Council LEAD Project

NSW

LEAD SAFETY TOOL KIT FOR COUNCILS

A Tool Kit for making your community safe from lead

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List of Abbreviations

AECLP	Alliance To End Childhood Lead Poisoning
APAS	Australian Paint Approval Scheme
BCA	Building Code Of Australia
CBD	Central Business District
CDC	US Centers For Disease Control
CLP	Council Lead Project
DCP	Development Control Plan
DUAP	Department Of Urban Affairs And Planning
EHO	Environmental Health Officer
EMS	Environmental Management System
EP&A Act	Environmental Planning and Assessment Act
EPA	Environment Protection Authority
ESD	Ecologically Sustainable Development
LAS	Lead Advisory Service
LASA	Lead Advisory Service Australia
LEP	Local Environmental Plan
LGA	Local Government Area
LGSA	Local Government Shires Association
mg/DL	Micrograms Per Decilitre
mmol/L	Micromoles Per Litre
MPA	Master Painters Australia
PCCP	Painting Contractors Certification Program
PHU	Public Health Unit
SEPP	State Environment Planning Policy
TAD	Technical Aid to The Disabled
TEC	Total Environment Centre
VDU	Visual Display Unit

Introduction

Why Should Councils Be Concerned About Lead?

Lead is an environmental contaminant, a health risk, and can kill

Lead has been an extremely versatile and useful product since recorded history began. For almost as long, people have been aware that it is a health hazard, but wrongly assumed that only miners and smelter workers were at risk. We now know that the biggest risk to population health is household dust contaminated by lead from older paints, leaded petrol exhausts or lead industries, mines and smelters.

Over 210,000 New South Wales residences each year are estimated to be potentially contaminated with lead paint, dust and soil through home improvement or renovation activity (based on an estimate of one million NSW homes built prior to 1970 and 21% of households undertaking some home improvement activity each year [BIS Shrapnel, 1998])

Children are most at risk, particularly those of crawling age living in pre-1970 houses where leaded paint was almost certainly once used, or in mining or smelter communities.

A major Sydney study found that in inner city suburbs, a quarter of all preschoolers have too much lead in their bodies.

Within a radius of 10km of the Sydney Central Business District (CBD), the latest published survey of prevalence of lead poisoning in children found that 25% of under 5 year old children have a blood lead level above the National Goal of 0.48 micromoles per litre (0.48 μmol/L or 10μg/dL) (Mira et al., 1996).

In 1993, Australia's National Health and Medical Research Council (NH&MRC) set a National goal for ALL Australians to have a blood lead level below 10 μg/dL (micrograms per decilitre). This is a very small amount − about equivalent to a teaspoon of lead in a swimming pool − but any level of lead in the body causes damage.

New research shows that lead is toxic at levels below our current National Goal level of 10μg/dL, levels once thought to be safe (Lanphear et al., 2000). Prof John Rosen and Prof Bruce Lanphear have proposed to the US Centers for Disease Control (CDC) that the CDC adopt new action levels beginning at a blood lead level above 5 μg/dL. Australia adopted the 1991 CDC action levels in 1993.

When lead is taken into the body via ingestion or inhalation, it initially attaches to the red blood cells. We naturally replace approximately 20% of these cells every 6-8 weeks, so our bodies expel some of this lead and it passes out of our bodies.

However, it takes roughly 10-12 months to do a 'complete' change of the red blood cells, so the body has plenty of time to absorb some lead into its soft tissue such as kidneys and liver. The body treats lead like calcium, depositing some in bones and growing teeth where it has a half life of up to 30 years and can be released into the blood years later.

Lead is a neurotoxin, damaging the nervous system. Lead will do the greatest harm to those of very young age. Young children under the age of four are particularly susceptible to lead poisoning because their brains and nervous system are still developing and they have a high level of hand-to-mouth activity, especially between one and two years of age.

Any lead dust or leaded paint particles lying around are likely to get into their mouths and be ingested. Children also absorb more of any lead they ingest into their bloodstream and other parts of their bodies than adults do − about 50% of swallowed lead is absorbed compared with 8-10% for adults.

A fingernail size piece of lead paint can cause acute lead poisoning. A square inch of lead paint killed a child in New Zealand in 1995. There are in NSW over 1 million homes likely to contain lead paint.

♦ **Pregnant women** are also at risk and can put their foetus at risk because lead absorbed into their blood will cross the placenta to the baby. Babies can be born with lead already in their blood. Even where women were exposed to lead well before pregnancy, their babies are at risk because lead stored in their bones can be released into the blood as the foetus needs calcium.

♦ **Fertile adults** are also at risk − women because of the potential danger to a future foetus and men because lead can affect sperm size, number, mutations and motility as well as causing problems with libido.

♦ **People with high blood pressure** are at particular risk because lead can exacerbate hypertension.

♦ **Menopausal women with past lead exposure** are at risk because lead can relocate from storage in bones back into the blood stream during menopause.

♦ **Older men with past lead exposure** are at risk because as they age, lead tends to come out of the bone in the same way that calcium does. Whereas in women this is more pronounced with menopause, in men there is a gradual rise in blood lead level with age. Blood lead levels in men are typically higher than in women due to higher lead exposure earlier in life particularly for people who have worked with lead.

Councils may be liable in relation to lead contamination and poisoning

Councils are entrusted by local communities to act in the community's best interests. Councils also have the capacity and the powers to influence their community's environmental safety and wellbeing.

"Local Council EHOs should be notified by PHU EHOs of lead exposures which resulted from council premises; or premises or activities regulated by Council. Individual councils have a role in ensuring property contamination that presents a hazard is noted in public records and ensuring that problems are remediated.

Local Council EHOs also have a role to play in raising community awareness of lead issues, enforcing environmental regulations, preventing renovation and abatement activities which create community lead hazards. These activities include those of unsafe abrasive blasting, dry power sanding and demolition". [Extract from Investigations of Cases of Elevated Blood Lead Levels, Guideline for Environmental Health Office, Environmental Health Branch, NSW Department of Health, Lead Reference Centre, NSW Environment Protection Authority, November 1997].

Lead poisoning is increasingly becoming a successful cause of legal action.

In the United States of America, on the trail of tobacco litigation, some successful legal actions were recently brought against lead pigment manufacturers and local authorities. Landlords have also been sentenced to the payment of substantial damages on the ground of breach of the 1996 disclosure rule which requires property owners to inform prospective tenants and/or buyers of known lead hazards in a property. [See AECLP and Sue Lead Industry websites in Related Resources list.]

In France, the Paris City Council has been the object of a legal action by an "association of families of victims of lead poisoning" as a result of renovations undertaken by the Council and which led to the lead poisoning of some 60 children living in the building.

In Australia, the legal framework that would allow actions from lead poisoned victims is not yet in place. However there are signs of change, such as the precedent established in a decision of a 1999 NSW Residential Tribunal The Tribunal found a landlord liable and awarded damages for economic loss when the tenants had to move from a house with peeling lead paint.

With mounting evidence of the health damage resulting from lead poisoning, and in the light of the increased environmental responsibility and public liability borne by local authorities, it is legitimate for councils to seriously consider their potential liability in relation to lead.

The issue of council liability is essentially two-fold (Bawden-Smith, 1997):

- liability to persons affected by lead poisoning as a result of development approved by councils

- liability to persons affected by lead poisoning as a result of exposure from their presence on premises owned or operated by council.

In relation to the first category, the NSW legislative framework puts the onus on councils to investigate any potential land contamination when considering a development application involving change of use or rezoning. The *Contaminated Land Management Act*, 1997, also gives councils responsibility for the management of contaminated land that does not pose a significant risk of harm to human health or the environment Councils. (for more details, see the factsheet on Outdoor Shooting, in part 2 of this tool kit)

The latter category includes both Council workers involved in the maintenance of the buildings or infrastructure and the occupants and visitors to the building.

This is particularly important for infrastructure frequented by children, such as playgrounds and preschools.

Councils could be found liable on the grounds of negligence under Common Law. Liability would then depend on a Plaintiff establishing that the Council owed him or her a duty of care.

Another potential ground of action against councils is breach of statutory obligations.

- Occupational Health and Safety regulations and WorkCover guidelines require employers to provide workers with a safe working environment. Failure to do so could result in prosecution and hefty fines (such was the case recently with the NSW Police Service being found liable for the lead poisoning of a number of officers while training at a shooting range - see the *Sydney Morning Herald,* 12 March 2002*,* "Police Service facing $820,000 fine over lead poisoning at firing range"). This point is developed further in Step 2 of this Tool Kit;
- Councils have general environmental obligations under the *Local Government Act 1993,* but also more specific obligations, relating to matters to take into consideration when exercising powers, to grant approval to development applications under the *Environmental Planning and Assessment Act*, 1979 (*EP&A Act*). Section 79C of the *EP&A Act* provides that "in determining an application, a consent authority is to take into consideration"…"(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality" ….and "(e) the public interest"
- Councils also have obligations under the *Local Government (Ecologically Sustainable Development [ESD]) Act, 1997* to apply the principles of ESD in its decision making process, including the 'Precautionary Principle', 'Intergenerational Equity', 'Conservation of Biodiversity' and 'Internalisation of Environment Cost'. The adoption of a local lead action plan preventing lead poisoning and protecting the environment from lead is in keeping with all four ESD principles.

In order to avoid any potential liability and more importantly, to protect local communities from the hazards of lead, it is essential for local authorities to identify any lead problem in their local area and to develop an appropriate Local Lead Action Plan. The Council LEAD Project has developed this Tool Kit in order to assist New South Wales local councils in this task.

The net benefits to the community of adopting a lead contamination prevention policy are conservatively estimated at $9 million per annum.

This is the conclusion of the "***Impact Assessment - Development Control Plan [DCP] for the Management of Lead Contamination***" conducted by the EPA (Economics and Environmental Branch, NSW EPA, June 2000).

Additional costs are associated with adopting lead safe procedures. They relate to increased project management time, additional training, equipment and labour resources, and are estimated at around 10% more in labour costs for an average renovation project. The total costs for NSW are estimated to around $35 million per annum.

On the other hands, the benefits to children, workers and the environment are estimated at $44 million per annum through “avoided loss of future earnings and the avoided loss from additional education expenses due to IQ loss in childhood”. The impact assessment concludes that “**as the adoptions of the DCP is voluntary, the full benefits and costs of the DCP will be limited to those council areas adopting the DCP**.”

About the Council LEAD Project

The Council LEAD Project was designed to coincide with the launch of the NSW Environment Protection Authority document: "***A guide for Councils in Managing Lead Contamination in Home Maintenance, Renovations and Demolition Practices - including an example development control plan***”.

The Council LEAD Project aims to encourage and support Councils in their endeavours to promote lead-safe communities and to adopt a lead development control plan as part of a local lead management strategy, in accordance with their capacities and their community’s lead risk profile.

This project is an initiative of The LEAD Group Inc., a community group dedicated to the elimination of childhood lead poisoning and protection of the environment from lead, and has been assisted by the NSW Environmental Trust.

A Steering Committee oversees the Project, with representatives from the Local Government and Shires Associations (LGSA), the Total Environment Centre (TEC), the Department of Urban Affairs and Planning (DUAP), WorkCover NSW, Lake Macquarie City Council, CTI Consultants Pty Ltd, the Federated Municipal and Shire Council Employee's Union of Australia and The LEAD Group.

Despite councils becoming more willing to act to promote their community’s health, there are three main constraints on councils’ capacity to act:

- inadequate knowledge about the extent of the hazard;
- insufficient awareness or skills to act;
- limited resources for competing priorities.

The LEAD Group also operates the **Lead Advisory Service Australia (LASA)**, and this service is part of the support services offered to all NSW Local Councils.

The Council LEAD Project (CLP) offers to Councils **various types of supports**, to assist Councils in assessing and addressing the lead issue. They have been selected after consultation with all NSW councils, through an initial survey of Council LEAD Project (CLP) Liaison Officers within each Council, undertaken in 2001.

Resource material: This CLP Tool Kit contains information covering most topics related to lead, and provides resources to tackle most lead related issues, complementing the ***Guide for Councils in Managing Lead Contamination*** developed by the EPA (see further: "How to use this Tool Kit").

