexpensive</li> <li>• useful for dealing with flaking paint</li> </ul>	<ul style="list-style-type: none"> <li>• takes a lot of time and effort</li> <li>• can damage underlying wood if not done carefully</li> <li>• need to clean up and dispose of waste materials properly</li> </ul>
Chemical stripping	<ul style="list-style-type: none"> <li>• produces little dust</li> <li>• relatively efficient</li> </ul>	<ul style="list-style-type: none"> <li>• cannot be done in a sealed room</li> <li>• the paint stripper can be absorbed into some surfaces</li> <li>• paint stripper is flammable and caustic</li> <li>• need to neutralise wood with acetic acid before repainting</li> <li>• paint residue can be sticky and difficult to clean up</li> <li>• need to clean up and dispose of waste materials properly</li> </ul>
Dry power sanding with a HEPA vacuum attachment	<ul style="list-style-type: none"> <li>• fast if done by a fully trained and experienced operator</li> </ul>	<ul style="list-style-type: none"> <li>• not safe for the home handy-person</li> <li>• can produce large amounts of dust if not operated properly</li> <li>• not suitable for removing paint from unevenly shaped surfaces, like cornices</li> <li>• need to clean up and dispose of waste materials properly</li> </ul>
Low-temperature heat process	<ul style="list-style-type: none"> <li>• useful to soften very thick paint on flat surfaces</li> </ul>	<ul style="list-style-type: none"> <li>• potentially very dangerous</li> <li>• can burn the paint and produce lead fumes</li> <li>• need to clean up and dispose of waste materials properly</li> </ul>

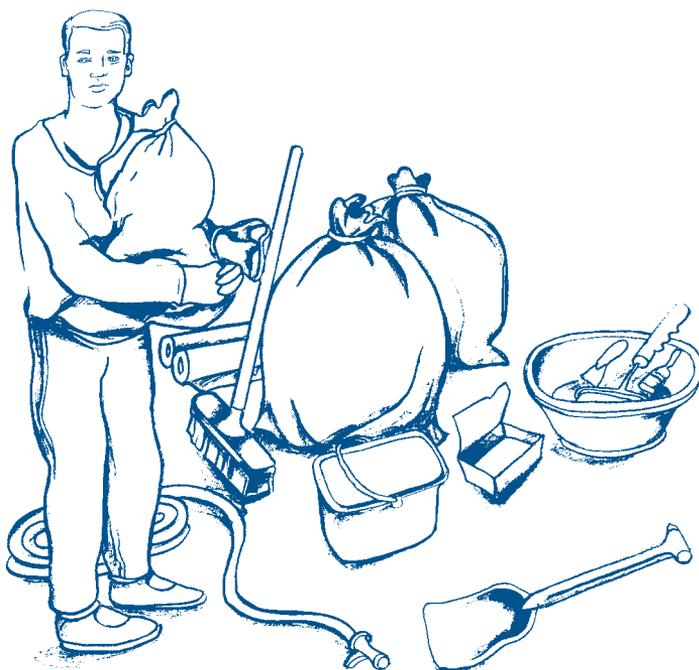


# Step Five—Clean up

**Despite the best precautions, it is inevitable that some dust will be produced, especially inside the home.**

The following steps are recommended:

