

How to Do Lead-Safe Lead Paint & Ceiling Dust Management & Carpet Removal (Info Pack 3)

This Info Pack aims to give you guidance on cleaning up lead paint dust and lab testing of dust wipes and soil prior to a building being “cleared” (given “clearance”) for use by a crawling baby or young child or pet after any lead paint is disturbed. The guidance in this Info Pack is intended to ensure that all painted surfaces and horizontal surfaces and accessible soil will be safe in the future for a child to touch.

NB: This 12th December 2020 Fact Sheet / Info Pack is online at www.lead.org.au/fs/fst38.html but Australian State- or Territory-specific versions (updated regularly) are available by email, by phoning The LEAD Group on 1800 626 086 (free call within Australia). Please feel free to forward this link via Social Media and by email to anyone who may need it, and please let me know if there are any additions I could make to it, for the benefit of others.

Clearance testing involves collecting dust wipe and soil samples and having them analysed at a lab for lead to determine if the home is “cleared” or lead-safe for children after renovation. Clearance testing is a vitally important section in the **Australian New Zealand AS/NZS 4361.2 Guide to hazardous paint management, Part 2: Lead paint in residential, public and commercial buildings (2017) - AS/NZS 4361.2:2017**, as is testing paint and ceiling dust and carpet dust wipe samples prior to renovating, but you can avoid the huge expense of buying the Standard or hiring an Environmental Consultant or Contaminated Land Consultant to collect the samples, **and** get a better idea of how to make your home lead-safe and gain “clearance” by either buying a LEAD Group Kit yourself (and collecting and sending the samples to the lab), or, hiring a Building Biologist to use a LEAD Group Kit in your home.

Purchase LEAD Group Kits from www.leadsafeworld.com/shop or select a Building Biologist Lead-Safe Partner of The LEAD Group from www.leadsafeworld.com/partners/lead-safe/

No matter what the lead content of your paint, The LEAD Group recommends:

- never allow paint to fall off or go chalky and be rained off or blown off;
- do not dry sand;
- do not dry grind;
- do not dry sand even with vacuum extraction;
- do not dry grind even with vacuum extraction;
- do not dry sand even with HEPA-filtered vacuum extraction;
- do not dry grind even with HEPA-filtered vacuum extraction;
- do not water blast;

if the substrate contains asbestos, use EB Emulsabond by The Flood Company (mixed with new paint) to "stick" the degraded old paint back on, with the least possible friction of the surface coating and substrate;
do use manual wet-sanding [unless the substrate contains asbestos];
do use a water abrasion vacuum extraction machine like BlueVac (available from Let's Clean – see below) [unless the substrate contains asbestos];
do not use methylene chloride paint strippers;
do not use a heat gun which doesn't have temperature control;
do not use a heat gun without wearing a respirator;
never heat any one area of paint for so long that you reach the point of creating ash or flames;
never use a blow torch / oxyacetylene cutter on paint (safely strip paint from steel before oxycutting);
never use chemical strippers or heat guns when anyone not involved with the work is present (in other words, non-painting-team members have to move out while existing paint is being managed and preferably until fumes dissipate after fresh paint is applied);
never use a domestic vacuum cleaner to vacuum up paint flakes or dust, instead, hire an industrial HEPA Vac or at least an industrial vacuum cleaner (if HEPA vacs not available for hire) for paint debris vacuuming or better still, don't use any method which creates paint flakes or dust in the first place;
use only wet cleaning methods such as mopping or wiping with a wet cloth, instead of dry methods such as sweeping or dusting.

Despite all the Australian literature referring to the paint on pre-1970 homes and offices as being a potential lead problem, it was only in 1997 that the allowable level of lead in residential and commercial paint in Australia went down to 0.1% (which is still higher than the US 1978 standard of less than 0.06% lead). Non-residential paint was only controlled for its lead content since 1st January 2010. So, for anyone working on the paint on a pre-1997 home or a pre-2010 building, the best thing to do is to ASSUME THE PAINT IS LEADED and deal with it in a lead-safe way.