Telephone support: The Lead Advisory Service Australia (LASA) is available during business hours for advice on any matter related to lead. It can be contacted by Council officers by phone or e-mail. Phone 1800 626 086, email: **www.leadsafeworld.com/about-us/contact-us/l**

Web Resources: The LEAD Group's web site has a variety of down-loadable information and links on lead. We have also developed a Council LEAD Project link for matters particularly relevant to local councils. Visit today! Click on the Council LEAD Project button or go straight to www.lead.org.au/clp/clp.html.

This on-line support will be further developed we are pleased to announce, thanks to further assistance granted by the Environmental Trust NSW to The LEAD Group's project. It involves among other things, the creation of an **on-line referral database**, and will translate in easier access for council staff (as well as members of the public) to The LEAD Group's massive database of knowledgable experts and lead-trained contractors.

Network: A CLP e-Group has been set up by the Council LEAD Project team to facilitate communication between councils on all lead-related issues. If you are interested in joining and sharing ideas and experiences on setting up lead policies or want to be kept informed on the development of resources, look up our website and follow the prompts. If you are looking at an electronic version of this Tool Kit, just click on www.lead.org.au/clp/clp.html and follow the link to http://groups.yahoo.com/group/CLP-NSW/ where you can join and will also be able to access documents in the files section and previous email postings of the e-group.

How to Use this Tool Kit: A 3-Step Guide to a Lead-Safe Local Community

This Tool Kit is designed as an extension of the Environmental Protection Authority's ***Guide for Councils in Managing Lead Contamination in Home Maintenance, Renovation and Demolition Practices, including an example development control plan***, [hereafter referred to as the ***EPA Lead Guide for Councils***] providing councils with support in their process of determination and implementation of a lead action plan, as well as providing additional information and resources.

This dual purpose is reflected in the structure of the document:

Part 1 - The 3-Step Guide to a Lead Action Plan

Assessment, Action and Awareness, a step by step guide to developing your local Lead Action Plan, adapted to your council's specific needs and resources

Part 2 – Hard Copies of Related Resources

A bank of lead resources including a selection of booklets, fact sheets and other lead awareness materials available in multiple copies for free. This complements the listing of available resources either on-line or as hard copy documents which appear in Part 1 at the end of each section.

Part 1: A 3-Step Guide to your Local Lead Action Plan

Becoming a **Lead Aware Council** is easy, just follow the step-by-step guide and design your local lead strategy.

Step 1: Assessment - Community Lead Risk Assessment

Defining your local area's lead risk profile, investigating lead hazards, testing for lead, the assessment of lead hazards in your local area is a prerequisite to determining the importance of the lead strategy in your local council priority scale.

It will also assist in selecting the type of policy that will most efficiently ensure the lead safety of your local community.

Step 2: Action - Building a Lead-Safe Community

Set an example and ensure lead safety in all council-controlled activities and assets.

Explore the various regulatory and planning powers options for enforcing lead safety in your local area.

Step 3: *A*wareness - Community Education / Awareness Campaigns

Awareness is the essential element of a good lead strategy, keeping in mind that lead poisoning is totally preventable and the best "treatment" is prevention.

You will find in Step 3 a smorgasbord of lead education campaign material: pamphlets, posters, fact sheets … and advice on how to conduct successful lead education in your community.

Part 2: Hard Copies of Related Resources

The related resources, referred to within each section of the 3-Step Guide, are available in either or both of two forms:

- hard copy documents, gathered in the second part of tool kit;
- electronic documents accessible online, many of them to be found on The LEAD Group's website, the list of which appearing at the end of the relevant section in Part 1.

The majority of the resources are in electronic form, allowing this Tool Kit to remain a manageable size as well as facilitating update of existing documents (especially database reports) and adjuncts of new resources.

The hard copy documents are mostly coloured fact sheets, booklets and posters, either not available electronically or for which multiple copies can be obtained for the purpose of awareness campaigns and include the "must have" information.

Resources available relating to each section of the Tool Kit are listed in two places in the Kit:

- At the end of each section. For each document, the information provided includes:
  - title
  - where to find the document, including **where** to obtain a copy if it is available as hard copy only or as well as on-line (web-link if it is available on-line), and **whether** a hard copy is included in the Related Resources section of the Tool Kit, in which case it is referred to as **CLP Tool Kit** and how to obtain multiple copies
  - author and source.
- At the beginning of Part 2, in a table listing all resources available in the form of hard copies and included in this tool kit.

List of Resources Related to the Introduction

Subject Area / Title	Where To Find It	Author / Source
HEALTH EFFECTS		
Health Impacts of Lead Poisoning	**CLP Tool Kit** www.lead.org.au/fs/fst7.html A work in progress, constantly needs updating as more health effects are discovered every year	Vance Vella, Elizabeth O'Brien and others, The LEAD Group
Blood Lead Concentrations of Preschool Children in Central and Southern Sydney	MJA , Vol 164, 1996	Mira, Michael; Bawden-Smith, J; Causer, J; Alperstein, Garth; Karr, M; Snitch P; Waller, G & Fett, M
Lead in Australian Children, Summary of the National Survey of Lead in Children	For multiple copies phone the Community Information Unit of Department of the Environment and Heritage on 1800 803 772 and they are not available on-line at: www.environment.gov.au/about/publications/list.html#lead	Conducted by the Australian Institute of Health & Welfare. Published by Environment Protection Agency (Cth) (1996)
New research on the health effects of lead exposure: Millions More Children May Suffer From Lead Exposure; Lead Exposure Linked To Alzheimer's Disease	www.lead.org.au/mr/19-5-00.html	The LEAD Group, Media Release
Home Improvement Market in Australia	Cited in the *EPA Guide for Councils in Managing Lead Contamination*	BIS Shrapnel (1998) Sydney
Cognitive Deficits Associated with Blood Lead Concentrations <10 µg/dL in US Children and Adolescents	www.phr.oupjournals.org/cgi/reprint/115/6/521.pdf	Lanphear, Bruce P; Dietrich, Kim; Auinger, Peggy; Cox, Christopher, Public Health Reports 2000, Vol 115, 521-529; Nov 2000
Plumbism and Autism Network - support group for parents of children with autism, severe learning difficulties, ADD etc. and lead poisoning	www.groups.yahoo.com/group/Autism-Lead	The LEAD Group
COUNCIL'S LIABILITY		
Residential Tribunal Lead Paint Case	www.lead.org.au/Lanv7n3/L73-17.html	The LEAD Group *LEAD Action News* Vol 7 No 3 1999

Association of families of victims of lead poisoning	www.gisti.org/doc/actions/2000/saturnisme/rhin-2.html (in French)	Association des familles victimes du saturnisme
Alliance to End Childhood Lead Poisoning (AECLP) website	www.aeclp.org then go to Legal Remedies Detailed information on legal remedies and lead poisoning in USA. A wide range of information on lead can be found on the AECLP's site.	Alliance to End Childhood Lead Poisoning
Richard Rabin's website	www.sueleadindustry.homestead.com Richard has put together an excellent website on lead paint litigation in the USA and the history of the lead pigment industry's efforts to resist legislation controlling the use of lead in paint.	Richard Rabin
Are Councils Lead Liable? The Implications of Environmental Lead for Local Government	www.lead.org.au/lat/lat002.html Paper Prepared for the Australian Institute of Environmental Health 24th National Conference held at the Launceston Country Club Resort, Tasmania on the 21 October, 1997	Jason Bawden Smith, Managing Director, JBS Environmental Services and Technologies Lead Aware Times Vol 1 No 1
Police Service facing $820,000 fine over lead poisoning at firing range	Sydney Morning Herald, 12/3/02 www.smh.com.au	Les Kennedy, SMH 12/3/02
Lead Contamination Scare: Councils Risk Legal Action	www.lead.org.au/mr/27-9-95.html	The LEAD Group, Media Release
AS 4361.2 - Guide To Lead Paint Management - Preventing Lead Poisoning in Australia	Specifier Magazine, February 1999 www.lead.org.au/clp/AS4361.2.html	Michelle Calvert, Lead Advisory Service Australia
Developer Contaminates Neighbour's Property	www.lead.org.au/lat/lat005.html	Robin Mosman, Lead Aware Times Vol 1 No. 1
Lead & Litigation?	The Property Management Journal, March/April 2001	Caroline McKay

Part 1: A 3-Step Guide to your Local Lead Action Plan

STEP 1

ASSESSMENT

COMMUNITY LEAD RISK ASSESSMENT

Step 1: Community Lead Risk Assessment

This is the first step towards designing your lead safety strategy.

Find out about the sources of lead hazards in your local community. This will give an indication on how high a priority lead management issues should rank in your council's resource allocation decisions.

This process involves:

- Acquiring a basic understanding of the sources and pathways of lead with an overview of the major sources of lead poisoning;
- Defining your local lead risk profile through the completion of the council lead risk assessment checklist;
- Investigating identified lead risk factors;
- Assessing findings in the light of the standards and guidelines for lead in various media / products in NSW.

Overview of Sources of Lead Poisoning

Lead has been used over the years in a multitude of industrial and domestic products with Australia being the world's largest exporter of lead.

As a result, lead is ubiquitous in the environment, creating multiple sources of hazards to the people exposed to it, as shown in this table.

Source of Lead	Comments
Paint	Lead paint (defined in the US as containing greater than 0.5% lead but in Australia is defined as 1% lead by weight of the dry film) is the most common (though usually indirect) source of lead poisoning in children. Lead paint with more than 1% lead was used in residences in Australia up to 1970 and there are 3.7 million pre-1970 homes in Australia. In 1992, the maximum lead content was reduced to 0.25% and in 1997 it was reduced again to the current maximum lead content of domestic paint - 0.1%. Hand to mouth activities results in the ingestion of dust from lead paint that is either flaking, chalking, or has been sanded. Ingestion of lead paint chips directly, either flaking from the walls or being chewed from painted pieces of furniture or toys (in particular, cots), is rarer but can cause very serious to lethal lead poisoning. Lead is still in use for automotive and marine paints, industrial paints, farm equipment paints and sign and marking paints. Those same lead paints can occasionally be found inappropriately used as primers in residential housing or as glossy feature coatings.
Building materials	Lead is a common component in building products, including sheet lead, lead flashing, lead solder, lead water pipes (and sometimes gutters), plumbing fittings, PVC products, leadlight windows and the contacts on light bulbs. (See ***EPA Lead Guide for Councils*** in Technical Note 3 for more details on uses.)
Soil	Soil is a major reservoir of lead in the environment. Soil can be contaminated with lead from fallout of airborne pollution, from the road, industrial or agricultural activities involving lead. Previous use of land or surrounding land is to be considered, for example, agricultural, industrial, workshops involving lead use, clay target shooting. Exterior sanding, scraping or abrasive blasting of lead paint, as well as unsafe disposal of lead waste, also cause high levels of lead in soil. Children playing in the dirt risk ingesting lead. Lead dust may also be brought into the house on shoes.
Dust	Dust can contain high levels of lead as a result of a number of sources including past or current industrial activity, unsafe lead paint management, unsafe renovations, leaded petrol, lead light windows. It is the most common medium for lead poisoning, as a result of being ingested or inhaled. Accumulated cavity dust is of particular concern as it can be released into the living areas through cracks in ceilings, or released into the environment in large quantities during demolition or renovation work. Lead dust brought home on clothes of parents or other adult co-residents working in the lead industry is also a source of lead exposure in children.
Drinking water	Lead in water is a less commonly identified source of elevated blood lead levels when reticulated water is in use, but occasionally can contribute to lead poisoning from lead leaching into drinking water from old lead pipes, lead solder on water pipes or in fittings. Newer plumbing systems actually contribute more lead to the drinking water than old ones, due to lead in PVC and brass and bronze fittings. Tank water is a much more likely source of lead poisoning due to belated changes in 1996