- Remain in your protective clothing, including gloves and respirator.
- Using a spray bottle, wet down all dust and debris on the plastic sheeting prior to taking them up.
- Place large disposable items in the plastic sheet into heavy duty plastic bags and seal them.
- Vacuum all surfaces using a HEPA filter fitted to a suitable commercial vacuum cleaner. This should be done on a daily basis as well as at the end of the job, using a liquid vacuum cleaner for liquid waste removal if necessary.
- If you do not have access to the right vacuum cleaner, then wet-clean hard surfaces with a mop using the three bucket method described on page 24.
- **Do not use a broom** as this spreads the dust. Do not use a vacuum cleaner without a HEPA filter as it will spread the fine dust containing lead around the home.
- **Wash** all surfaces in the work area—windows, walls, ledges, and any other surfaces—with a high-phosphate solution (see page 13). Renew the solution frequently to prevent it becoming contaminated. Rinse cloths and mops thoroughly as you are cleaning up to avoid spreading any debris that contains lead.
- Do not pour lead contaminated water down your drains or onto your garden.
- When surfaces are dry, **vacuum a second time** paying particular attention to skirting boards, architraves, window sills, casings, shelves, and counter tops until no dust or residue remains.
- **Dampen dusty outside areas** with spray from a garden hose. Sweep up and **collect the debris**. Avoid dry sweeping since it spreads lead dust. Shovel paint debris into heavy-duty plastic bags.
- **Clean** your tools with cloths soaked in the high-phosphate solution.
- **Discard** all items in plastic bags in accordance with State, Territory or Local Government requirements (see the section about waste disposal on page 27).



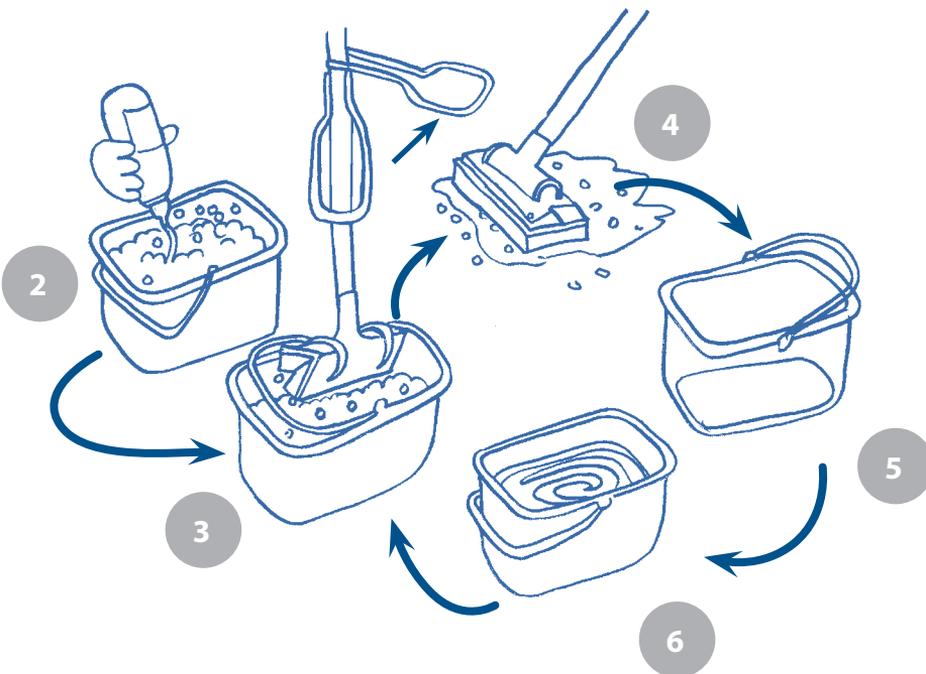
# Wet procedure

## The three bucket method

This method is a simple, but effective way of removing dust from your home. It involves firstly washing the floor with a high-phosphate solution (see page 13), and then rinsing it with clean water. All you need is three buckets, one mop for the washing procedure and a second mop for the rinsing procedure, and then follow these steps:

