



Australian Government

Department of Sustainability, Environment,
Water, Population and Communities



**LEAD
ALERT**



The six step guide to

Painting your home

Fourth Edition



1

2

THE SIX STEP GUIDE TO

PAINTING YOUR HOME

3

Did you know housepaints can contain lead?

Renovating or repainting can expose people to lead.

The older the house, the higher the lead content of the housepaint.

Lead can be dangerous for men, women and children – especially young children and pregnant women.

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

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If you are renovating or repainting your home, that has flaking or peeling paint, read this booklet for more information.

LEAD ALERT

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Acknowledgments

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Paint containing lead was used in many Australian houses. Houses built before 1970 are most at risk, but those built more recently may also have paint containing lead in some areas.

Exposure to lead is a health hazard. Even small amounts of dust or chips of paint containing lead, generated during minor home repairs, 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, however, houses with paint containing lead should be assessed and the appropriate steps to deal with the problem should be taken by trained professionals.

The advice in this booklet is based on the most recent research available. We recommend that you follow this advice to minimise the risks of exposure to lead in paint. We cannot guarantee that it will eliminate all risks, as circumstances vary depending on the history of the house, its condition, the area to be painted and other factors.

For further information, contact:

Community Information Unit,
Department of Sustainability,
Environment, Population and
Communities

1800 803 772





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LEAD IN PAINT — TAKE IT SERIOUSLY

Lead is a health hazard. It is stored in your bones and teeth, and it may damage many 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 breathed in.

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 half the lead that they swallow. Adults absorb only about one tenth.

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

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

- **Children:** poor development of motor abilities and memory; reduced

attention span; reduced spatial skills; anaemia; poorer performance at school; colic and gastric problems; and behavioural problems.

- **Pregnant women (unborn babies):** exposure to lead can be harmful because the unborn baby is exposed to lead in the mother's blood. Complications from high levels of exposure include premature birth, low birth weight, or even miscarriage or stillbirth. The effects of lead exposure continue after birth and can result in impaired learning and mental ability.
- **Adults:** hypertension; joint and muscle pain; cramps; anaemia; nausea; gastric problems; sleep, concentration and memory problems; headaches; and osteoporosis.

A single exposure, like eating a leaded-paint flake the size of a five-cent piece, can increase blood-lead levels for several weeks.

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 32) shows that it is safe, and also get follow-up blood-lead tests two weeks after the child moves back in.

If you don't remove old paint properly, the amount of lead dust in a child's environment could increase.



WHEN WAS PAINT CONTAINING LEAD USED?

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

As a rule of thumb, the lead content of paint was limited to 1% by 1970.

However, **houses built after 1970 might still contain paint with more than 1% lead**, particularly if old paint, industrial paints, or marine paints have been used.

In 1992, a 0.25% limit on the maximum allowable amount of lead in house paint was recommended.

This has been reduced to **0.1% since December 1997**.

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

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

Lead paint (containing greater than 1% lead) is most likely to be found in houses built before 1970.

You are at risk of lead exposure if the paint is flaking, chalking, damaged, or chewed by children.



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 houses, and on fences and railings in rural areas. It was also blended with coloured pigments to produce a wide range of pastel and mid-strength colours.

'**Pink primer**' (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

cracking 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).

You are likely to find paint containing lead on:

window frames; doors; architraves; skirting boards; picture rails; kitchen and bathroom cupboards; exterior walls; gutters; metal surfaces and facias.

You might also find it on interior walls, ceilings and areas with enamel paint.

Flashing around exterior windows and doors

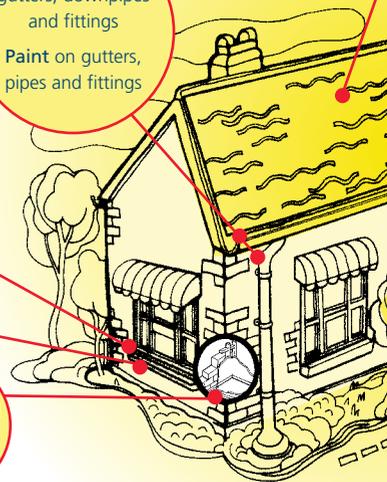
Lead dust in carpets, underlay, rugs, between floor boards, in wall cavities and on joists and bearers

Paint can be knocked off or ground into dust by opening and closing the window

Contaminated soil under the house

Sheet lead in gutters, downpipes and fittings
Paint on gutters, pipes and fittings

Lead in roof and ceiling cavities

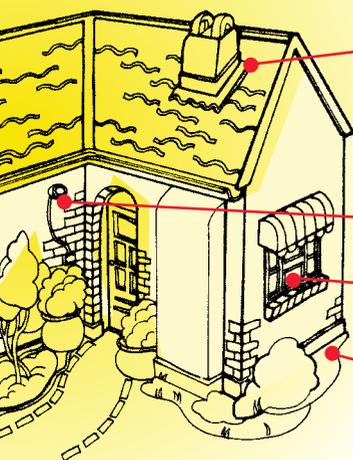


WHERE ELSE CAN YOU FIND LEAD IN YOUR HOUSE?