In December 2017, Standards Australia in **AS/NZS 4361.2:2017** finally acknowledged that paint with more than 0.1% lead can, if poorly managed or if left on surfaces in a degraded state (drummy, bubbling, flaking or chalking) cause lead levels in dust and soil which are unsafe for young children and pets or can cause lead poisoning if the paint is mouthed, chewed or eaten by children or pets. Thus "Australian/New Zealand Standard AS/NZS 4361.2:2017 Guide to hazardous paint management Part 2: Lead paint in residential, public and commercial buildings" has changed the definition of "lead paint" from the original (**AS/NZS 4361.2:1998**) 1998 level of greater than 1%, to one-tenth of that level, ie greater than 0.1% lead.

When **AS/NZS 4361.2** was first written in 1998, the blood lead action level in Australia was 10 micrograms per decilitre (10 ug/dL), but coincidentally, The LEAD Group has been proposing a blood lead action level of one-tenth of that, ie 1 ug/dL since 2014. To my way of thinking therefore, when Standards Australia divided the paint lead level by ten, they should have divided the

clearance lead limits in soil and dust wipes by ten as well, but instead they have passed-the-buck on setting soil and dust clearance levels, to “the relevant statutory authority” or “the specifier... in consultation with competent experts”.

“C6 INTERPRETATION OF RESULTS

The lead surface dust loading should not exceed the limits provided by the relevant statutory authority with jurisdiction over the area within which the work has been carried out. If there are no relevant legislated limits, project acceptance criteria should be established by the specifier (and presented in the specification) in consultation with competent experts.”

It is The LEAD Group’s understanding that there is no jurisdiction in Australia that has relevant legislated limits (we are not even aware of a jurisdiction that is developing or considering developing such legislated limits for lead in dust wipes or soil post-residential lead paint management) and thus The LEAD Group, as the competent experts in the field of lead poisoning prevention in Australia, proposes that the soil and dust wipe clearance levels should each be one-tenth of the levels listed in **AS/NZS 4361.2:1998**.

If you are about to embark on management of pre-1997 residential paint, we recommend that you either assume the paint is leaded (>0.1%) or test it using a LEAD Group Kit (because colour-change kits like LeadCheck from Bunnings etc do not change colour to pink when the paint is in the range 0.1% to 0.5%.

Once you’ve assumed or confirmed that the paint is >0.1% lead, if you are not going to manage the paint yourself, find a competent painting contractor who has Lead Paint Management Training (see below), and specify The LEAD Group’s proposed soil and dust clearance levels when signing a contract.

Once you've either assumed or found that the paint is leaded according to **AS/NZS 4361.2:2017** (ie has more than 0.1% lead in the paint by laboratory analysis), don't disperse it as fumes or dust or by water-blasting; instead, use a machine specifically designed to water-abrade the surface but vacuum the water and paint debris off in the same moment, as with a Blue Vac available for hire from Let’s Clean in Sydney (see below). The alternative to hiring the Blue Vac yourself is that you can ask Lets Clean whether they know of any paint contractors in your area who own or hire out Blue Vac machines.

The next step is, ask the doctor to test everyone in the family for their blood lead levels, especially if the other team members HAVE to be in the vicinity / workplace while demolishing or renovating one cordoned-off area at a time. Residents or contractors certainly can't use any area that is actually being renovated. Children and pregnant women or those wishing to conceive should never be involved in the work or exposed to chemicals used in the renovation and dust should not be allowed to become airborne during demolition.

Please see **Primary Prevention of Childhood Pb Poisoning is The Only Solution**, 10th May 2001, by Rosen & Mushak, at <https://www.nejm.org/doi/full/10.1056/NEJM200105103441910> to read why

full lead paint removal is the best public health policy and best for all the future tenants of a home, childcare centre or other building.

Rosen & Mushak state:

"For the primary prevention of lead poisoning from paint, we recommend permanent abatement -- that is, the complete removal or replacement of lead paint before a child lives in a home."