	to the Building Code of Australia (BCA) which banned lead flashings on the roof area used for collection of drinking water. **One in four of the tanks tested in a study in rural Victoria,** by Bannister et al., **contained lead at or greater than the guideline level for lead in drinking water.** Tank water can also be contaminated with lead when the first flush of rain is not diverted from the tank, especially after a long dry period, from roofs made of new sheet metal or sheet metal painted with lead paint, from ceramic roof tiles, old lead guttering, new sheet metal guttering or tanks, new PVC roofing, guttering, tanks or pipes, lead solder used in the piping, tank or fittings, and leaded brass or bronze fittings, etc.
Stormwater	Unsafe practices such as non-contained dry sanding of lead paint, or failure to remove lead dust from ceiling cavities prior to demolition or renovations which break into the ceiling or wall cavities, result in the contamination of soil, dust, and stormwater with lead, and eventually to high levels of lead in waterways. Disposal of liquid waste containing lead to toilets is a common practice. Through sewage overflows, this also contributes to the contamination of waterways. Other sources of waterway lead contamination include industrial activities involving emission of lead fumes or dust, cars: lead acid batteries, tyre wear, lead weights on car wheels and burned cars contaminating stormwater drains or rivers.
Petrol and other vehicle-associated sources	The progressive process of phasing out lead in petrol nationwide was completed as at the 1st January 2002. This has significantly reduced the level of airborne lead pollution. However, lead in soil and in dust accumulated over the years of leaded petrol-generated airborne pollution remains in the environment and constitutes a health hazard for years to come. Cars are still a significant source of lead contamination through the use of lead in car batteries, radiators, PVC, auto-paints, panel beating, wheel and seat-belt weights, etc. Activities still permitted to use leaded petrol in the form of AvGas include motor racing, motor bike racing and water sports and in remote Aboriginal communities where there are petrol sniffing problems.
Other sources	Other sources include activities such as mining, smelting, processing, recycling, electronics, gun clubs, radiator repair and panel beating workshops. Workers are the most affected by lead from point sources, in particular when working conditions do not offer adequate ventilation and other controls. The families of these workers are also at risk with lead brought home by the workers on their clothes and shoes. Lead emissions from point sources also expose the community to risk from airborne lead contamination, leading to dust and soil contamination. Hobbyists in do-it-yourself building and demolition, painting, turning battery lead into sinkers or bullets, diving weights, boat keels etc or other hobbies that involve lead such as furniture and antique restoration, are often exposed to lead and may expose their neighbours. Also food and drink stored in leaded crystal, lead-soldered cans, or lead pewter and collector's items (for example lead soldiers, bronze or brass items) or lead-glazed ceramic ware, leadlight and lead or pewter jewellery are sources of lead.

Defining your Lead Risk Profile

Just tick those items in the table that occur in your local government area.

	✓	Lead Risk Factor / Past or Present Activity	Lead Use / Source of Lead
1	✓	Buildings built prior to 1970, including heritage properties, hospitals, schools, community halls	Paint, leaded building materials
2	✓	Activities involving demolition work and exposure of ceiling/roof/wall cavities	Dust in cavities
3		Heavy traffic areas; (major roads; major traffic intersections of over 25,000 vehicles a day)	Leaded petrol emissions
4		Any structure or infrastructure that may be coated with lead paint (old children's play equipment, bridges, tanks)	Paint
5		Shooting range (clay shooting, gun club, defence works)	Lead shot
6		Airport	Fuel
7		Marina	Paints, ship keels, ballast and components
8		Waste facilities	Paint waste, chemical waste
9		Mining and extractive activities	Zinc, copper, silver, lead ores, waste
10		Smelting and refining activities	Ore concentrates and slag
11		Battery manufacture and recycling	Lead plates, oxides, leaded sulphuric acid, waste
12		Chemical manufacture and use	Paint, pigments, pesticides and plastics, waste
13		Electrical / electronic works	Solder, air, dust, cable sheathing and in cable coating, waste
14		Engine works	Lead petrol, paint on metal machinery
15		Service station and fuel storage facilities	Leaded petrol storage tanks, sludge, soil
16		Foundries and gas works	Paint on metal and in alloys, gas production by-products, air, dust, soil,
17		Metal treatment works	Paint and galvanising on metal machinery, air, dust
18		Timber paint stripping yards, wood for reuse	Paint removed from timber, old paints, flakes, dust
19		Exhaust and radiator repair shops, auto paint and panel-beating shops	Paint, lead petrol exhaust dust, lead metal used for filling, dust
20		Areas of natural out-croppings of lead in surface soil (contact the Department of Mineral Resources)	Soil
21		Areas that were used for orchards, market gardens or other agricultural purposes	Lead based fertilisers and pesticides. Apple orchards are of particular concern with the extended use of lead arsenate up to approx. 1960.

Once completed, the risk factor checklist sketches your local government area (LGA) lead risk profile.

In this task, the National Pollutant Inventory (NPI) internet database could be of assistance. It provides information on types and amounts of certain substances being emitted to the environment. www.npi.gov.au

Once the risk factors are established, the assessment of your council's current response to mitigate those risks and protect the community will dictate how much of a lead hazard threatens your community.

The following questionnaire aims to explore the current lead policies in place and/or highlights the measures that need to be taken to address them.

Investigating Lead Hazards

How is your council currently addressing lead risks? Write answers in the table.

1	Has there been a risk assessment of lead activities in your LGA and has there been any further investigation of lead levels in relevant areas?	
2	What is the proportion of pre-1970 dwellings in your LGA?	
3	Is there one or more person/s in your council in charge of lead issues?	
4	Has council adopted a development control plan on lead / hazardous substances?	
5	Has your council adopted model conditions of consent ensuring the identification and management of lead in home renovation / demolition?	
6	What is council's policy for identification and management of lead hazards in council-owned or managed premises frequented by children (pre-schools, early childhood centres, libraries, caravan parks, halls, etc.)?	
7	Does your council have trained officers to deal with lead issues arising out of council's activities?	
8	Are there lead-safe guidelines for maintenance of council-owned or managed infrastructure?	
9	Is there a protocol for council's workers / contractors to comply with lead-safe work procedures?	
10	What is the council's response to concerns expressed by residents on, for instance, a neighbour's unsafe renovation / demolition creating a risk of lead contamination?	
11	Has council conducted lead poisoning public awareness campaigns?	
12	Has any study of stormwater pollution been conducted and what has been revealed by it in terms of heavy metals pollution? If a problem has been identified, what actions have been taken to address the issue?	
13	Is there annual testing of lead (and other chemicals) in drinking water in facilities owned or controlled by council (in particular for water from rainwater tanks that serve the public), eg caravan parks, halls, childcare facilities, libraries, tourist destinations?	

Testing for Lead

Systematic lead testing and risk assessment of lead in assets and areas are a compulsory component of any council lead-safe policy. All council workers should be trained in basic testing techniques, but for more comprehensive testing, the service of a professional lead assessor may be required.

Although it is safe to simply assume the presence of lead paint in all buildings built prior to 1970, testing the paint allows a more accurate risk assessment.

Post 1970 buildings should not be coated with lead paint. The possibility that lead paint may be present should however not be discounted. Industrial or maritime paint might have been applied, or recycled materials (eg. windows or doors) might have been used.

The Australian Standard *AS 4361.2, 1998 Guide to Lead Paint Management - Part 2*: *Residential and Commercial Buildings* provides guidelines for assessment and describes the three techniques used for detection of lead.

1. Chemical field test reagents (spot tests) - for paint

2. Portable X-Ray Fluorescence analysers (XRF)

3. Laboratory analysis

Council owned or managed infrastructure and services should be systematically tested for lead.

A list of local spot test suppliers should be established and made available to council staff as well as to the public. A general list is available on the Council LEAD project website and supplied in the Resources section of this kit.

Lead assessment of the paint is a good start, but a comprehensive assessment, including dust and soil testing is better.

Professional lead assessors conduct comprehensive building assessment and advise on the management of lead and other hazardous substances.

Contact details, company profile and descriptions of their services can be found in the Related Resources section of this document.

Standards and Guidelines for "Acceptable" Lead Levels in NSW

This table is a reference for any questions that may arise on the "acceptable" levels of lead, keeping in mind that any level of lead is a contamination level since there is no safe level of lead.

Lead Source / Pathway	Lead Levels	Standard / Guideline Source
Air	**1.5 micrograms/m3 1.5 µg/m3** (90 days average) for ambient air By 2008, NSW is required to comply with the National Environment Protection Measure for Ambient Air Quality which limits lead in air to **0.5 micrograms/m3** **0.5 µg/m3**(annual average) **150 µg/m^3 TWA** for worker exposures. Allowable industry emissions to air vary according to company licence but rarely exceed **1.0 µg/m3 .**	NSW EPA using National Health and Medical Research Council (NHMRC) recommendation as a guideline for compliance *National Environment Protection Council (Commonwealth) Act 1994* *National Environment Protection Council (New South Wales) Act 1995* *National Environment Protection Measure for Ambient Air Quality 1998* *Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]*
Food	**0.5 mg/kg** - generic standard for food products **0.3 mg/kg** – instant food **0.2 mg/kg** – beverages **1.0 mg/kg** – offal	National Food Authority – Food Standard Code
Soil	General background concentration of total lead in soil is less than 50 mg/kg **300 mg/kg** Investigation level for residential yards, garden, day care centres, pre-schools and primary schools **600 mg/kg** Investigation level for recreational open space, playgrounds, parks and secondary schools **1200 mg/kg** Investigation level for multi-unit buildings where residents have limited access to soil **1500 mg/kg** Investigation level for commercial and industrial areas.	NSW EPA 1994 Australian and New Zealand Environment Conservation Council (ANZECC), National Health and Medical Research Council (NHMRC) and the National Environmental Health Forum recommendation for investigation threshold for lead in soil. These same values have been taken up into the *National Environment Protection (Assessment of Site Contamination) Measure 1999* which was endorsed under s. 105 of the NSW *Contaminated Land Management Act 1997*, as according to a requirement of the *National Environment Protection Council (New South Wales) Act 1995*.
Drinking Water	**0.01 mg/L (0.01 mg/L = 10 micrograms (µg) per litre)** in drinking water **0.05 mg/L** in raw water which is source for drinking water <**4.5%** lead in products or materials in contact with hot and cold potable water OR to comply with AS 4020 **0.01%** lead in solder in contact with	NHMRC Australian Drinking Water Guidelines, 1996

	drinking water	
Non-Drinking Water	Concentration of total lead in fresh & marine waters depends on water hardness and the applicable % of species protected.	Australian Water Quality Guidelines for Fresh and Marine Waters, 2002 Protection of the Environment Operations (General) Regulations 1998
Petrol	National phase out of leaded petrol completed as at 1/1/02 with exception of leaded petrol (AvGas) still permitted for water sports, motor car and motor bike racing and in remote aboriginal communities where there are sniffing problems.	Fuel Quality Standard Regulation 2001 under the *Fuel Quality Standard Act 2000 (Commonwealth)*. Exemptions to allow the continued use of AvGas are given by Environment Australia to sporting associations and to the Commonwealth Department of Health and Ageing
Dust	• Bare and carpeted floors: **1 mg/m^2** • Interior window sills: **5 mg/m^2** • Exterior surfaces: **8 mg/m^2**	NSW EPA recommends the use of lead dust standards to determine the safety of the premises for re-occupancy after renovation and clean-up are completed. The lead dust loadings for various surfaces are from AS 4361.2-1998 *Guide to lead paint management Part 2: Residential and Commercial Buildings*. They were originally based on 1995 US guidance for investigation of lead poisoning. In the US the "clearance" level for bare and carpeted floors was lowered in 2000 to **0.4 mg/m^2** but the Australian standard is yet to change to this more rigorous clearance level.
Paint	**0.1%** maximum lead content for domestic paint (since December 1997) – paint for bridges is now included in this category.	Uniform paint standard – Appendix I of Standard for the Uniform Scheduling of Drugs and Poisons
Blood **Non-occupational**	National goal: all Australians to be at or below **10 micrograms/decilitre or 0.48 micromoles/litre (10 µg/dL or 0.48 µmol/L)**. National target: all Australians to have a blood lead level below **15 micrograms/decilitre or 0.72 micromoles/litre (15 µg/dL or 0.72 µmol/L) by 1998. *** **15 micrograms/decilitre or 0.72 micromoles/litre (15 µg/dL or 0.72 µmol/L):** **15 micrograms/decilitre or 0.72 micromoles/litre (15 µg/dL or 0.72 µmol/L):** Notification of elevated blood lead levels by laboratories to the Public Health Unit is required in NSW.	NHMRC Guidelines for Lead in Australians: goal revised 2 June 1993; target set at November 1993 meeting of NHMRC [A new target is required as the date attached to the first target has passed long ago]. Blood lead notification is required at 0.72 micromoles/L under the *Public Health Act*, since December 1996 in NSW. ******.
Blood	Level at and over which an employer must ensure that a worker must cease to	Occupational Health and Safety Regulations, 2001, Chapter 7: Hazardous

Occupational	carry out a lead risk job: **50 micrograms/decilitre or 2.41 micromoles/litre (50 µg/dL or 2.41 µmol/L):** Females not of reproductive capacity and males **20 micrograms/decilitre or 0.97 micromoles/litre (20 µg/dL or 0.97 µmol/L)** Females of reproductive capacity **15 micrograms/decilitre or 0.72 micromoles/litre (15 µg/dL or 0.72 µmol/L)** females who are pregnant or breast-feeding.	Processes, Part 7.6 Lead processes and lead risk work, section 203.