Paint is not the only source of lead in your house that you might find when you are renovating. 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; and
- **lead in soil** from lead-based paint from home renovations, or from industry, mining, leaded-petrol emissions or contamination.

dust
of
ceiling
cavities



Flashing
around chimneys,
walls, vents and
damp proof
coursing

PVC switches,
fittings,
electrical
wire

Paint on exterior
walls, window
and door frames,
lintels and
fittings

Lead
contaminated
soil close to
walls

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 crayons**: while Australian Standard 8124 limits the amount of lead permissible in materials used to make and paint children's toys in Australia, imported toys and crayons may present a risk.

Phone the Community Information Unit, at the Department of Sustainability, Environment, Population and

Communities on **1800 803 772**

or visit the website www.environment.gov.au for factsheets on other sources of lead in your environment.

Source: *NSW Lead Reference Centre. Lead Safe, a renovator's guide to the dangers of lead. Sydney: NSW EPA, 1998, pages 6 and 7.*

STEP ONE — BEFORE YOU START

FIND OUT HOW MUCH LEAD IS IN YOUR PAINT

You can test the amount of lead in your paint using:

1. a simple test kit
2. a sample kit
3. portable XRF (X-ray fluorescence) equipment
4. laboratory tests.

The **test kit** costs between \$10-\$18. It is available from some hardware stores, paint manufacturers and distributors.

Follow the instructions for use. If possible, **test all layers of paint that you intend to remove.** 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.

If the swab does not change colour it means only that no lead is detected 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 women are in the house.

Sampling Kits are available from the LEAD Group **1800 626 086**. The kit includes material for sample collecting and analysis of the samples by a National Association of Testing Authorities (**NATA**) registered laboratory.

WARNING :

Test kits can give false negative and false positive results.

The colour change is difficult to detect on dark-coloured paint surfaces. The kits also may react to metals other than lead in paint.

A **portable XRF** machine has the advantage that it does not damage the paint surface and it gives an accurate and instant measure of the amount of lead. However, it is a specialised piece of equipment, and that means you will have to hire a professional to operate it and interpret the results for you.

Analytical laboratories can provide the best analysis of any lead present in a paint sample you send them, for a cost of \$25 to \$100. Use only a laboratory that has experience in testing lead and which participates in proficiency testing programs. The Yellow Pages lists names of laboratories under Analysts or Environment and/or Pollution Consultants.

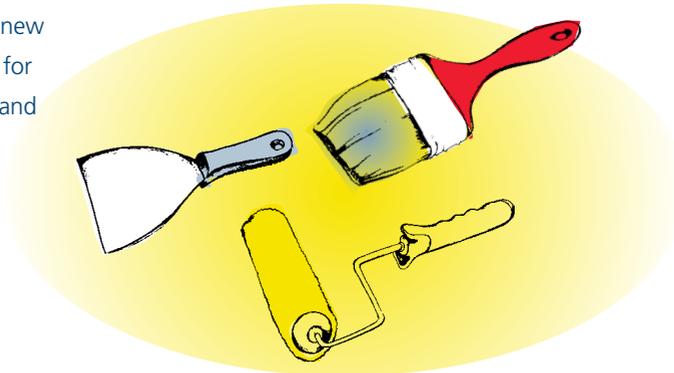
CONSIDER YOUR OPTIONS

- If the house was built before 1970, the paint is in good condition, and pre-school aged children or pregnant women live there, consider delaying the renovation until all the children are older.
- You can leave paint containing lead alone or paint over it if it is in good condition, and it is out of reach of children, and if it is not likely to be damaged by general wear and tear.
- You might wish to 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.
- Replacing some items with new ones can be a good option for skirting boards, architraves and window sashes.

Covering the paint containing lead may be a better option than removing it.

- If the paint contains lead and it is flaking or chalking, consider painting over it with as little preparation as possible, or covering it with another material.
- If it is necessary to disturb surfaces with paint containing lead, it is recommended that a qualified contractor do the job.
- If you decide to do the job yourself, then it is essential to do it in the safest possible way, using the steps in this booklet as a guide.

If you do leave the paint there, or if you paint over it, don't forget to inspect it regularly for any signs of deterioration or damage.