If the building owner can't afford full paint removal, then lead-safe paint preparation is the minimum requirement to manage the paint, ie wet-scraping (spray surface with a water spray bottle held in one hand then scrape paint onto plastic sheeting taped or held down all the way around the edges), wet-sanding (using water spray bottle again and wet-and-dry sandpaper or sanding sponge intended to be used wet), then sugar-soap and then wipe down with water. After this preparation, the new paint should adhere as long as you have also solved any damp or mould problems too. Even when over-coated with well-adhering non-lead paint, the old lead paint underneath is still a potential hazard down the track when it needs repainting again.

For full instructions, products, services and processes for lead-safe paint preparation or full lead paint removal or ceiling dust removal, please see: "Lead Alert - The Six Step Guide To Painting Your Home"

www.environment.gov.au/system/files/resources/e9ddd00e-8914-4d57-8279-19b3d2616dee/files/lead-paint-fifth-edition.pdf;

and via www.environment.gov.au/settlements/chemicals/lead.html ; [Your local Council or your hardware or trade paint store or any paint contractor or Master Painters Australia or the Australian Paint Manufacturers Federation (ph 1800807568) or the federal Department of the Environment's Community Information Unit (ph 1800803772) should be able to provide anyone who asks, with (multiple) free hard copies of The Six Step Guide colour booklet.]

If someone is being paid to do "lead risk work" (eg cleaning/managing or demolishing a building with paint or ceiling dust containing more than 1% lead) in NSW, they should read the:

"Guide for applicants for lead notifications" - January 2016 at

http://www.safework.nsw.gov.au/__data/assets/pdf_file/0008/49886/lead-risk-work-notifications-guide-SW08112.pdf;

Notification of lead risk work to SafeWork NSW is required within seven days of the determination or assumption that the work is lead risk work. Notification is required to be made to SafeWork NSW on a day that is not a Saturday, Sunday, public holiday or bank holiday. If it has been determined that it is lead risk work or if it is unable to be determined whether it is lead risk work, the employer must complete the:

"Notification of lead risk work: Form", at

https://www.safework.nsw.gov.au/__data/assets/pdf_file/0004/49756/SW08127-0418-407204_INT.pdf ; ACCESSIBLE VIA

<http://www.safework.nsw.gov.au/licences-and-registrations/notifications-and-permits/lead-notifications>

Also at <http://www.safework.nsw.gov.au/licences-and-registrations/notifications-and-permits/lead-notifications> - you'll see that:

"Health monitoring must be provided to the worker before lead risk work commences and one month after commencement.

"A worker must be removed from the lead risk work and you must notify us when:

a workers test results exceed the prescribed levels [ETC]

[The prescribed levels are]:

10 µg/dL (0.48 µmol/L) for a female of reproductive capacity

30 µg/dL (1.45 µmol/L) for all other workers."

The form to notify SafeWork NSW of a worker removed from lead risk work, is at

https://www.safework.nsw.gov.au/_data/assets/pdf_file/0005/49757/SW08128-0418-407202_INT.pdf – this form is to be used to notify of the removal of a worker from lead risk work as required by the WHS Regulation [ie when the blood lead level exceeds 10 ug/dL (micrograms per decilitre) for a female of reproductive capacity, or exceeds 30 ug/dL for all other workers].

There are some useful recommendations in the following links for Queensland contractors who are required to work with lead re: "Lead: Working with lead-based paint; Lead paint removal/residential buildings audit checklist; and Lead audit checklist" at:

<https://www.worksafe.qld.gov.au/injury-prevention-safety/workplace-hazards/hazardous-exposures/lead/working-with-lead-based-paint> ;

https://www.worksafe.qld.gov.au/__data/assets/pdf_file/0004/82453/lead-paint-checklist.pdf ; and

https://www.worksafe.qld.gov.au/__data/assets/pdf_file/0007/82996/lead-audit-checklist.pdf

NSW state government has published the following:

"Lead Safe: A Renovator's Guide to the Dangers of Lead" – which is available on-line at

http://www.lead.org.au/fs/lead_safe/A_Renovator_Guide_To_The_Dangers_Of_Lead_Lead_Safe.pdf

The NSW Environment Protection Authority (EPA) has in May 2016 published the following series of fact sheets and distributed 70,000 copies to hardware stores and childcare centres in NSW.