* Strategies in place to meet the national target were expected to result in 90% of children 1-4 years to have a blood lead level below **10 micrograms/decilitre (0.48 micromoles/litre)** by the end of 1998. [The national target has not been achieved to date in Sydney or in the major lead point source areas of Broken Hill in Far West NSW and Boolaroo in North Lake Macquarie, near Newcastle.

** Tasmania is considering requiring notification at 0.48 micromoles/litre. In the US, many states require notification of **any** blood lead result

In completing this Step 1, the following has been achieved:

- Definition of your local lead risk profile
- Investigation of the problem areas and determination of the scope of the problem
- Assessment of council's current policy on lead.

This information lays the foundation of your Lead Action Plan.

The next step is to consider the options available to council for addressing the lead issues that have come to light through this evaluation process, and select the most appropriate components of your Lead Action Plan.

This is the object of Step 2: Action.

List of Resources Related To Step 1

Subject Area / Title	Where To Find It	Author / Source
SOURCES AND PATHWAYS		
EPA Lead Guide for Councils Section 1, Sources of lead contamination	NSW EPA (ph 131 555) Web-link to be advised	Lead Reference Centre (LRC) & NSW EPA
EPA Lead Risk assessment checklist - **EPA Example DCP for lead contamination**	NSW EPA Web-link to be advised	Lead Reference Centre (LRC) & NSW EPA
Sources of lead	**CLP Tool Kit** www.lead.org.au/lasn/lasn006.html	The LEAD Group, *Lead Advisory Service News* Vol.1 No.1
Investigation of Microbiological and Chemical Water Quality in Rainwater Tanks in Victoria, Report No. 139/97.	Lead Advisory Service Australia Library	Bannister, R; Westwood J; McNeill, A; Water Ecoscience Pty Ltd
Targeting Toxic Shot (Shooting Range)	www.lead.org.au/lanv4n3/lanv4n3-12.html	Jeff Turner, *LEAD Action News* vol 4 No.3
Contamination at Shooting Ranges	www.lead.org.au/fs/shootingranges.pdf	Dr Corinne Rooney
Outdoor Shooting Ranges and Land Contamination - Considerations for Councils	**CLP Tool Kit** www.lead.org.au/clp/outdoorshootingranges.pdf	Council LEAD Project, The LEAD Group
Ceiling Dust and Emission Sources	www.lead.org.au/lanv7n2/L72-12.html	Mike van Alphen, Lead Sense, *LEAD Action News*, Vol.7 No.2
Toormina kids at risk from petrol station fumes (petrol station)	www.lead.org.au/lanv5n4/lan5n4-3.html	Media release from the Total Environment Centre. (TEC), *LEAD Action News* Vol.5 No.4
Lead Poisoning Slide Show	www.lead.org.au/bblp/bblp.html	Dr Ben Balzer, Technical Advisory Board of The LEAD Group.
Gasworks and soil contamination	www.lead.org.au/clp/cs2.html	The LEAD Group
Blacktown council	www.blacktown.nsw.gov.au/stormwater/science.html	Blacktown City

carpark sediment & stormwater study		Council
PVC Pressure Pipes for use with drinking water	**CLP Tool Kit** Phone Iplex Pipelines on (02) 9879 7554 for multiple copies	Iplex Pipelines
National Pollutant Inventory	www.npi.gov.au	Environment Australia
TESTING AND ASSESSING		
EPA Lead Guide for Councils, Technical note 2: Risks factors and testing	Distributed by NSW EPA ph 131 555	Lead Reference Centre (LRC) & NSW EPA
AS 4361.2, 1998 Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings	Standards Australia ph 1300 654 646 Can be ordered by phone or on-line at www.standards.com.au	Standards Australia
Lead Spot Test Kits Suppliers List	**CLP Tool Kit** www.lead.org.au/clp/leadspottestkit.html	The LEAD Group
Lead Analysis Laboratories - database report	**CLP Tool Kit** www.lead.org.au/clp/analysislabs.html	The LEAD Group
Lead Assessors - database report	**CLP Tool Kit** www.lead.org.au/clp/assessorsnsw.html	The LEAD Group
Materials and Environmental Investigations (incl. Lead Paint Management Services and Training)	**CLP Tool Kit.** Phone (02) 9736 3911 or email carol@cticonsultants.com.au for multiple copies or down-load from www.lead.org.au/clp/products/CTIBrochure.pdf	CTI Consultants
Lead Paint Management Services.	**CLP Tool Kit**. Phone (02) 9690 2599 or email jbawdensmith@jbsenv.com.au for multiple copies or down-load from www.lead.org.au/clp/products/JBSLeadPaintManagementServices.pdf	JBS Environmental Services and Technologies
Enviro Check Company Profile	**CLP Tool Kit.** Phone (02) 4647 1242, 0418490323 or email tgconnor@bigpond.com for multiple copies or down-load from www.lead.org.au/clp/products/EnviroCheck.doc	Enviro Check
Impact Assessment - Development Control Plan for the Management of Lead Contamination	NSW EPA (ph 131 555) Document prepared in conjunction with the ***EPA Lead Guide for Councils*** and Example DCP	Economics and Environmental Reporting Branch, NSW EPA

STEP 2 ACTION

BUILDING A LEAD SAFE LOCAL COMMUNITY

Step 2: Action - Building A Lead-Safe Community

Acting upon the information collected from the local lead assessment is the next step towards your **Local Lead Action Plan.** It involves mainly adopting measures that will ensure:

- Lead safety for council-controlled activities and assets
- Lead safety in your community through regulatory and planning tools.

Lead Safety for Council-Controlled Activities and Assets

By becoming a 'lead-smart' council, you will protect your community from lead poisoning and at the same time prevent any potential lead related liability.

Adopt an asset management strategy that minimises adverse environmental impacts of council's services and activities.

Since the early to mid 1990's, an increasing number of councils have become aware of the hazards associated with lead and have adopted policies aimed at minimising adverse impacts on their community.

These measures have taken a variety of forms, including formulation of comprehensive lead action plans, lead abatement programs for council-owned buildings, or adoption of standard procedures for maintenance / renovation / demolition of buildings built before 1970.

Some NSW councils have adopted such measures, a few of them are mentioned in this document. Communicate with other Councils through the Council LEAD Project (CLP) e-group (http://groups.yahoo.com/group/CLP-NSW/) and exchange lead policy experiences.

Example: Lead abatement program of Ku-ring-gai Council owned Buildings

The Ku-ring-gai area contains many buildings built from the early 1900s to the present. Most of the Council-owned buildings were built prior to 1970, which has meant most, if not all, have been painted with lead based paint at one time or another. Council has been actively managing the issue, not only for health reasons but also the environmental risks associated with the degrading of lead-based paints. All relevant staff, namely Council painters and carpenters attend a comprehensive training course on how to treat areas that contain lead based paints.

Under our Environmental Management System (EMS) Policy Council makes a commitment to 'Utilise a risk management approach to minimise adverse environmental impacts of its services and activities. In keeping with this commitment, it was decided to use the maximum safety option in managing Council's buildings that contain lead, namely lead abatement. The first step is to test for lead on the area to be worked on using a simple chemical lead test kit. If the test proves positive, the surface of the affected area is prepared then simply painted over to 'cover' the lead-based paint. This involves minimum surface preparation and maximum safety for Council staff, the public and the environment.

This simple policy contains all the basic elements of a lead safety policy. From the initial assessment of lead risk in the local area, it starts at council level by putting in place the condition of lead safety, training of relevant workers and systematic lead testing of council assets. It is a great start to a more comprehensive Lead Action Plan.

Following is a selection of components that have been included in local lead management policies:

- Identification through systematic testing of all council-controlled buildings and infrastructure where lead paint could be present;
- Assessment of identified lead risk buildings to establish the risks associated with it (dust / soil contamination) and develop maintenance strategy to minimise hazards;
- Standard Lead Management Plan to be formulated;
- Lead-safe procedures, as per Lead Management Plan, to be implemented for all pre 1970 buildings, when maintained, renovated or demolished. To include protective equipment for workers, removal of cavity dust, when relevant, prior to any work commencing and procedures for safe lead-based paint removal;
- Standard clause requiring all council contractors to provide a Lead Management Plan and adopt lead-safe procedures when involved in work in buildings built prior to 1970;
- Lead assessment to be conducted in all council controlled public areas frequented by children, including schools, childcare centres, caravan parks, libraries, halls, playgrounds and play equipment;
- Initiate and organise lead awareness courses for all relevant council employees, covering the topics of lead sources, pathways, symptoms of lead poisoning and lead-safe management procedures;
- Designate one or more council officers to be in charge of the lead issue, in-house and able to answer queries from residents - the Council LEAD Project Liaison Officer is to coordinate if more than one officer within council;
- Train relevant council workers in lead-safe management – see sub-section below.

"Specification for surface preparation and repainting of lead paint on water supply pipe bridges", a lead-safe maintenance protocol was prepared for the Australian Water Technology (Sydney Water).

The newly adopted NSW Department of Housing policy on lead paint contains many interesting features which could inspire a council lead safety policy for all council owned or managed properties and infrastructures, in particular those frequented by children. Contact the Department of Housing for look up their website for details on the policy. (www.housing.nsw.gov.au).

Training of workers and employees in lead safety

Who should be trained?

Training allows a thorough understanding of applied knowledge of lead-safe management procedures which will protect the workers as well the public and the environment.

- All council workers involved in maintenance and renovation to undertake specific training for lead-safe management;
- All contractors working for councils should be required to have undertaken lead-safe management training in their area of expertise;
- All Council employees who may have to deal with lead safety issues, including:
    - Environmental planning officers
    - Environmental management officers
    - Heritage officers
    - Council Lead Liaison Officer, or the member/s of staff who deal/s with queries from the public on lead related issues

Who can deliver training?

A number of organisations can deliver training in lead paint / dust management tailored to particular needs. They include Master Painters Australia (NSW), and Companies performing lead assessment. The contact details of these are provided in this kit. Contact them to discuss the details.

Lead-safe contractors

Council should enforce lead-safe management when the work involves contractors. This can be achieved in any of these ways:

- include as a standard clause in each tender that the workers would have to be trained in lead management;
- present the contractor with the list of lead safety questions such as the list compiled in the fact sheet “Hiring a Lead-Safe Contractor”;
- require a lead assessment and a Lead Management Plan for all buildings built prior to 1970 or testing positive for lead.

Protecting your workers from lead hazards to comply with Occupational Health and Safety Regulations and WorkCover Guidelines.

As employers, councils have to comply with the *Occupational Health and Safety (OH&S) Act* and Regulations (*NSW Occupational Health and Safety Act, 2000* and *NSW Occupational Health and Safety Regulations 2001*), and provide their workers with a safe working environment. This statute incorporates the provisions of the *National Occupational Health and Safety Commission: Control of Inorganic Lead at Work [NOHSC:1012(1994)].*

Under the OH&S regulations, council's obligations as an employer and in relation to lead safety include the general provisions of *Chapter 2: Places of work risk management and other matters*, and in particular:

Clause 9: Employer to identify hazards;

Clause 10: Employer to assess risks;

Clause 11: Employer to eliminate or control risks;

Clause 12: Employer to review risk assessments and control measures;

Clause 13: Employer to provide instruction, training and information;

Clause 15: Provision by an employer of personal protective equipment;

Clause 16: Employer to obtain information.

Also, pursuant to the OH&S Regulations 2001, specific provisions apply to lead processes (*Part 6: Lead Processes and Lead Risk Work*), entailing specific obligations, including:

Clause 201: Employer to control risks from lead;

Clause 202: Biological monitoring and health surveillance;

Clause 203: Employer to remove certain employees from lead risk work.