PLAN YOUR OPTIONS

1

Plan your options for dealing with paint containing lead in different parts of the house. You may be able to cover some areas, you may have to remove the paint in others or remove the painted areas 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.



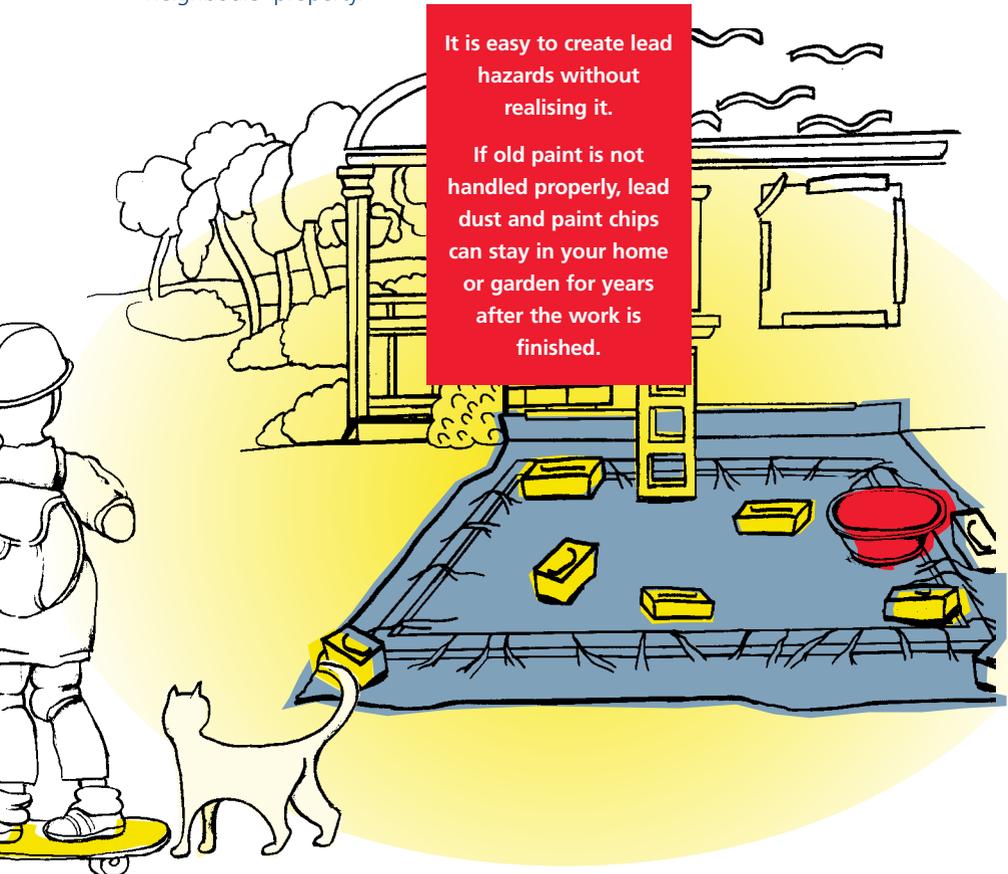
STEP TWO — PLAN TO STAY SAFE

PROTECT YOUR FAMILY, NEIGHBOURS AND PETS

- Pregnant 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.

It is easy to create lead hazards without realising it.

If old paint is not handled properly, lead dust and paint chips can stay in your home or garden for years after the work is finished.



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

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.



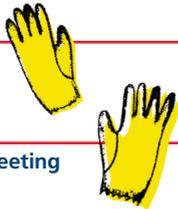
Only a HEPA filter can capture the small lead particles. Other filters and ordinary vacuum cleaners are dangerous because they allow lead dust out through their exhausts and spread it more widely. A number of commercial vacuum cleaners can be equipped with a HEPA filter. A suitable cleaner and HEPA filter can be bought for about \$800 from retailers of cleaning products.

A half-face respirator meeting requirements of Australian Standard 1716.



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.

Protective clothes



Coveralls, disposable overshoes, work gloves, hat. Available from suppliers of protective clothing listed in the Yellow Pages.

Heavy-duty plastic sheeting



To seal off work areas and for the collection of debris. Sheeting can be bought from hardware stores.

Heavy-duty tape



To hold plastic in place. Can be bought from hardware stores.

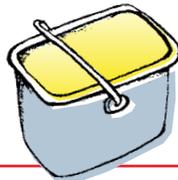
Wet-and-dry sandpaper
pre-sanding sponges

Spray bottles

Can be bought from hardware stores.

For wetting surfaces to keep dust from spreading. Can be bought from retail and garden stores.

Cleaning solutions



Tri-sodium phosphate (TSP) or sugar soap. TSP should be mixed at the ratio of at least 25g of five per cent TSP to each five litres of hot water. TSP can be bought from industrial cleaner stockists. Sugar soap is available from hardware stores.