The fact sheet for childcare/school operators and staff lists the freecall and landline numbers for The LEAD Group, and states:

"For further information and advice about protecting yourself from lead, testing for lead and removal services and guidelines for safe home renovation, call The

LEAD Group on 1800 626 086 or (02) 9716 0014. Laboratory lead test kits are available from The LEAD Group (www.lead-safe-world.com/shop)..."

The NSW EPA lead fact sheet series 2016 is at

<http://www.lead-safe-world.com/links-to-the-above-7-lead-safe-fact-sheets-by-nsw-epa-may-2016-20170825/> :

- Fact sheet: Lead, your health and the environment
<http://www.lead-safe-world.com/nsw-epa-lead-safe-fact-sheet-lead-your-health-and-the-environment-20160517/>
- Fact sheet: Lead safety at home
<http://www.lead-safe-world.com/nsw-epa-lead-safe-fact-sheet-lead-safety-home-20160517/>
- Fact sheet: Old lead paint <http://www.lead-safe-world.com/nsw-epa-lead-safe-fact-sheet-old-lead-paint-20160517-3/>
- Fact sheet: Lead and home renovations
<http://www.lead-safe-world.com/nsw-epa-lead-safe-fact-sheet-lead-renovations-20160517-1/>
- Fact sheet: Lead in ceiling dust
<http://www.lead-safe-world.com/nsw-epa-lead-safe-fact-sheet-lead-in-ceiling-dust-20160517-1/>
- Fact sheet: Working safely with lead
<http://www.lead-safe-world.com/nsw-epa-lead-safe-fact-sheet-lead-workplace-20160517/>
- Fact sheet: Lead hazard management in children's services
<http://www.lead-safe-world.com/nsw-epa-lead-safe-fact-sheet-lead-childcare-20160517/>

US Government websites have much useful information on lead paint including:

US HUD Healthy Homes and Lead Hazard Control - LINKS to Resources incl: About Lead Paint (Lead Info Pamphlet); HUD's Office Healthy Homes and Lead Hazard Control Strategic Plan; Lead Regulations; American Healthy Homes Survey: Lead and Arsenic Findings, at

http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes

HUD publications include the world's-best-practice 874-page "bible" of lead paint management guidelines:

Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2nd edition, July 2012, downloadable from

https://www.hud.gov/program_offices/healthy_homes/lbp/hudguidelines

US EPA WEB-PORTAL: LEAD: eg. Learn about lead; Protect your Family; Before you buy or rent a home built before 1978 [the closest equivalent year in terms of the lead level permitted in residential paint in Australia is 1997]; Test your Home; Renovate Right for Contractors & Trainers; EPA Lead Renovation,

Repair and Painting (RRP) Program; Home Danger Zone Finder, at <https://www.epa.gov/lead>

Australia's leading company for full lead paint removal, Let's Clean (in Sydney), can organise hire, lease or contracting of water rinsing equipment (called "Blue Vac" System) and sale of Heritage No 1 poultice for removal of lead paint and sale of Soy-Gel chemical stripper for removal of acrylic paint that might be on top of lead paint, and hire of a Speedheater infrared gun for direct stripping of lead paint eg from woodwork. (Chemical stripping is not recommended for woodwork, as lead from the stripped paint may be released from the woodgrain when the wood is sanded prior to re-coating). Look for the following links once their new secure website is online:

www.letsclean.com.au/pdf/soygel.pdf

www.letsclean.com.au/Heritage_No1/heritage_no1.html

www.letsclean.com.au/vac.html

Other full paint removal products & equipment include:

<http://www.peelaway.com.au/assets/images/totalhouse150.pdf>

http://www.peelaway.com.au/total_projects_fwameset.htm

<http://www.floodaustralia.net/brochures/index.html>

http://www.i-strip.co.nz/page.php?pg_title=The%20System

To hire a painter with Lead Paint Management Training, see <http://www.painters.edu.au/> INSERT YOUR POSTCODE THEN CLICK LEAD PAINT MANAGEMENT, AT <http://www.painters.edu.au/Find-A-Painter.htm> – but if that provides no one in your area, please see the very old list at <http://www.lead.org.au/paintersall.html> or in some states you can phone the Master Painters Australia (MPA) in your state to ask them to refer you to a lead-trained painter in your area.