- *WorkCover Guidelines on Ceiling Dust Removal*

WorkCover NSW has developed Guidelines on ceiling dust removal, *"Assessment of Lead Exposure Associated with Ceiling Dust Removal"* recommending a series of procedures in order to minimise health risk from exposure to the lead normally found in ceiling dust. One important recommendation is that the "ceiling must be cleaned of accumulated dust before commencing any work involving partial or complete removal of the ceiling itself."

The WorkCover Guidelines also state:

There are a number of guidance notes already in place, for example:

- *Procedures used in the Sydney Aircraft Noise Insulation Project (SANIP)*
- *Ceiling Dust and Hail Storms (Vol.7 No.2 of Lead Action News) by The LEAD Group, Inc.*
- *Management of Lead Contamination (in Draft) by the Lead Reference Centre, EPA*
- *Code of Practice for Ceiling Dust Removal from the Australian Dust Removalists Association (ADRA)*

Other Relevant Australian Standards

- AS 2601-1991 Demolition of Structures
- AS 4361.1-1995 Guide to Lead Paint Management - Part 1: Industrial Applications
- AS 4361.2-1998 Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings

Heritage and Lead

Protection of natural and built heritage has become an important responsibility of councils, and almost every council counts in its staff a heritage officer.

Built heritage by definition raises lead issues. It is therefore of foremost importance that heritage officers in councils be trained on lead-safe management. Most heritage buildings were built at a time when paint contained up to 50% lead.

They would also have accumulated, over the years, loads of toxics including lead in ceiling and cavity voids and the soil around them is likely to be contaminated from previous exterior renovations. A Lead Management Plan should be required for any work on heritage buildings and lead-safe fact sheets should be on the desk of each heritage officer, for the benefit of the owners of such properties and of the community.

Alternatives to Lead Products

Where possible, replace lead products with lead free products.

Increasingly, alternatives to lead products are being developed. Show that you care and opt for the lead-free alternative.

Lead free solder, cables, electrical tape and flashing are some of the products being offered lead free. See Related Resources for information on these products.

When replacing old computers, opt for Liquid Crystal Display VDUs. That simple measure will reduce, by approximately 2 kilograms, the quantity of lead sitting on each employee's desk.

Old VDUs should be re-used when possible. Contact Technical Aid to the Disabled (TAD), an organisation that collects used computers to give computer access to the disabled. Non-pentium computers will need to be recycled. Phone MRI on (02) 9729 4999 to ask what the options are.

Regulatory and Planning Tools for a Local Lead Action Plan

This section focuses on the **regulatory and planning tools** that can be used by councils and incorporated into a local Lead Action Plan to prevent any lead contamination or to remediate such occurrence.

These regulatory and planning tools enable councils to not only promote lead safety - see Step 3 - but also to impose and enforce it.

In the majority of local government areas, a large proportion of buildings were erected prior to 1970. In keeping with the principles of ecologically sustainable development (ESD) and in particular with the precautionary principle, council must assume that renovation or demolition of all buildings requires lead management procedures, unless proven otherwise.

Amongst the options available to council to minimise lead exposure in the context of developments, adopting a development control plan (DCP) for lead contamination, such as that proposed in the ***EPA Lead Guide for Council***' is arguably the most efficient way of addressing the problem. It also constitutes a key element in any strategy to eliminate lead poisoning.

The DCP should be seen however as only one component of a Local Lead Action Plan. It is recommended that each council takes into consideration its own lead profile as well as its own circumstances, and develop its own Local Lead Action Plan.

Along this line, the purposes of this second step towards your Local Lead Action Plan are:

- to explore the various powers available to councils that can be exercised to improve lead safety;
- to consider how these powers can be used in the context of lead policies, guidelines and environmental planning instruments;
- to provide proforma or examples of these documents, easily adaptable to Council's specific needs.

Councils are vested with statutory powers and with responsibilities in a number of areas relevant to lead safety.

Amongst them:

- Environmental Planning
- Contaminated Land
- Pollution Control and Waste

Environmental Planning and Contaminated Land Management

Many of the activities that can result in lead hazards can be controlled by Councils through their development control powers under the *Environmental Planning and Assessment Act 1979*. The scope of council's power to impose conditions on a proposed development and enforce lead-safe work practices depends upon the type of development considered – complying, local, integrated, exempt or state-significant.

Refer to the flow chart "Assessing the risk of lead contamination" in the ***EPA Lead Guide for Councils*** for a detailed description of the assessment process according to the type of development as suggested in the example Development Control Plan.

It is important to highlight that where approval is not required, such as in the case of *exempt development*, council may require that the person carrying out the activity demonstrates either the absence of lead risk or that the activity is being carried out in a lead-safe manner.

When considering a development approval, Councils must take into account "the likely impact of that development, including environmental impact on both the natural and built environments, and social and economic impact", and "the public interest" (S.79c *EP&A Act*). Lead risk assessment and, when risk present, the necessary measures to prevent the release of lead into the environment, form part of the consideration of the likely impact of the development.

Contaminated sites

In NSW, local councils have particular responsibilities associated with land contamination and remediation. The Contaminated Land Management Act 1997 provides that management of contaminated sites that do not pose a significant risk of harm to human health or the environment, and hence are suitable for the current or approved use, through the land use planning processes.

In addition, local councils have a responsibility in insuring that land is not developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals (State Environmental Planning Policy No.55, Remediation of Land (SEPP 55) , clause 7).

The responsibilities of councils relating to contaminated land, in conjunction with the obligations and powers vested in council by the *Environmental Planning and Assessment Act 1979* can be combined in a local policy such as a Development Control Plan on contamination issues in general or specifically on lead management.

At this point, it may be worth mentioning the information provided on the National Pollutant Inventory (NPI) www.npi.gov.au . It was designed to help governments at all levels with environmental planning and management and may be of assistance in determining potential contamination issues.

Development Control Plan (DCP) for lead contamination

Development Control Plans allow council to identify, in a systematic manner, requirements relating to development in their local government area that are or will be taken into consideration when determining a development application and when making a Local Environmental Plan (LEP) (as required by the *Environmental Planning and Assessment Act 1979* and SEPP 55)

The provisions of a DCP supplement controls of the Local Environmental Plan, and usually contain more precise and detailed requirements than those of the LEP. The legal authority of DCPs is likely to increase with the review of plan-making in NSW, "Plan First" undertaken by Planning NSW, proposing that DCPs be deemed part of the Local Environmental Plan.

Some councils - such as Leichhardt Municipal Council - have adopted such an approach for some years, and have opted for the incorporation of the lead provisions in a DCP on Contaminated Land.

Other councils - such as Broken Hill Council - have preferred to adopt a DCP specifically on Management of Lead Contamination.

With the model **DCP for Lead Contamination** proposed as part of the ***EPA Lead Guide for Councils***, it has now become much easier for councils to adopt an adequate lead-safe policy. This DCP was developed in association with the Lead Reference Centre (LRC), and local and state government representatives.

The aim of the proposed plan is "to minimise lead exposure to the public and lead pollution in the environment by requiring lead-safe work practices and controls and proper disposal procedures during development activities."

More specifically, the objectives of the plan are to:

1. ensure that all development activities comply with acceptable environmental planning practices and standards;
2. assist in achieving a consistent approach to the management of lead contamination;
3. minimise the overall environmental impacts of lead contamination;
4. minimise the effects of lead on the health of residents;
5. provide advice to people and organisations on how to manage lead in their premises and the environment, matters that need to be considered and the actions to be carried out;
6. provide advice to intending applicants on how to reduce and handle waste during the demolition and construction phase;
7. provide for on-going control of lead in premises;
8. provide guidance for council in undertaking its infrastructure management and maintenance functions.

A key feature of the DCP is to shift the onus of identifying potential lead risk onto the developer.

The Example DCP consists of:

General requirements, including:

- *assessment of lead risk circumstances* through the completion of a 'lead risk assessment checklist'
- preparation of a lead management plan where lead risk has been identified.

Specific requirements, relating to specified activities, as follows:

- Renovation and refurbishment
- Demolition
- Landscaping and filling

In relation to each of these activities, the plan provides the basic safety procedures that should be complied with, and refers to relevant standards and regulation. More detailed information is provided in the Technical Notes component of the ***EPA Lead Guide for Councils***.

Following are policy elements that council can choose to adopt independently or as part of a DCP.

In many other local government areas, the authority opted for the adoption of standard conditions of consent.

Standard Conditions

In the absence of a DCP on lead, council may be satisfied with the adoption of standard conditions for development / demolition, that ensure:

1. the onus of proof of the absence of lead risk shifted onto the developer;
2. a requirement for a lead management plan where lead risk has not been determined, or has been revealed by the assessment;
3. a recommendation to obtain advice from the Lead Advisory Service Australia.

A number of councils have adopted this approach, and standard conditions can be adapted from the provisions of the example DCP on lead contamination developed by the EPA in ***EPA Lead Guide for Councils***.

Through the Council LEAD Project e-group, you can discuss the provisions incorporated in other councils' Standard Conditions of Consent in relation to lead.

Lead Management Plans

When lead risk has been identified, an example Lead Management Plan can be developed by councils to assist the developers with the requirements of the conditions of consent.

Two Lead Management Plan scenarios are proposed in the ***EPA Lead Guide for Councils*** in Technical note 6.

Guidelines for Approval of Particular Types of Developments

Proper lead management can be encouraged by council through the development of guidelines for particular types of developments, such as Heritage properties and children's services.

Heritage Properties

As mentioned previously, heritage properties have inherent lead risks, and when guidelines for approval of heritage properties have been developed, council must ensure that they incorporate provisions relating to lead safety. In the same way as the NSW Dept of Public Works & Services (DPWS) has done for schools a maintenance, councils could require that only AS 4361 trained painters should be employed for heritage building renovation and maintenance.

Children's Services

Children are particularly at risk of lead poisoning, and it is essential that specific procedures be put in place by councils in order to:

- ensure that all children's services premises have been the subject of a professional lead assessment;
- ensure that all children's services staff is aware of and comply with the "Lead Hazard Management in Children's Services" booklet produced by NSW Children's Services Health and Safety Committee;
- address any lead risk as a matter of urgency, using contractors or consultants with appropriate lead training or experience.

Where Local Approval Policy has been developed, defining conditions that must be met in order to grant permission to erect a childcare centre, to approve modifications to a building to become a childcare centre, or to define orders that are applicable to children's services under *Section 124 of the Local Government Act 1993,* it is important that lead risk is considered. This might involve:

- Location requirements. Locations to be avoided include:
    - proximity to major roads carrying a risk of lead dust resulting from years of lead additives to petrol, as well as exposure to other vehicle pollution including particulates, ground level ozone, carbon monoxide, oxides of nitrogen, carcinogens in diesel emissions, etc.
    - proximity to industrial activities carrying lead risk such as smelters, mines, petrol stations, as well as exposure to other emissions such as other heavy metals, sulphur dioxide, sulphur trioxide, etc.
- Soil testing to ascertain the absence of soil contamination;

- Removal of all lead paint when present, such as is required by the *Schools Facilities Standards Guide Note 4.1 on Lead Based Paint Removal* by the NSW Department of Public Works and Services. This 1999 *Guide Note* states:
    - Remove paint containing greater than **0.25%** lead prior to the preparation of substrate to receive systems specified.

Standards: To AS 4361.2

- All lead based paint is to be removed completely back to substrate.
- Removal method is to be non dust producing, (ie. not abrasive blasting or mechanical sanding).

- *Inspection:* On completion notify the Superintendent who will arrange for the site to be tested and issue of a Clearance Certificate when all work is satisfactorily completed.
- *Protection of Children*: Children are to be kept out of work areas at all times until the Clearance Certificate has been issued. All work except for minor remedial work is to be carried out during school holidays. Minor remedial works is to be carried out outside school hours.
- *Protection of Workers:* Showers are to be provided on or near site and all workers are required to shower before leaving the site at the end of each work day.
- *Repainting:* Repainting process is only to be carried out after the Superintendent/Superintendent's Representative has issued a Clearance Certificate. Painting of adjacent surfaces must not be carried out during the lead based paint removal process.
- *Returfing:* Where lead based paint removal has been carried out on external surfaces, bare soil adjacent to the removal site is to be tested and, if contaminated, removed to a depth of 100 mm and replaced with fresh top soil and turf.