Mops

Disposable cleaning items



For cleaning hard surfaces.

Rags, sponges and lint-free towels.

STEP THREE — SET UP PROPERLY

EXTERIOR WORK

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.

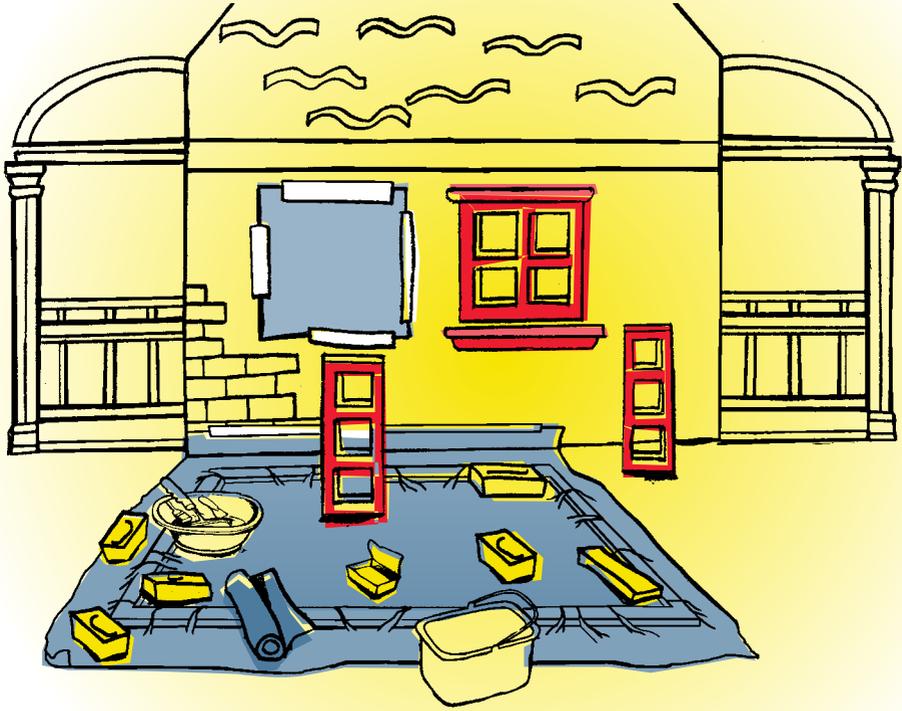
There are three different ways to set up: one for any exterior work; one for large jobs inside the house; and another for small jobs inside the house. These are described on the next few pages.

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.

- **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 house and an additional metre 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, 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. Houses from which paint containing lead has been safely removed can become recontaminated by renovation in neighbouring houses.



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.



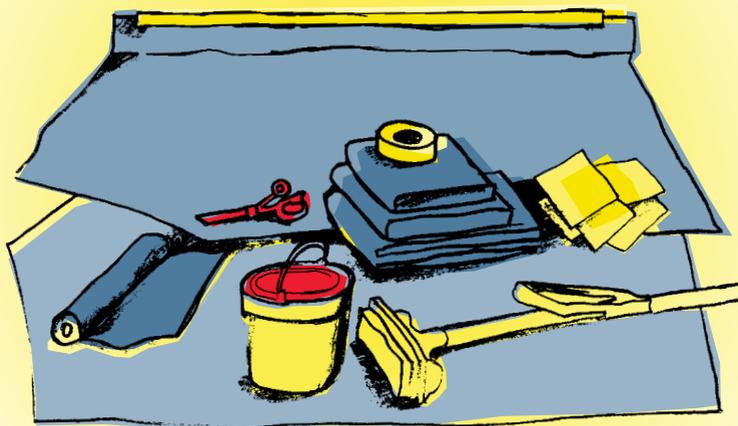
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INTERIOR WORK — SMALL JOBS

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.





3

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 house and garden. Avoid generating dust even if your paint contains less than 1% 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 house during exterior work can be removed when you clean up, after you have finished the interior part of the job.

It is safer to avoid generating dust than to try to clean up the dust afterwards

It can be difficult to completely remove lead from your house, because lead from paint can contaminate underlying timber. This means that 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.