One painter who is listed on both of the above websites and who is also listed on The LEAD Group's new Lead Safe World website at <http://www.leadsafeworld.com/partners/lead-safe/> is:

Rohan Calvert

Men in White

93264242 or mobile 0400 764 262 or fill out the enquiry form at

<http://meninwhite.com.au/contact/>

Men in White painting contractors are prepared to carry out Lead Paint Management jobs in eastern suburbs, inner west, city and lower north shore of Sydney, but not the Northern Beaches, the West / Blue Mountains or southern suburbs.

If you find other painting contractors who are listed as having Lead Paint Management training, and they do a lead-safe job for you, please ask them to contact The LEAD Group so that they too can become a Lead Safe Partner of The LEAD Group.

See other useful guidance on hiring contractors and on training at:

<https://www.lead.org.au/clp/products/CTIBrochure.pdf>

<https://www.lead.org.au/lat/lat008.html>

See information on the hazards of cavity dust and when it should be removed, at:

<https://www.lead.org.au/fs/fst37.html>

<https://www.lead.org.au/bblp/Ceiling-Dust/index.htm>

<http://www.adra.com.au> and

<http://www.adra.com.au/ldr.html>

It is simply not recommended that you do your own ceiling dust removal so please contact a member of the Australian Dust Removalists Association (ADRA) - see <http://www.adra.com.au/camcos.html> - who can carry out the work in compliance with the ADRA "Code of Practice" - see <http://www.adra.com.au/cop.html> - and the "GUIDANCE NOTE FOR CEILING DUSTS CONTAINING LEAD" - linked from <http://www.adra.com.au/links.html> at

https://lead.org.au/fs/Ceiling_Dust_WorkCover_Guide_Lee_Schreiber_Final_Nov_1999.pdf [previously at

http://www.workcover.nsw.gov.au/NR/rdonlyres/C2C40ECC-4F0F-4CAB-B865-4E1B4D808C3C/0/ceiling_dust_containing_lead_guidance_note_4955.pdf] -

by NSW WorkCover Authority, and attached as filename: WorkCover NSW Ceiling Dust Guidance Note 200609.pdf

The three ADRA member companies (who can professionally remove ceiling dust) located in New South Wales and Victoria are:

1. Sydney: Insulvac www.insulvac.com.au phone 1300763459 or mobile 0412369169

2. Sydney: Solartex www.solartex.com.au phone 0299714600 or mobile 0416252542

3. Melbourne: Ceiling Alert www.ceilingalert.com phone 0393467668 or mobile 0438643513

If you have an old building then it's a pretty safe assumption that the paint will be leaded and that soil and dust will consequently be lead-contaminated from previous flaking or chalking paint or from paint removal or release of building cavity dust during demolition/re-roofing etc. So testing for lead is probably an unnecessary expense prior to renovating unless you need to convince someone to use lead-safe renovation techniques or that your painting contractors are not responsible for any historical lead contamination of the building and surrounds.

But AFTER you have managed your lead paint and cavity dust, THEN is an excellent time to test the dust and soil to determine if further lead-contaminated dust clean-up or soil management is necessary, and this should be done prior to young children (or couples wishing to conceive) or pets, using the renovated areas. Please see details of The LEAD Group's excellent DIY-sampling for home lead assessment kits at

<http://www.lead safeworld.com/solutions/lead-group-diy-sampling-lab->

[analysis-lead-test-kits/](#) and order online at www.leadssafeworld.com/shop by secure Paypal payment, or phone 1800626086 and order a kit today.

Anyone involved in the work should ask the doctor for a follow-up blood lead test a couple of weeks into the work or at the end of the work if the renovation period is short, to determine that their blood lead level has not gone up as a result of non-lead-safe practices.