### Wash procedure

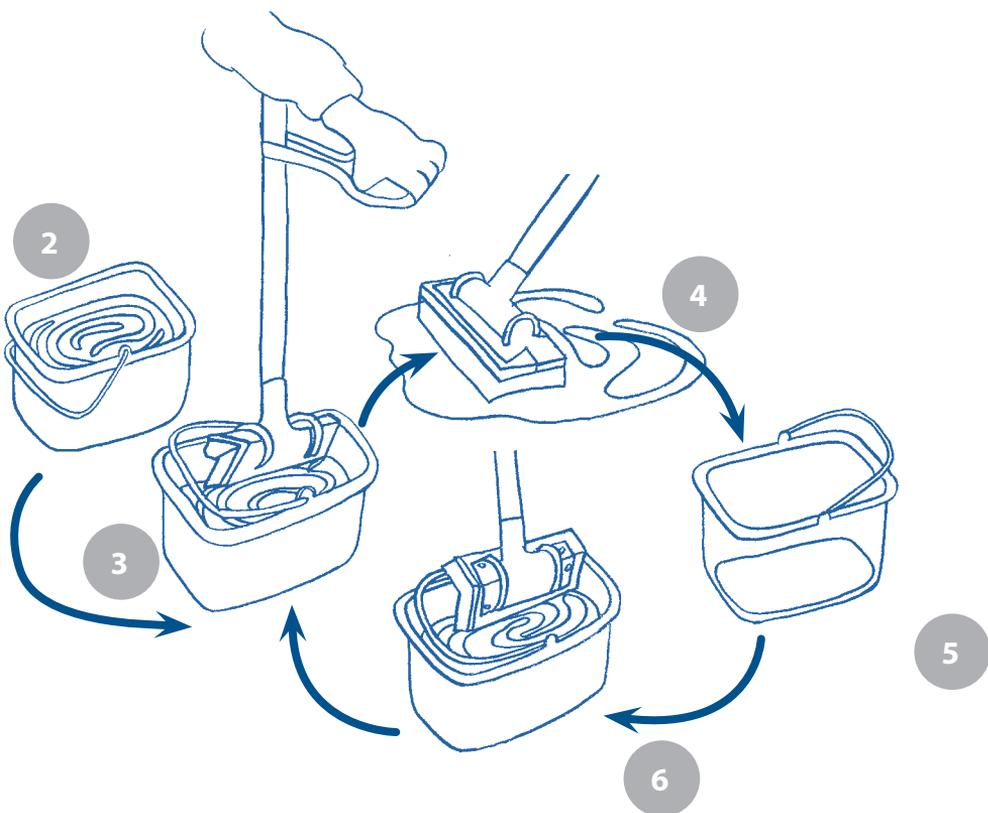
1. Get three buckets and a wash mop.
2. Mix the detergent and water at a ratio of 1:20 (or 50ml per litre) in the first bucket, leave the second bucket empty and fill the third bucket with water.
3. Dip the mop in the detergent bucket and wring out excess liquid.
4. Mop small sections of the work until the mop is dry or dirty.
5. Wring the mop into the empty bucket.
6. Rinse the mop in the third bucket and wring out excess liquid.
7. Repeat steps 3 to 6 until the floor is clean. Change the detergent solution periodically. As a rule of thumb, 20 litres should be used to clean no more than 100 square metres.



## Rinse procedure

After washing, use the same system as above except the first bucket contains only water, with no detergent. So now you have a clean rinse bucket and a dirty rinse bucket. You also use a new mop—the rinse mop.

1. Get three buckets (they can be the same three buckets as the ones you used for the wash procedure if you have cleaned them out thoroughly), and the new, clean rinse mop.
2. Fill the first (clean rinse) bucket with water, leave the second bucket empty and fill the third (dirty rinse) bucket with water.
3. Dip the mop in the clean rinse bucket and wring out excess liquid.
4. Mop small sections of the work until the mop is dry or dirty.
5. Wring the mop into the empty bucket.
6. Rinse the mop in the third bucket and wring out excess liquid.
7. Repeat steps 3 to 6 until the floor is clean. Change the detergent solution periodically. As a rule of thumb, 20 litres should be used to clean no more than 100 square metres.