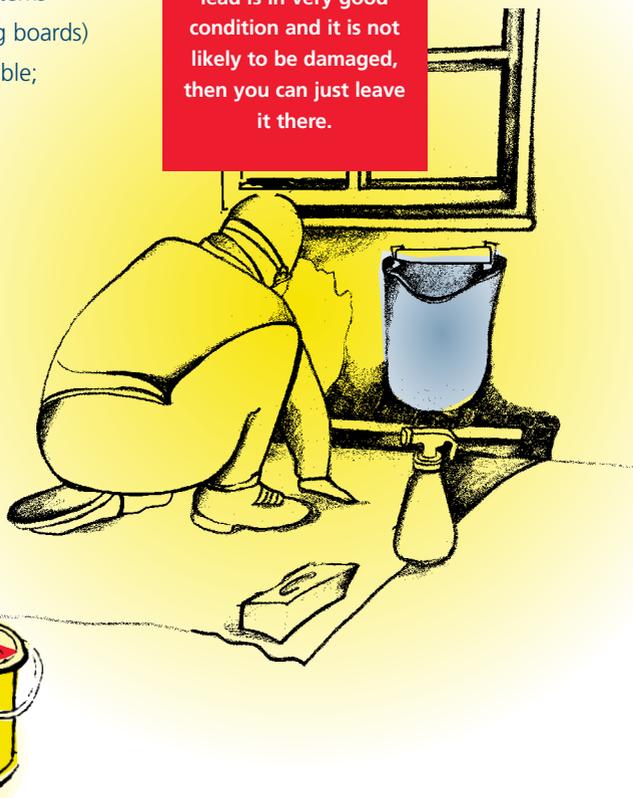
THE METHODS

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; and
- low-temperature heat processes.

THE 'DO NOTHING' APPROACH

If the paint containing lead is in very good condition and it is not likely to be damaged, then you can just leave it there.



THE METHODS

METHOD	ADVANTAGES	DISADVANTAGES
Do nothing	<ul style="list-style-type: none"> • very cheap • safe if paint is in very good condition and not likely to be damaged by general wear and tear or chewed by children • very easy • no cleaning up • produces no lead contaminated waste 	<ul style="list-style-type: none"> • need to inspect painted surfaces regularly to make sure the paint containing lead is still in good condition
Cover the paint containing lead	<ul style="list-style-type: none"> • safe if little preparation is needed • produces little lead dust • relatively fast • inexpensive • produces little or no lead contaminated waste 	<ul style="list-style-type: none"> • painting over is suited only to surfaces in good condition • the paint containing lead is still there when you have finished the job
Remove painted items and replace with new	<ul style="list-style-type: none"> • very safe • can be fast • may be the easiest option for some odd-shaped surfaces, like skirting boards 	<ul style="list-style-type: none"> • can be difficult or expensive to find replacement items to match existing items in some older houses • not always possible for heritage listed buildings • need to dispose of unwanted items in a way that complies with the relevant government regulations
Wet scraping/Wet sanding	<ul style="list-style-type: none"> • inexpensive • useful for dealing with flaking paint 	<ul style="list-style-type: none"> • takes a lot of time and effort • can damage underlying plaster or soft wood if not done carefully • need to clean up and dispose of waste materials properly

THE METHODS

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

COVERING 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 sugar soap** or TSP 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 sand-paper 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 sugar soap or TSP, rinse them and allow them 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, call the Australian Paint Manufacturers' Federation on 02 9922 3955, toll free.

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.

Where there are young children in the house, it may be preferable to delay renovation or major maintenance and cover up paint containing lead until the children are older.

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 dust into the air and into the rest of the house.

Wear a respirator and protective clothing.



CHEMICAL STRIPPING

Chemical stripping **cannot be carried out in a sealed room**. Some substrates can absorb the chemicals from the paint stripper, creating a hazardous surface.

Follow the manufacturer's directions when using chemical strippers. Some are highly flammable, some are highly caustic. Skin should be covered 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 and 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 only be done safely by contractors with the appropriate training and experience.

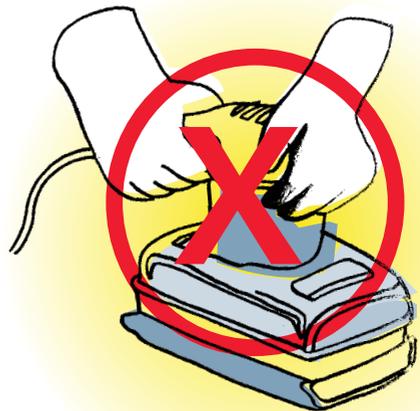
HEPA sanders are traditional electric sanders with special vacuum attachments which pass exhaust air through a HEPA filter to reduce the amount of airborne lead dust. The vacuum attachment must have a HEPA filter.

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, 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.



Do not use a traditional dry sander

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.



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 and other debris 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 30.

- **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 house.
- **Wash** all surfaces in the work area — windows, walls, ledges and any other surfaces — with TSP solution or sugar soap. 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.

The site should be cleaned up at least daily.

A thorough final clean-up at the end of the work is essential before children return to the area.