Ongoing lead-safety for young children is much easier to ensure when there are no rugs or carpets (you can lay down machine-washable cloths for children to play on), so The LEAD Group generally recommends storage of rugs until children are older, and removal of carpets but please know that this should be done lead-safely and we do not know of any building contractor or carpet removal/installation contractor who is aware of how to do carpet removal without creating lead dust hazards. If you find one, please let us know about them!

To remove the carpet lead-safely:

This should be done by the wet-method and you should wear dust masks and protect the skin from the dust by wearing long sleeves and pants as well as gloves. Children or pets and any unprotected adults should never be present during the carpet removal. The best procedure in order to protect the people who are doing the carpet removal, from the dust in the carpet, and to protect the rest of your house from the dust as the carpet is being carted through the house, is to use a hired industrial vacuum cleaner to first vacuum the top of the carpet, then use a water-spray bottle to dampen down dust on a patch of the carpet, cut the patch out with a sharp blade, roll it up while vacuuming the back of it and also water-spraying the back of it, then carry out to a skip or put it in the rubbish bin. The size of the sections you cut it into will depend on the size of the rubbish bin and the carrying capacity of the carpet-removers because a patch of wetted carpet is quite heavy. Then you repeat the vacuuming on the top of the underlay, water-spraying, cutting, rolling while vacuuming and water-spraying and carting out. Then remove nails and vacuum the floor and repeat this whole process until all the patches of carpet are removed.

Wet-cleaning to ensure lead-safety clearance

After paint management, ceiling dust removal or carpet removal, or to clean-up a home which for some other reason has not passed "clearance" (lead-safety for children and pets), it is recommended that you use a good detergent (eg liquid sugarsoap) and a cloth or mop to clean the area, using what's called the [Three Bucket Cleaning System](#) - Reference: *Lead Safe - A Renovator's Guide To The Dangers Of Lead* (1998) - partly available online at <http://web.archive.org/web/20070830233627/www.epa.nsw.gov.au/leadssafe/leadinf4.htm> by the Lead Reference Centre (LRC) - a now defunct part of NSW Environment Protection Authority (EPA).

Three bucket cleaning system

You will need:

- three buckets
 - For detergent
 - For clean water
 - For emptying used water into)
- two mops or rags
 - one for clean
 - one for dirty
- a lead specific cleaning detergent (e.g. liquid sugar soap)

Method:

1. Place mop into detergent solution, wipe area
2. Squeeze into empty bucket
3. Place second mop into clean water and wipe area and squeeze into empty bucket
4. Replace water every room or every half hour whichever comes first
5. Pour water down toilet
6. Start at top and furthest corner from door

[end of extract from Lead Safe - A Renovator's Guide To The Dangers Of Lead (1998)]

Finally, please become a consumer who demands more information and warning labels eg about the dangers of lead paint, in the paint preparation section of your hardware store and especially on products like sandpaper, sanders, heatguns, flameguns etc - all the things you can poison yourself with and contaminate a home with. You can phone the Community Information Unit in Canberra on 1800803772, to request the booklet: "Lead Alert - The Six Step Guide To Painting Your Home" to be sent for FREE to your store or all your paint sub-contractors!

Elizabeth O'Brien

Winner of the United Nations Association of Australia (UNAA) Award for Outstanding Service to the Environment

Lead Scientist and Lead Advisor,
The Lead Education and Abatement Design (LEAD) Group Inc. (environmental health charity)

www.lead.org.au

Manager, Lead Safe World Project (LSWP)

www.lead safeworld.com – launched 26th October 2013 during the WHO Inaugural International Lead Poisoning Prevention Week of Action (20th-26th October 2013)

Lead Advisor, LEAD Group test kit results interpretation service

www.lead safeworld.com.au/solutions/lead-group-diy-sampling-lab-analysis-lead-test-kits

Please take photos or short films of any lead-safety image such as paint lead testing/sampling or any contamination caused by falling paint or paint preparation and consider entering them with lead-safety messages at <http://volcanoartprize.com/submitentry/> to be in the running for over 30 prizes including cash prizes for the Judge's Choice and People's Choice!! Entries close at midnight at the end of the day on the fourth Monday in July each year.

www.volcanoartprize.com