- Lead testing of the drinking water, especially if tank water (including rainwater, dam water, river water or bore water)
- Systematic lead assessment of the premises.

Section 149 Certificates

The *Environmental Planning and Assessment Act 1979* provides that, upon demand, a council shall issue a certificate spelling out the legal ground rules for development of any piece of land within the council area.

A number of prescribed matters are required to be listed by council in Section 149(2) certificates. This includes specific notations when restriction is placed on the land in relation to contaminated land (pursuant to section 59(2) of the *Contaminated Land Management Act 1997*): If the land is within an investigation area or remediation site, if it is subject to an investigation or remediation order, if the land is the subject of a voluntary investigation or if it is subject to a site audit statement.

Section 149(5) certificates provide for annotation if land has been remediated or investigated and found to be uncontaminated.

However, there is no provision for council to provide information to prospective buyers on the potential for indoor contamination.

It would be a useful initiative for councils to mention the necessity to consider indoor contamination when section 149 certificates are issued.

State Significant Developments

State significant developments need to comply at minimum with local development, which will include lead-safe conditions when they have been made part of council policy.

Exempt, Complying and Integrated Developments

Lead risk is also present when the nature of the development does not require approval. When a DCP or standard conditions have been adopted by council, it is important that they stress that they also apply to developments exempt of consent, although they may be in that case more difficult to enforce.

Councils which have included provisions for exempt developments in their Local Environmental Plan have the opportunity to include requirements relating to lead risk assessment and when lead risk is present, council may require that lead-safe procedures be applied.

For councils that have not specifically provided for exempt developments, the SEPP No. 60 on Exempt and Complying development applies. There is no specific reference to lead safety in the Plan however it provides that an exempt development must not "create interference with the neighbourhood because it … creates fumes … dust …." (Part 2 Cl. b (iii)), inferring that lead fumes or dust should not interfere with neighbours.

For complying developments, councils or accredited certifiers must consider whether or not the development complies with any application and conditions imposed in an LEP/ DCP (*EPA Act* s. 85 A (3)), and thus would be required to comply with the lead-safe conditions if adopted as part of a DCP.

Rezoning and Lead

There is a considerable burden on council to ensure safety of use when a change of use of land is considered requiring rezoning.

Lead contamination may be an issue, in particular when the land borders lead work activities, and when residential use or use involving the presence of children is considered. Council has a duty to seek further information from the proponent and be satisfied that the land is suitable for the proposed used. If this is not the case, further investigation or remediation may be required, as provided by the *Contaminated Land Management Act 1997* and the *National Environment Protection (Assessment of Site Contamination) Measure 1999*.

Pollution Control

When planning control has failed to prevent lead contamination, council resort to its pollution control powers to prevent or remediate any occurrence of lead contamination.

The *Protection of the Environment Operations Act* (*POEO Act*), 1997, gives the local authority power to issue **Prevention and Clean Up Notices.**

Prevention notices (Part 4.3) can be issued when Council "reasonably suspects that an activity has been or is being carried on in an 'environmentally unsatisfactory manner'. The notice can be issued to the occupier of the premises concerned and/or to the person who is carrying on the activity. The prevention notice must be given in writing and must specify both the action that must be taken to ensure that the activity is carried on in an environmentally satisfactory manner, and the period within which the action must be taken. A minimum of 21 days must be given before the action has to be taken."

Clean up notices (Part 4.2) can be used to prevent contamination, including lead contamination. Such notices can be issued when Council "reasonably suspects that a 'pollution incident' has occurred or is occurring, or which occurrence is imminent."

The notice can be issued by the appropriate officer to the occupier of the premises or/and to the person who is reasonably suspected of causing, having caused, or is just about to cause a pollution incident.

Orders under Local Government Act, (LG Act), 1993

Section 124 - 21 of the *LG Act* provides that councils may order a person to do or refrain from doing such things as are specified in the order to ensure that land is, or premises are, placed or kept in a safe or healthy condition".

Clearly an order to restrain from proceeding with activities such as renovation / demolition / maintenance presenting a lead hazard without observing the proper work practices, or an order to remove peeling lead paint with lead-safe procedures for such activities would fall into that category.

Prior to giving the order, council must give notice to the person of its intention to give the order, and specify the period of time and advise him/her of his/her rights to make a representation to the council (*S**ection 132 LG Act)***

Councils may develop a **Local Order Policy** to define orders applicable to children's services, allowing council to promptly rectify a situation where it is found that the children's service operators are neglecting lead-related health and safety issues.

Waste Management

In NSW, waste management is the primary responsibility of the waste generator and includes waste classification, ensuring the use of a licensed transporter where required and ensuring that the waste is taken to a suitable waste facility.

The legislation pertaining to waste management *(Waste Avoidance and Resource Recovery Act 2001, Protection of the Environment Operations Act, 1997*) is administered by the NSW Environment Protection Authority. The EPA has also developed "*Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes*".

The ***EPA Lead Guide for Councils*** contains a "Technical Note 5" on Waste Management, including a flow chart for "Solid waste contaminated with lead".

Notwithstanding its lead content, non-liquid waste from domestic and educational premises, including lead paint waste or cavity dust waste, is classified as:

- solid waste, if the lead contaminated paint or dust has been removed from the building, and can be disposed of in a solid waste landfill, provided it is packaged appropriately. Recycling, for large quantities of lead contaminated waste, may be considered, or
- inert waste, if the lead paint or dust is part of building demolition waste.

For lead contaminated solid waste originating from buildings or structures other than residential or educational premises, including factories, workshops, offices and shops, the disposal requirements are dependent upon the classification of the waste, according to the *NSW Protection of the Environment Operations Act* 1997.

Liquid lead-contaminated waste, such as waste from wet abrasive blast cleaning or chemical stripping, is to be tested in order to determine its classification. In the ***EPA Lead Guide for Councils***, the EPA's advice for the management of that type of waste is, for the generator of the waste to *"refer to the Waste Guidelines for the appropriate classification, handling and disposal. Depending on the quality, liquid waste may be discharged to the sewer with the prior approval of the local sewerage authority or council. Licensed liquid waste treatment facilities can also offer advice".*

List of Resources Related To Step 2

Subject Area / Title	Where To Find It	Author / Source
LEAD SAFETY FOR COUNCIL CONTROLLED ACTIVITIES AND ASSETS		
EPA Lead Guide for Councils	Distributed by EPA (ph 131 555)	Lead Reference Centre and NSW EPA
Managing Urban Stormwater Pollution – Westfield Mt. Druitt	www.blacktown.nsw.gov.au/stormwater/science.html No longer available	Blacktown City Council
Booklet: Lead Hazard Management in Children's Services	NSW EPA (ph 131 555)	NSW Children's Services Health and Safety Committee auspiced by AECA (NSW Branch)
Department of Housing – Policy REP0000: Lead Paint	www.housing.nsw.gov.au	NSW Department of Housing
LEAD SAFETY TRAINING SCHEMES, SERVICES AND PRODUCTS		
Hiring a Lead-Safe Contractor AND Making Lead-Smart Contractors	**CLP Tool Kit** www.lead.org.au/lat/lat008.html; www.lead.org.au/lat/lat009.html	The LEAD Group, Lead Aware Times Vol.1 No.1
Painting contractors AS 4361 training, in Sydney area, in NSW outside Sydney area, and in ACT	www.lead.org.au/clp/sydpaint.html www.lead.org.au/clp/NSWPaint.html www.lead.org.au/clp/ACTpaint.html	The LEAD Group
Materials and Environmental Investigations (including Lead Paint Management Services and Training)	**CLP Tool Kit (in Step 1).** Phone (02) 9736 3911 or email carol@cticonsultants.com.au for multiple copies or down-load from www.lead.org.au/clp/products/CTIBrochure.pdf	CTI Consultants
Lead Paint Management Services.	**CLP Tool Kit (in Step 1)**. Phone (02) 9690 2599 or email jbawdensmith@jbsenv.com.au for multiple copies or down-load from www.lead.org.au/clp/products/JBSLeadPaintManagementServices.pdf	JBS Environmental Services and Technologies
Enviro Check Company profile	**CLP Tool Kit (in Step 1).** Phone (02) 4647 1242, 0418 490 323 or email tgconnor@bigpond.com for multiple copies or down-load from www.lead.org.au/clp/products/EnviroCheck.doc	Enviro Check
Lead Paint Hazard Management for Contractors and Supervisors	**CLP Tool Kit.** Phone MPA NSW for info on venue and date of upcoming courses, on 02 9758 8877 or Free Call: 1800 4851 224 for callers outside Sydney www.mpa.org.au	Master Painters Australia (MPA)
APAS [Australian	**CLP Tool Kit.**	Painting Contractor

Paint Approval Scheme] and PCCP - Partners in Maximising Time To First Maintenance	Order multiple copies from PCCP on (03) 9248 4938. Go to www.apas.gov.au/pccp/index.htm for list of PCCP Class 5 (includes lead) accredited contractors by state	Certification Program (PCCP)
US Video: Lead: Treat with Respect from *Handling Hazardous Materials* series	Order multiple copies from Future Media on (02) 9279 4499	Future Media Pty Ltd it
Order form for informative video: Lead - Treat It With Respect	**CLP Tool Kit** Order multiple copies from Future Media on (2) 9279 4499 www.lead.org.au/clp/products/HazardAwareness.doc	Future Media Pty Ltd
EMPLOYING LEAD-SAFE CONTRACTORS, COMPLYING WITH LEAD-SAFE PROCEDURES		
Painting contractors with AS 4361 training, in Sydney area, in NSW outside Sydney area, and in ACT	www.lead.org.au/clp/sydpaint.html www.lead.org.au/clp/NSWPaint.html www.lead.org.au/clp/ACTpaint.html	The LEAD Group
Lead Dust Removal (flyer)	**CLP Tool Kit** For multiple copies contact Demand Insulation on 1800 678 261 www.adra.com.au	Australian Dust Removalists Association (ADRA)
Code of Practice For Ceiling Dust Removal	**CLP Tool Kit** For multiple copies contact Demand Insulation on 1800 678 261 www.adra.com.au	Australian Dust Removalists Association (ADRA)
Good News on Stormwater Lead Acid Batteries - the New Stormwater Issue?	www.lead.org.au/lanv6n3/lan6n3-9.html	Ted Floyd with source list by Elizabeth O'Brien
LEAD SAFETY OF COUNCIL WORKERS		
Occupational Health and Safety Act, 2000 and Occupational Health and Safety Regulations, 2001	NSW Legislation www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+648+2001+cd+0+N	Administered by WorkCover NSW
National Standard for the Control of Inorganic Lead at Work [NOHSC:1012(1994]	www.ascc.gov.au/NR/rdonlyres/31042763-B7ED-4F51-B95D-191E3CA7D378/0/leadstandard_NOHSC1012_1994.pdf	The Australian Safety and Compensation Council
WorkCover Advice for Ceiling dust Removalists	www.lead.org.au/lanv7n2/L72-6.html	WorkCover NSW LEAD Action News Vol 7 No. 2
AS 2601 (1991) - Demolition of Structures	www.standards.com.au	Standards Australia
AS 4361.1 (1995), Guide to Lead Paint Management - Part 1:	www.standards.com.au	Standards Australia

Industrial Applications		
AS 4361.2 (1998) - Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings	www.standards.com.au	Standards Australia
The Six Step Guide to Painting your Home (3ru Edition) - Lead Alert	**CLP Tool Kit** www.environment.gov.au/atmosphere/airquality/publications/pubs/leadpaint.pdf	Environment Australia
HERITAGE AND LEAD		
Lead paint in heritage houses - Case Study	www.lead.org.au/clp/racs.html	Robert Aurisch
ALTERNATIVES TO LEAD PRODUCTS		
Lead-Free Products	**CLP Tool Kit** Including lead free solder, cables, plastic electrical and duct tape, flashing www.lead.org.au/clp/products/products.html	The LEAD Group
Lead Free No Risk - Nitto Denko Now Lead Free Plastic Electrical and Duct Tape	**CLP Tool Kit** **For multiple copies ph Nitto Denko on (03)** 97993100 **or down-load from** www.lead.org.au/clp/products/NittoDenkoflyer.pdf	Nitto Denko
Computer recycling	www.technicalaid.org.au	Technical Aid to the Disabled
REGULATORY AND PLANNING TOOLS FOR A LEAD ACTION PLAN		
EPA Lead Guide for Councils Regulatory tools and planning tools, section 1, management tools for lead hazards	**NSW EPA**	Lead Reference Centre and NSW EPA
The Handbook on the New Environment Protection Legislation relates to the *Contaminated Land Management Act 1997* and the *Protection of the Environment Operations Act 1997*.	www.epa.nsw.gov.au/legal/handbook.htm www.austlii.edu.au/au/legis/nsw/consol_act/clma1997238/ www.austlii.edu.au/au/legis/nsw/consol_act/poteoa1997455/	NSW EPA, NSW Parliament
Gas works and Soil Contamination - a case study	http://www.lead.org.au/clp/cs2.html	The LEAD Group
State Environmental Planning Policy (SEPP) 55	**Planning NSW** www.austlii.edu.au/au/legis/nsw/consol_reg/seppn55rol537	Planning NSW
Managing Land Contamination	www.epa.nsw.gov.au	NSW EPA