# Clearance testing

**Clearance testing measures the amount of lead in household dust and soil after you have finished cleaning up.**

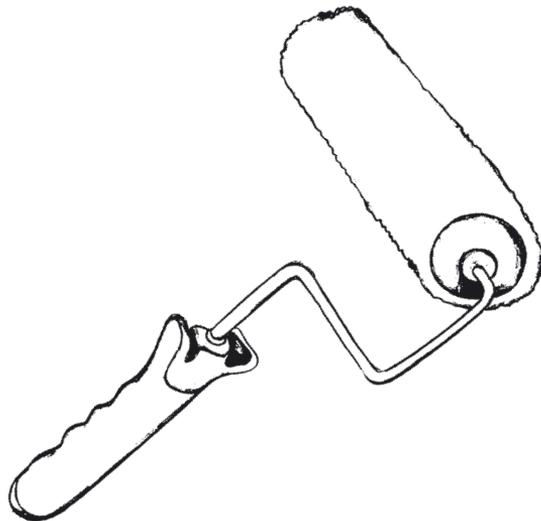
The amount of lead in the soil and dust is then compared with acceptable levels that are set in certain standards.

Clearance testing is an extra cost but it can satisfy you that you have cleaned up properly, thus ensuring your own, and your children's safety.

If you have removed lead from inside the home, you should not be able to see any dust after you have cleaned up. However, some lead dust may remain behind—stuck to surfaces if the washing and rinsing of these surfaces has not been adequate.

If you have removed paint from outside of your home, you can check that you have not contaminated the soil in your yard.

You can check the amount of lead in dust and soil by laboratory analysis by a professional as noted in Step One, or you can collect the dust or soil yourself using a DIY-sampling lab lead analysis kit. Either way, the interpretation report will tell you how the results compare with the Australian Standard 4361.2 *Guide to Lead Paint Management Part 2: Residential and Commercial Buildings*.



## Step Six—Dispose of lead contaminated waste

**Paint wastes must be disposed of in accordance with State, Territory or Local Government requirements. Remember, lead paint waste can be classified as hazardous waste, which means you must dispose of it correctly.**

Place lead-containing debris into heavy-duty plastic bags which are then deflated so they do not burst.

Do not burn timber coated with paint containing lead, or any other wastes that have been contaminated with lead.

If lead-contaminated water has been generated as a result of wet scraping or sanding, or during a clean-up, pour it into a strong, securely sealed container and dispose of it as advised by your local council.

All States and Territories allow disposal of small quantities of waste containing lead with normal household garbage. Prior to disposal, contact your local council for further guidance.

If you have a large amount of waste, you will need to dispose of it all in accordance with the hazardous waste regulations in each State or Territory. Contact your local council or state environmental authority for information about who can dispose of lead-contaminated wastes.

**Do not pour lead contaminated water down the drains or onto the garden.**

# For more information

## Contacts and phone numbers

State/Territory	Organisation	Phone
<i>ACT</i>	ACT Government Directory, Canberra Connect	132 281
<i>NSW</i>	Office of Environment and Heritage	131 555
	Ministry of Health	(02) 9391 9000
<i>NT</i>	Environment Protection Authority	(08) 8924 4218
	Department of Health	(08) 8999 2400
<i>QLD</i>	Department of Environment and Heritage Protection	137 468
	Queensland Health	13 4325 84
<i>SA</i>	Environment Protection Authority	(08) 8204 2004
	Health SA	(08) 8226 7100
<i>TAS</i>	Environment Protection Authority	(03) 6233 6518
	Service Tasmania	1300 135 513
<i>VIC</i>	Environment Protection Authority	1300 372 842
	Department of Human Services	1300 650 172
<i>WA</i>	Department of Environment Regulation	(08) 6467 5000
	Department of Health	(08) 9222 4222



You can find more information on how to test the amount of lead in paint from the Australian Standard *Guide to Lead Paint management Part 2: Residential and Commercial Building* (AS 4361.2). It gives instructions on using lead test kits, and on how to take samples for laboratory analysis. To buy a copy of any of the Australian Standards, call Standards Australia on **131 242**, or visit [www.standards.org.au/SearchandBuyAStandard/Pages/default.aspx](http://www.standards.org.au/SearchandBuyAStandard/Pages/default.aspx).