- **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 TSP solution or sugar soap.
- **Discard** all items in plastic bags in accordance with State, Territory or Local Government requirements (see the section about waste disposal on page number 33).



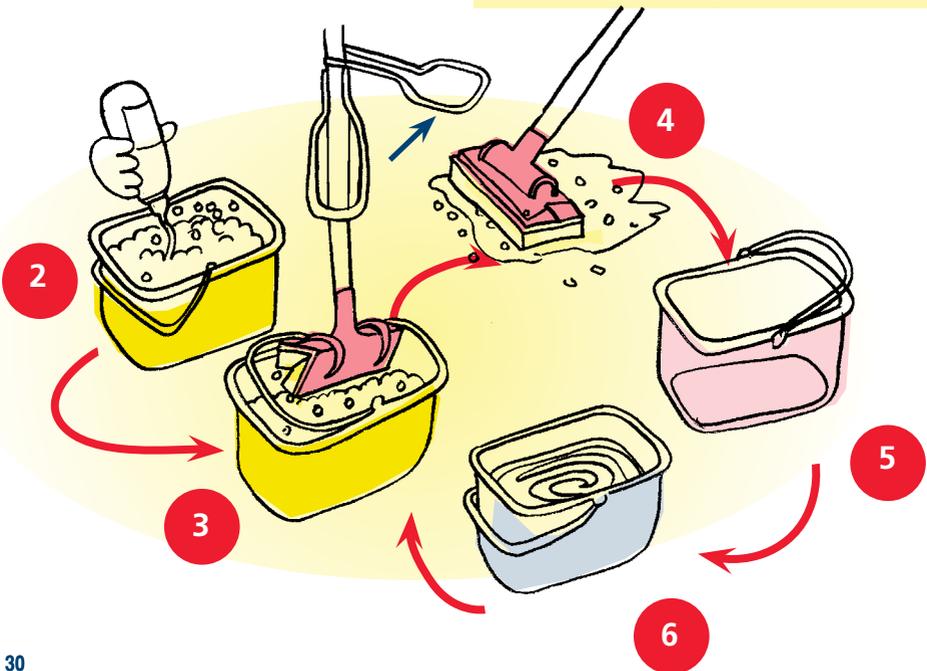
WET PROCEDURE

THE THREE BUCKET METHOD

This method is a simple, but effective way of removing dust from your house. It involves firstly washing the floor with sugar soap or TSP, 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 the 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.



RINSE PROCEDURE

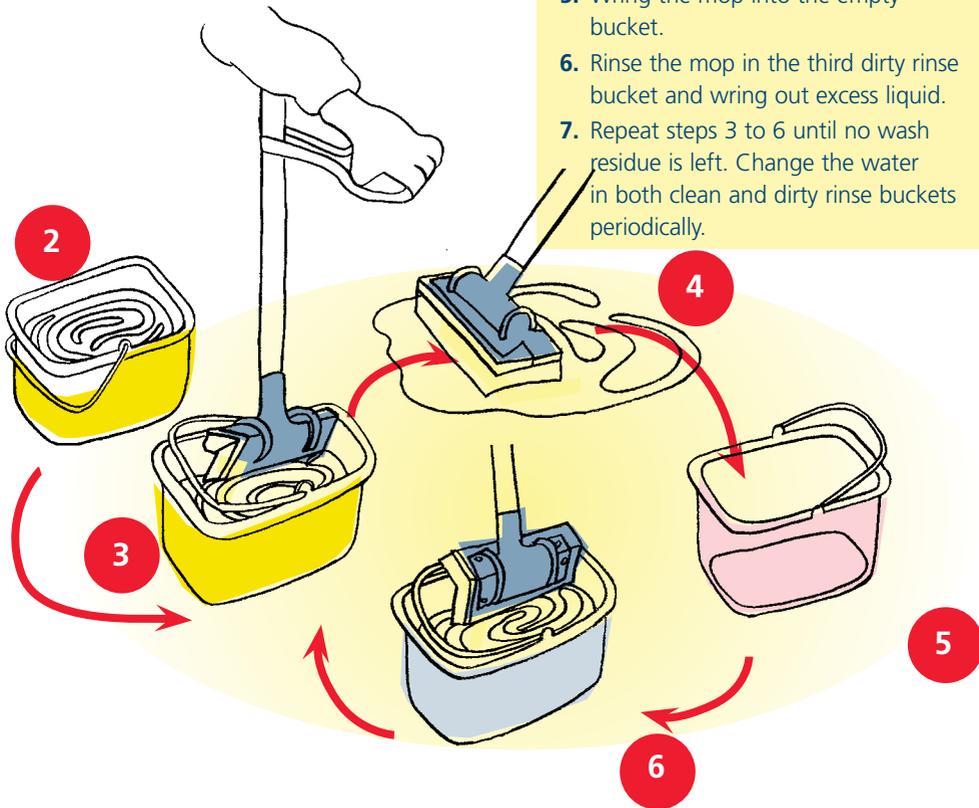
RINSE PROCEDURE

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.