Guidelines		
Management of Land Contamination Act 1997	***EPA Lead Guide for Councils*** in Technical note 6	Administered by NSW EPA
Lead Management Plans scenarios	***EPA Lead Guide for Councils***	Lead Reference Centre and NSW EPA
Technical Note No.5 on Waste Management, including a flow chart for "Solid waste contaminated with lead"	***EPA Lead Guide for Councils*** www.epa.nsw.gov.au	Lead Reference Centre and NSW EPA
Waste Avoidance and Resource Recovery Act, 2001	www.epa.nsw.gov.au/waste/warra.htm www.austlii.edu.au/au/legis/nsw/consol_act/waarra2001364/	Administered by NSW EPA
Protection of the Environment Operations Act, 1997	www.epa.nsw.gov.au/legal/aboutpoeo.htm www.austlii.edu.au/au/legis/nsw/consol_act/poteoa1997455/ The EPA has established the POEO Service Centre to answer questions about administrative and licensing procedures relating to the requirements of the *POEO Act*. Licensees should phone 133 372 (8.30am-5.00pm Mon to Fri), fax (02) 9995 5921, or email POEOhelp@epa.nsw.gov.au	Administered by NSW EPA
Local Government Act, 1993	http://www.dlg.nsw.gov.au/dlg/dlghome/documents/Regulations/infopaper3.pdf www.austlii.edu.au/au/legis/nsw/consol_act/lga1993182/	Administered by the NSW Dept of Local Government
SAMPLE / PRO FORMA ORDERS AND POLICY		
Guide to Notices under the *POEO Act 1997*, including proforma clean up and prevention notices	http://www.epa.nsw.gov.au/mao/notices.pdf	NSW EPA
Standard lead-safe demolition condition	www.lead.org.au/lat/lat004.html	Leichhardt Municipal Council Lead Aware Times Vol 1 No.1
Sample development plan: contaminated land management, Leichhardt DCP No.42	Phone **Leichhardt Municipal Council** on (02) 9367 9222	Leichhardt Municipal Council
EPA Example DCP on lead	***EPA Lead Guide for Councils*** **NSW EPA (131 555)**	Lead Reference Centre and NSW EPA
City of Broken Hill Development Control Plan No.11 Management of Lead Contamination	**Sample Lead DCP, August 2000** **City of Broken Hill Tel. (08) 8080 2270)**	City of Broken Hill

STEP 3
AWARENESS

PREVENTION THROUGH INFORMATION-
COMMUNITY LEAD EDUCATION

Step 3: Awareness - Prevention Through Information - Community Lead Education

An essential element of your local lead strategy is community lead education.

Ignorance and misconceptions about lead are responsible for a large proportion of lead contamination and lead poisoning cases. Non-detection of the cases is such a prominent feature of lead poisoning that it is often referred to as “the silent epidemic”.

Local councils can use a **lead education tool** and ensure that their community does not suffer the dire consequences of lead poisoning, by raising awareness.

Reaching the community with information targeting prevention and detection of cases of lead contamination and poisoning will result in a significant reduction in their occurrence. It will also complement the policy measures and increase their effectiveness both in cases where council does have the power to enforce lead-safe procedures - in the context of development approvals - and where council does not have such control (when development approval is not required).

Community Lead Education can take a Variety of Forms

The more often the message of lead safety is repeated, and the more varied its form and venues, the more likely it is to be heard by the community. Here are some suggestions:

- Lead awareness stalls in local events: street fairs, markets, local celebration events, festivals etc;
- Permanent or temporary lead information display in council's chambers;
- Lead education material available on counter of environmental and planning service;
- Council libraries having books about lead. See Related Resources for titles.
- Lead education material inserted with all post-outs regarding development approval;
- Support for not-for-profit organisations or local projects promoting lead safety or including lead safety in their project, such as the "Mobile business environmental project" supported by Marrickville City Council, the "Eco-living" initiative by Sydney Waste Boards, or as part of a stormwater community education campaign of the type promoted by the EPA;
- Initiate lead safety campaigns targeting specific sections of the community: parents of young children, professionals, ethnic communities. The Lead Advisory Service Australia can be commissioned to create specific information;
- Have lead safety presentations in children's services managed by council – childcare centres, before and after school care centres, holiday care services;
- Offer services that will assist your community to be lead-safe such as:

➢ Ensure that members of your community always have someone in council available to answer lead related queries, and that the council receptionist knows who to direct such queries to

➢ For more complex queries, either the council receptionist or the council officer dealing with lead queries can refer callers to the Lead Advisory Service Australia (LASA) and council can give some financial support so that LASA can continue its (currently unfunded) service to the community

➢ Have available the information that will assist members of your community to prevent lead contamination and lead poisoning: How to test for lead, how to hire a lead-safe contractor, who are the painters who have lead-safe training in your locality, who can assess my house for lead contamination, where to hire a HEPA vacuum cleaner, etc

➢ Offer some free services that will assist in the prevention of lead contamination and poisoning, such as free lead paint testing. (Tweed Shire Council implemented a free lead testing service in 1997)

- Celebrate International Lead Poisoning Awareness Week (usually the last week in October to coincide with the National Lead Poisoning Prevention week in the USA, or the calendar week surrounding 20th October, which has been gazetted in NSW as Lead Poisoning Awareness Day. For example International Lead Poisoning Awareness Week in 2002 is Sunday 20th October to Saturday 26th October) with a special event, banners, etc
- Include lead information in council's State of the Environment report.

How to Plan and Implement a Successful Community Lead Education Campaign

The following information can be used either for the purpose of a lead education campaign initiated by council or for providing support to organisations or groups planning such a campaign.

Running a lead education campaign is no different to running any community education campaign and your council probably already has the experience and equipment for those.

A brochure prepared by the Environment Protection Authority and the Department of Land and Water Conservation, called ***"What we need is… A Community Education Project, an eight-step guide to running a community education campaign"*** may provide further assistance. This document details the following eight-step 'effective education planning' process as follows:

Step 1 Analyse the issue or problem

Step 2 Identify stakeholders

Step 3 Know your target group

Step 4 Determine objectives and outcomes

Step 5 Design your methods

Step 6 Consider funding

Step 7 Make an action plan and implement it

Step 8 Monitor and evaluate

At the end of this kit you will find sample leaflets that can be distributed to your community upon their request or during lead education campaigns. Further resources listed below can be obtained as indicated. Note that the lead fact sheets and booklets prepared by the former Lead Reference Centre can be obtained by contacting the EPA or the Better Health Centre (order form provided in this kit). Unfortunately some of these are out of stock so you may need to ask the Health Department to re-print them.

List of Resources Related To Step 3

Subject Area / Title	Where To Find It	Author / Source
COMMUNITY EDUCATION		
Pluto Press Flyer: :Local Heroes; No Toxic Dump	To order "No Toxic Dump", contact Pluto Press Australia, www.plutopress.com.au To order "Local Heroes" contact The LEAD Group Inc. Local Heroes	Pluto Press
Local Heroes, Australian crusades from the environmental frontline	For review of this book see The LEAD Group Inc. Local Heroes This book has three chapters on lead contamination, a great book to add to council. library's resources	Edited by Kathleen McPhillips, Pluto Press Australia
No Toxic Dump! A triumph for grassroots democracy and environmental justice	For review of the book see Pluto Press website, at plutoaustralia.com/catalogue/display.php?item=212	Paul Strangio, Pluto Press Australia
Lead is a Silent Hazard	A great reference on lead poisoning, that has been sent by the Council LEAD Project team to those Council Liaison Officers that had returned the initial survey.	Richard Stapleton, Walker & Co New York 94
EPA Lead Guide for Councils Section 1 - Management of lead contamination; "Education tools"	NSW EPA Pollution Line on 131 555	NSW EPA
What we need is … A Community Education Project, an eight-step guide to running a community education project	NSW EPA Pollution Line on 131 555 www.epa.nsw.gov.au/community/index.htm	NSW EPA and Department of Land and Water Conservation
Hiring a lead-safe contractor	www.lead.org.au/lat/lat008.html	The LEAD Group Lead Aware Times Vol 1 No 1
Be lead-safe	www.ecolivingsolutions.com.au/home/leadsafe.html	North Sydney Waste Board. Example of lead-safe component to an environmental project.

New Stormwater Campaign- Council Resources Kit	www.epa.nsw.gov.au/stormwater/crk/index.asp	NSW EPA
Paint Clean, Environmental Information for Painters	www.epa.nsw.gov.au/small_business/painters/index.htm A promising section of the EPA site, which could benefit by including more thorough information on lead paint management or a link to the lead section of the EPA site.	NSW EPA
What to do if you have too much lead in your tank water - Fact sheet	**CLP Tool Kit.** www.lead.org.au/fs/tankwater.pdf	Dr Neville Gibson
Lead Contamination in Stormwater - Fact sheet	**CLP Tool Kit.** www.lead.org.au/fs/stormwater.pdf	The LEAD Group
Rotary Childhood Lead Exposure Risk Factor Questionnaire AND Message to Doctors	www.lead.org.au/fs/fst8.html	LASA Fact sheets by The LEAD Group
Lead Poisoned Pets and Your Family	www.lead.org.au/fs/fst9.html	
Childhood Lead Poisoning Risk Factor Questionnaire	www.lead.org.au/fs/fst10.html	
Lead in Drinking Water in Australia	http://www.lead.org.au/lanv8n1/l8v1-11.html	
Have We Really Resolved The Lead Issue?	www.lead.org.au/fs/fst13.html	
The Importance of the Availability of "Spot Tests" for Lead in Paint	**CLP Tool Kit** www.lead.org.au/fs/fst14.html	
Pregnant or Planning a Pregnancy	www.lead.org.au/lanv6n2/update005.html	
Breastfeeding and Lead	www.lead.org.au/lanv6n2/update002.html	

Lead in breast milk	www.lead.org.au/lanv6n2/update014.html	
Beware The Lead In Lead Lighting	www.lead.org.au/fs/fs18.html	
Is Your Child Safe From Lead? – **Poster**	**CLP Tool Kit,** www.lead.org.au/fs/fst11.html For multiple copies phone Better Health Centre on (02) 9816 0452	NSW Health Dept & EPA
Lead Alert – Painting an older home? Does your old paint contain lead? Lead is a health hazard- Poster	**CLP Tool Kit**	Environment Australia
Elite Maintenance Lead contamination and removal	**CLP Tool Kit.** For multiple copies ph Elite Maintenance Service (07) 3801 2166	Elite Maintenance Service Pty Ltd
Hazardous Dusts and HEPA Filters, AND How to Set and maintain your HEPA vac	Lead Advisory Service Australia on 1800 626086	JBS Environmental Services and Technologies
Order form for informative OH&S video: Lead - Treat It With Respect	**CLP Tool Kit** (in Resources Related to **Step 2**) www.lead.org.au/clp/products/HazardAwareness.doc	Future Media Pty Ltd
Do-It-Yourself Lead Safe Test Kits	**CLP Tool Kit** www.lead.org.au/clp/products/Do_It_Yourself_Lead_Safe_Test_Kit.pdf	The LEAD Group Inc.
Painting? Tips for Responsible Clean Up and Disposal	**CLP Tool Kit**	Scientific Services Laboratory, Australian Government Analytical Laboratories (AGAL)
Is There A Hidden Health Hazard In Your Roof?	**CLP Tool Kit** www.mhcs.health.nsw.gov.au/mhcs/publication_pdfs/5395/BHC-5395-ENG.pdf This Fact sheet is available n the following languages: www.mhcs.health.nsw.gov.au/mhcs/languages.html English, Serbian, Russian, Thai, Chinese, Vietnamese, Croatian, Khmer, Spanish, Korean, Macedonian, Portuguese, Italian, Turkish, Arabic, Greek, Laotian., on line or on order from Better Health Centre, Reference BHC 5395	Multicultural Health Communication Service, NSW Health Dep Better Health Centre