## Choosing a Painter

When choosing a painter to be engaged in lead paint management, consumers should ask if they have completed a 'nationally recognised qualification' in safe lead paint removal. The painter will have a certificate with the 'nationally recognised' symbol on it. Ask for the certificate, or see the National Painting and Decorating Institute website for more information: [www.painters.edu.au](http://www.painters.edu.au) or call **1300 319 790**.

The nationally recognised qualification for lead-paint removal is called Implement Safe Lead Paint and Asbestos Work Practices, and is owned by the Construction and Property Services Industry Skills Council. This qualification is offered by all Registered Training Organisations that deliver CPC30611 Certificate III Painting and Decorating.

When choosing a painter, consumers should check here:

[www.painters.edu.au/Consumer-Information/Choosing-a-Painter.htm](http://www.painters.edu.au/Consumer-Information/Choosing-a-Painter.htm)

For referral to a contractor trained in the removal of lead paint, search the following websites for qualified painters:

- National Painting and Decorating Institute: [www.painters.edu.au/Find-A-Painter.htm](http://www.painters.edu.au/Find-A-Painter.htm)
- The LEAD Group Inc: [www.lead.org.au/referral\\_lists.html](http://www.lead.org.au/referral_lists.html)
- [www.leadsafeworld.com/partners/lead-safe/](http://www.leadsafeworld.com/partners/lead-safe/)
- Home Painters Info and Aussie Painters Network: [www.homepaintersinfo.com/leadpaintregister.html](http://www.homepaintersinfo.com/leadpaintregister.html)

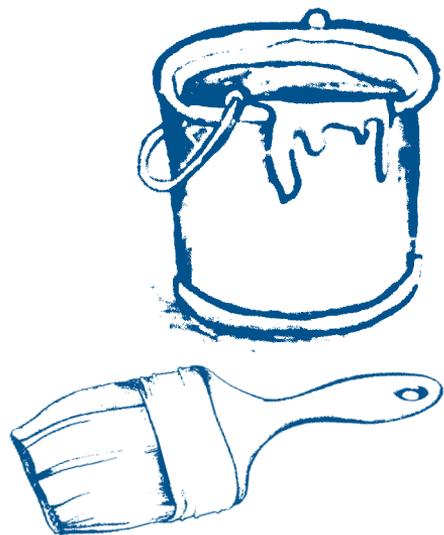
## Choosing the right paint

For advice about particular lead-based paints and appropriate new paints, call the Australian Paint Manufacturers' Federation **(02) 9876 1411** or see the website: **[www.apmf.asn.au](http://www.apmf.asn.au)**

For more information about relevant professional services and publications, call the non-government charity, The LEAD Group on **(02) 9716 0014** or Freecall **1800 626 086**, or visit their websites: **[www.lead.org.au](http://www.lead.org.au)** and **[www.lead safeworld.com](http://www.lead safeworld.com)**

A factsheet describing health risks associated with exposure to lead from all sources around the home, entitled *LEAD ALERT—Lead and your health* is available on the Department of the Environment website: **[www.environment.gov.au/resource/lead-alert-facts-lead-and-your-health](http://www.environment.gov.au/resource/lead-alert-facts-lead-and-your-health)**

For extra copies of this booklet and further information, call the Department of the Environment Community Information Unit: Freecall **1800 803 772**.



# References

National Environment Protection (Assessment of Site Contamination) Measures, 1999 (amended 2013).

Australian Standard 4361.2 Guide to Lead Paint Management Part 2: Residential and Commercial Buildings.

Australian Standard 4361.1 Guide to Lead Paint Management—Industrial Applications.

Australian Standard 1716 Respiratory Protective Devices.

Australian Standard 2311 Painting of Buildings.

Australian Standard 8124 Safety of Toys.

National Occupational Health and Safety Commission *Control of Inorganic Lead at Work* AGPS, 1994. This Worksafe Australia Standard includes the National Standard for the Control of Inorganic Lead at Work (NOHSC: 1012 (1994)) and the National Code of Practice for the Control and Safe Use of Inorganic Lead at Work (NOHSC: 2015 (1994)).