Source: NSW Lead Reference Centre. *Lead Safe, a renovator's guide to the dangers of lead.* Sydney: NSW EPA, 1998, p22.

RINSE PROCEDURE

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 dirty rinse bucket and wring out excess liquid.
7. Repeat steps 3 to 6 until no wash residue is left. Change the water in both clean and dirty rinse buckets periodically.



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 house, 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.

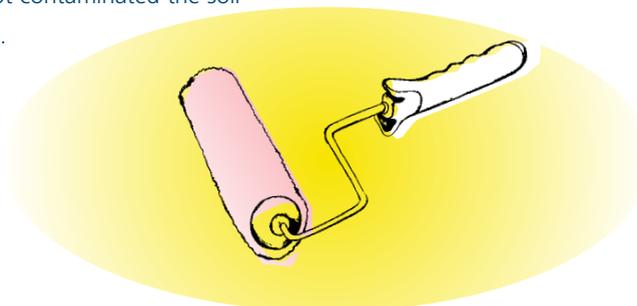
If you have removed paint from outside of your house, you can check that you have not contaminated the soil in your yard.

You can test for lead in dust and soil to check if you have cleaned up thoroughly.

You can check the amount of lead in dust and soil by using the methods of sampling and testing outlined in Australian Standard 4361.2 *Guide to Lead Paint Management Part 2: Residential and Commercial Buildings*. You can collect the dust or soil yourself and send it to an accredited laboratory for testing, or have an experienced professional collect the samples and arrange the testing for you. This

standard tells you what are acceptable levels for lead in dust. For guidance about acceptable lead levels in soil refer to the National Environment Protection (Assessment of Site Contamination) Measure,

1999. Ask the laboratory to tell you if lead in the samples is greater than the level recommended in these guidelines.



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.

Victoria, Queensland, Western Australia, Tasmania and the Northern Territory allow disposal of small quantities of waste containing lead with normal household garbage. The waste should be sealed in heavy-duty plastic bags which are then deflated so they do not burst.

Contact your council or state environmental authority before work begins and ask how you should dispose of your lead contaminated waste.

In NSW, all lead contaminated wastes from residential, educational or childcare institutions may be disposed of with household garbage at solid waste landfills. Recycling of some wastes from lead paint is also permitted at Australian Refined Alloys on **(02) 9516 5099**, or other licensed lead recycling facilities that are equipped to handle lead paint waste.

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

To find out how to dispose of lead contaminated waste in your State or Territory, and for additional information, contact:

ACT

Department of the Environment, Climate Change, Energy and Water
Ph. **132281**

NSW

Office of Environment and Heritage **131555**.

QLD

Waste Section
Department of Environment and Resource Management
Ph. **137468**

NT

Waste Management
Department of Natural Resources, Environment, The Arts and Sport
Ph. **(08) 899 9551**

SA

Zero waste SA
Ph. **(08) 8204 2051**

TAS

EPA Division
Department of Primary Industries, Parks, Water and Environment
Ph. **(03) 6233 6518**

VIC

Environment Protection Authority
Ph. **(03) 9695 2722**

WA

Waste Management Division
Department of Environment and Conservation
Ph. **(08) 6467 5000**

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 waste for you.

Do not burn timber coated with paint containing lead or other wastes containing lead.

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

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

REFERENCES

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

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 (1995)).

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

FOR MORE INFORMATION

CONTACTS AND PHONE NUMBERS

For extra copies of this booklet and information about equipment and services, call the Department of the Environment, Water, Heritage and the Arts Community Information Unit on **1800 803 772**, toll free.

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 Buildings (AS 4361.2)*. It gives instructions on using lead test kits, and on how to take samples for laboratory analysis. For a copy of any of the Australian Standards, call Standards Australia on **1800 035 822**, toll free.

For referral to a contractor trained in the removal of lead based paint call Master Painters Australia. Contacts in each State/Territory are as follows:

ACT: (02) 6287 2793

NSW: (02) 9758 8877 or 1800 451 224

**QLD: (07) 3367 1544 (1300 660 056
outside Brisbane)**

SA: (08) 8331 0226

TAS: (03) 9813 5922

VIC: (03) 9813 5922

WA: (08) 9471 6662

For advice about particular lead-based paints and appropriate new paints, call the Australian Paint Manufacturers' Federation **02 9922 3955**.