National Occupational Health and Safety Commission Exposure Standards for Atmospheric Contaminants in the Occupational Environment (NOHSC:1003(1995)).

National Health and Medical Research Council (Public Statement—Blood Lead Levels: lead exposure and health effects in Australia) (2009).

Safe Work Australia (Review of hazards and health effects of inorganic lead—implications for WHS regulatory policy) (2014).

# Checklist for getting quotes

## When obtaining quotes for removal of paint containing lead

You can use the following check list to specify to contractors the tasks that are part of the paint containing lead removal component of their job. This ensures that all contractors will be quoting to perform the same work.

This booklet, *Lead Alert: The Six Step Guide to Painting Your Home* provides instructions for handling paint containing lead.

Where the booklet lists choices, use the options below to indicate what should be done. Refer to the page numbers for details of what to do.

### Contractor details

**Entity / Business / Company Name:**

\_\_\_\_\_

Mobile: \_\_\_\_\_ Lic. No.(if applicable) \_\_\_\_\_

**Principle Contractor Performing Test / Removal Work**

Name: \_\_\_\_\_

Mobile: \_\_\_\_\_

### Contractor experience / reference

Lead Certified  **YES**  **NO**

Accreditation / Certificate Sighted  **YES**  **NO**

AS 4361.2 (1998) Guide to Lead Paint Management available for reference  **YES**  **NO**



## Location tested

- Interior  Exterior

## Identification & detection

### Paint assessment (visual)

- Good  Reasonable  
 Poor  Very Poor

## Lead paint pre-test

Has the Contractor carried out a Lead Paint Pre-test?

- YES  NO

## Method of detection (pages 7–8)

- Lead Test Kits (using field test reagents)
- Portable X-Ray fluorescence equipment.
- Laboratory testing of field samples.

## Management option (page 9)

- Lead Paint Removal
- Repaint / Stabilisation

## Removal method (pages 17–22)

- Wet scraping
- Dry power sanding with HEPA vacuum attachment
- Wet hand sanding
- Low temperature heat gun processes
- Chemical stripping
- Other: \_\_\_\_\_

## Containment & preparation (pages 11–16)

- Has the Contractor provided a **DETAILED DESCRIPTION** outlining the preparation and containment process they will be using?
  - YES**
  - NO** Please request before commencing.
- Has the Contractor completed a Safe Work Method Statement or Job Safety Analysis Sheet?
  - YES**
  - NO** Please request before commencing.
- Has the Contractor provided a **DETAILED DESCRIPTION** or **Environmental Plan/Safety System** outlining the containment process they will be using to eliminate Environmental Contamination?
  - YES**
  - NO** Please request before commencing.

Please be aware that 'AS 4361.2 (1998) Guide to Lead Paint Management Part 2: Residential and commercial buildings' outlines under section 5.3 page 23 and page 24 'Special Precautions with Interior & Exterior, Preparation & Decontamination' Process.

## Cleaning process (pages 23–25)

Despite the best precautions, it is inevitable that some dust will be produced, especially inside the home.

Depending on the **Management Option** and **Removal Method** the cleaning process can be quite diverse.

- Has the Contractor provided a **DETAILED DESCRIPTION** outlining the Cleaning Process they will be using?

**YES**

**NO** Please request before commencing.

Refer to either:

- Step 5 (pages 23–25) within this booklet, or
- 'AS 4361.2 (1998) Guide to Lead paint management Part 2: Residential and commercial buildings', section 5.5, page 24.

## Disposal—general awareness (page 27)

Paint wastes must be disposed of in accordance with State, Territory or Local Government requirements. Remember, lead paint waste can be classified as hazardous waste, which means you must dispose of it correctly.

**Note:**

**DO NOT** burn timber coated with paint containing lead, or any other wastes that have been contaminated with lead.

**DO NOT** pour lead contaminated water down the drains or onto the garden.