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 Sustainability, Environment, Water, Population and Communities website. **www.environment.gov.au**.

For information about relevant professional services and publications call the non-government community-based Lead Advisory Service freecall **1800 626 086** (run by the LEAD Group), or visit the website **www.lead.org.au**.



FOR ASSISTANCE IN YOUR STATE OR TERRITORY CALL:

STATE	ORGANISATION	PHONE
ACT	ACT Government Directory, Canberra Connect	132 281
NSW	Office of Environment and Heritage within NSW (mobiles excluded)	131 555
NT	Department of Natural Resources, Environment, The Arts and Sport, NT. Waste Management	(08) 8999 5511
QLD	Queensland Health Department of Environment and Resource Management, QLD	(07) 3234 0111 137 468
SA	Health, SA Environment Protection Authority, SA	(08) 8226 6000 (08) 8204 2051
TAS	Service Tasmania Department of Environment, Parks, Heritage and the Arts, TAS	1300 135 513 (03) 6233 6518
VIC	Department of Human Services, VIC Environment Protection Authority, VIC	1300 650 172 (03) 9695 2722
WA	Department of Health , WA Department of Environment and Conservation, WA	(08) 9222 4222 (08) 6467 5000



A CHECKLIST FOR GETTING QUOTES

WHEN OBTAINING QUOTES FOR REMOVAL OF PAINT CONTAINING LEAD

You can use this sheet 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, *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.

ABOUT THE CONTRACTOR

Has the contractor been trained in line with the Australian Standard 4631.2?

Yes/No

Does the contractor have a copy of the Australian Standard 4361.2?

Yes/No

TESTING FOR LEAD *(see page 6)*

- Use lead test kit
- Send samples to a laboratory for testing *(specify number of samples)*
- Use XRF

COST
\$

A CHECKLIST FOR GETTING QUOTES

SETTING UP *(see pages 12-17)*

- Remove furniture, carpet, curtains, playground equipment.
- Cover furniture, carpet and seal vents, refrigerator doors, etc.
- Other (specify)

\$

COVERING OR REMOVING THE PAINT *(see pages 18-27)*

Method Surfaces

- Prepare surface and paint over
- Prepare surface & cover with other materials
- Wet sanding
- Wet scraping
- Chemical stripping - poultice method
- Chemical stripping - other
- Chemical stripping - off site
- Heat gun (paint surface to be kept below 370°C)
- Mechanical sanding with HEPA vacuum attachment

CLEANING UP *(see pages 28 and 31)*

- Use tri-sodium phosphate or sugar soap for hard surfaces
- Use an industrial vacuum cleaner equipped with a HEPA filter

\$

WASTE DISPOSAL (see page 33)

Does the contractor have a Waste Management Plan in place?

Yes/No

Equipment hire

TOTAL \$

\$

There are six laboratories registered by NATA to test lead in paint for the general public. Contact details for each are:

Queensland Health
Forensic and Scientific Services
39 Kessels Road

COOPERS PLAINS QLD 4108

Ph. (07) 3274 9111

(Free testing of domestic samples for QLD residents)

Envirolab Services Pty Ltd

12 Ashley Street

CHATSWOOD NSW 2068

Ph. (02) 9910 6200

MGT LabMark Environmental Laboratories
Sydney Laboratory

Unit F6 Bldg 5

Parkview Bldg

16 Mars Rd

LANECOVE WEST NSW 2066

Ph. (02) 9476 6533

SGS Environmental Services Australia
Sydney Laboratory

16/33 Maddox Street

ALEXANDRIA NSW 2015

Ph. (02) 8594 0400

Sydney Analytical Laboratories Pty Ltd

Sydney Chemical Testing Laboratory

1/4 Abbott Road

SEVEN HILLS NSW 2147

Ph. (02) 9838 8903

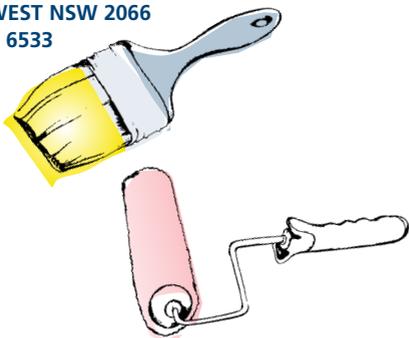
Workcover Australia

Testsafe Chemical Analysis Branch

5A Pioneer Ave

THORNLEIGH NSW 2120

Ph. (02) 9473 4000



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Australian Government

Department of Sustainability, Environment,
Water, Population and Communities



Department of
Environment and Conservation

Our environment, our future



Northern Territory
Government



Office of Public Works
and Services



ENVIRONMENT
PROTECTION
AUTHORITY



Government of Western Australia
Department of Health