Lead Safe fact sheet - Lead, your Health and the Environment	Lead, your Health & the Environment is on-line at www.lead.org.au & copies are **available** in Arabic, Chinese, English, Korean, Macedonian, Spanish, Turkish & Vietnamese. Multiple copies **are no longer available** from Better Health Centre	Lead Reference Centre, NSW EPA.
Lead Safe fact sheet - Lead in Ceiling Dust	**CLP Tool Kit** www.lead.org.au/fs/Lead_in_Ceiling_dust.pdf For multiple copies of *Lead Safe* Fact sheets, ph Better Health Centre on (02) 9816 0452 or **NSW EPA** (131 555), or order on-line at www.health.nsw.gov.au/health-public-affairs/bhc/leadsafe.pdf Ask for it to be reprinted if a title becomes unavailable.	
Lead Safe fact sheet - Lead Safe Renovations		
Lead Safe fact sheet - Lead Safe Housekeeping		
Lead Safe fact sheet - Old Lead Paint		
Lead Safe booklets	For multiple copies phone Better Health Centre on (02) 9816 0452 or **NSW EPA** (131555), or down-load the order form at www.health.nsw.gov.au/health-public-affairs/bhc/leadsafe.pdf Ask for a reprint if a title becomes unavailable.	Lead Reference Centre, NSW EPA
Lead Safe booklet: A Guide for Health Care Professionals	"Lead Safe Guide For Health Professionals" , an adaptation of the "Lead Safe booklet: A Guide for Health Care Professionals", by the National Referral Centre for Lead Poisoning in India run by The George Foundation is available on-line at www.leadpoison.net/prevent/guide-professionals.htm	Lead Reference Centre, NSW EPA
Lead Safe booklet: A Renovator's Guide to the Dangers of Lead	**CLP Tool Kit** Part of A Renovator's Guide to the Dangers of Lead is available on-line at www.epa.nsw.gov.au/leadsafe/projects.htm and www.epa.nsw.gov.au/leadsafe/leadinf4.htm#renovating	
Lead Safe booklet: A Guide to Keeping your Family Safe from Lead	**CLP Tool Kit** "Lead Poisoning - Guide For Families", an adaptation of the "Guide to Keeping your Family Safe from Lead Booklet", by the National Referral Centre for Lead Poisoning in India run by The George Foundation is available on-line at www.leadpoison.net/prevent/guide-family.htm	
Lead Safe Publications ORDER FORM	For multiple copies, contact the Better Health Centre on (02) 9816 0452, down-load order form from www.health.nsw.gov.au/health-public-affairs/bhc/bhc.html or use the order form in this Tool Kit	Better Health Centre
Lead Alert Facts: Lead	**CLP Tool Kit** Multiple copies of Lead Alert Fact Sheets are available by phoning Environment Australia's Community Information Unit on 1800 803 772 and they are available on-line at: www.environment.gov.au/atmosphere/airquality/publications/leadfs.html	Environment Australia
Lead Alert Facts: Lead and the Environment	www.environment.gov.au/atmosphere/airquality/publications/environment.html	
Lead Alert Facts: Lead and Your Health	www.environment.gov.au/atmosphere/airquality/publications/health.html	
Lead Alert Facts: Lead in Auto Paints	www.environment.gov.au/atmosphere/airquality/publications/autopaints.html	

Lead Alert Facts: Lead in Ceramics	www.environment.gov.au/atmosphere/airquality/publications/ceramics.html	
Lead Alert Facts: Lead in House Paint	www.environment.gov.au/atmosphere/airquality/publications/housepaint.html	
Lead Alert Facts: Lead in Marine Paints	www.environment.gov.au/atmosphere/airquality/publications/marinepaints.html	
Lead Alert Facts: Lead in Pottery	www.environment.gov.au/atmosphere/airquality/publications/pottery.html	
Lead Alert Facts: Lead in Recreational Activities	www.environment.gov.au/atmosphere/airquality/publications/recactivities.html	
Lead Alert Facts: Lead in Stained Glass	www.environment.gov.au/atmosphere/airquality/publications/stainedglass.html	
The Six Step Guide to Painting your Home (3rd Edition)- Lead Alert	**CLP Tool Kit** www.environment.gov.au/atmosphere/airquality/publications/leadpaint.html	Environment Australia

Part 2: Hard Copies of Related Resources

For a full list of suggested resources, see the table at the end of each section. Please find following the hard copies of selected items from those tables, as listed overleaf.

List of Hard Copy Resources

Subject Area /Title	Where To Find It	Author / Source
HARD COPY RESOURCES RELATED TO THE INTRODUCTION		
	HEALTH EFFECTS	
Health Impacts of Lead Poisoning. A preliminary listing of the health effects and symptoms of lead poisoning	www.lead.org.au/fs/fst7.html A work in progress, constantly needs updating as more health effects are discovered every year	Vance Vella, Elizabeth O'Brien and others
HARD COPY RESOURCES RELATED TO STEP 1		
	SOURCES AND PATHWAYS	
Sources of lead	www.lead.org.au/lasn/lasn006.html	The LEAD Group, *Lead Advisory Service News* Vol.1 No.1
	TESTING AND ASSESSING	
Lead Spot Test Kits Suppliers – General – referrals list	www.lead.org.au/clp/leadtestkit.html	The LEAD Group
Lead Analysis Laboratories – referrals list	www.lead.org.au/clp/analysislabs.html	The LEAD Group
Lead Assessors – referrals list	www.lead.org.au/clp/assessorsnsw.html	The LEAD Group
Materials and Environmental Investigations (including Lead Paint Management Services and Training)	Phone (02) 9736 3911 or email Carol Bodle for multiple copies or down-load from www.lead.org.au/clp/products/CTIBrochure.pdf	CTI Consultants
Lead Paint Management Services	Phone (02) 9690 2599 or email jbawdensmith@jbsenv.com.au for multiple copies or down-load from www.lead.org.au/clp/products /JBSLeadPaintManagementServices.pdf	JBS Environmental Services and Technologies
Enviro Check	Phone (02) 4647 1242, 0418 490 323 or email tgconnor@bigpond.com for	Enviro Check

Company Profile	multiple copies or down-load from www.lead.org.au/clp/products/EnviroCheck.doc	
Outdoor Shooting Ranges and Land Contamination - Considerations for Councils	www.lead.org.au/clp/outdoorshootingranges.pdf	Council LEAD Project, The LEAD Group
PVC Pressure Pipes for use with drinking water	Phone Iplex Pipelines on (02) 9879 7554 for multiple copies	Iplex Pipelines
HARD COPY RESOURCES RELATED TO STEP 2		
LEAD SAFETY TRAINING SCHEMES, SERVICES AND PRODUCTS		
Hiring a Lead-Safe Contractor AND Making Lead-Smart Contractors	www.lead.org.au/lat/lat008.html; www.lead.org.au/lat/lat009.html	The LEAD Group, *Lead Aware Times* vol.1 No.1
Materials and Environmental Investigations (including Lead Paint Management Services and Training)	(in Resources related to Step 1). Phone (02) 97363911 or email carol@cticonsultants.com.au for multiple copies or down-load from www.lead.org.au/clp/products/CTIBrochure.pdf	CTI Consultants
Lead Paint Management Services.	(in Resources related to Step 1). Phone (02) 96902599 or email jbawdensmith@jbsenv.com.au for multiple copies or down-load from www.lead.org.au/clp/products/ JBSLeadPaintManagementServices.pdf	JBS Environmental Services and Technologies
Enviro Check Company profile	(in Resources related to Step 1). Phone (02) 4647 1242, 0418 490 323 or email tgconnor@bigpond.com for multiple copies or down-load from www.lead.org.au/clp/products/EnviroCheck.doc	Enviro Check
Lead Paint Hazard Management for Contractors and Supervisors	Phone MPA NSW for info on venue and date of upcoming courses, on 02 9758 8877 or Free Call: 1800 4851 224 for callers outside Sydney www.masterpainters.com.au	**Master Painters Australia (MPA)**
APAS [Australian Paint Approval Scheme] and PCCP - Partners in	Order multiple copies from PCCP on ph (03) 9248 4938. Go to www.apas.gov.au/pccp/index.htm for list of PCCP Class 5 (includes lead) accredited contractors by state	Painting Contractor Certification Program (PCCP)

Maximising Time To First Maintenance		
Handling Hazardous Materials - Order form for informative OH&S video: Lead - Treat It With Respect	Order multiple copies from Future Media on ph (02) 9279 4499 www.lead.org.au/clp/products/Hazard Awareness .doc	Future Media Pty Ltd
EMPLOYING LEAD-SAFE CONTRACTORS, COMPLYING WITH LEAD-SAFE PROCEDURES		
Code of Practice for Ceiling Dust Removal	For multiple copies contact Demand Insulation on 1800 678 261 www.adra.com.au/cop.html	Australian Dust Removalists Association (ADRA)
Lead Dust Removal (flyer)	For multiple copies contact Demand Insulation on 1800 678 261 www.adra.com.au/ldr.html	Australian Dust Removalists Association (ADRA)
ALTERNATIVES TO LEAD PRODUCTS		
Lead-Free Products	Including lead free solder, cables, plastic electrical tape and duct, flashing www.lead.org.au/clp/products/products.html	The LEAD Group
Lead Free No Risk – Nitto Denko Now Lead Free Plastic Electrical and Duct Tape	**For multiple copies ph Nitto Denko on (03)** 97993100 **or down-load from** www.lead.org.au/clp/products/NittoDenkoflyer.pdf	**Nitto Denko**
HARD COPY RESOURCES RELATED TO STEP 3		
COMMUNITY EDUCATION		
Pluto Press Flyer: :Local Heroes; No Toxic Dump	To order "No Toxic Dump", contact Pluto Press Australia, www.plutopress.com.au To order "Local Heroes" contact The LEAD Group Inc. Local Heroes	Pluto Press
What to do if you have too much lead in your tank water - Fact sheet	www.lead.org.au/fs/tankwater.pdf or phone the Lead Advisory Service Australia on 1800 626 086 to order multiple copies	Dr Neville Gibson
Lead Contamination in Stormwater – Fact sheet	www.lead.org.au/fs/stormwater.pdf or phone the Lead Advisory Service Australia on 1800 626 086 to order multiple copies	The LEAD Group
The Importance of the Availability of	www.lead.org.au/fs/fst14.html or phone the Lead Advisory Service Australia on 1800 626 086 to order multiple copies.	LASA Fact sheet by The LEAD Group

"Spot Tests" for Lead in Paint - A Fact Sheet For Hardware & Paint Trade Store Managers		
Elite Maintenance Service - Lead contaminatio n and removal	For multiple copies ph Elite Maintenance Service (07) 3801 2166	Elite Maintenance Service Pty Ltd
Handling Hazardous Materials - Order form for informative OH&S video: Lead - Treat It With Respect	www.lead.org.au/clp/products/HazardAwareness.doc	Future Media Pty Ltd
Do-It-Yourself Lead Safe Test Kits	www.lead.org.au/clp/products/ Do_It_Yourself_Lead_Safe_Test_Kit.pdf For multiple copies phone The LEAD Group Inc.	The LEAD Group Inc.
Painting? Tips for Responsible Clean Up and Disposal	For multiple copies, contact SSL on (03) 9248 4902	Scientific Services Laboratory (SSL), Australian Government Analytical Laboratories (AGAL)
Lead and health - is your family atrisk	www.mhcs.health.nsw.gov.au/mhcs/publication_pdfs/4465/BHC-4465-ENG.pdf	Multicultural Health Communicatio n Service, NSW Health Dept
Is There A Hidden Health Hazard In Your Roof? (in ENGLISH)	www.mhcs.health.nsw.gov.au/mhcs/publication_pdfs/5395/BHC-5395-ENG.pdf This Fact sheet is available in pdf format on-line in the following languages: www.mhcs.health.nsw.gov.au/mhcs/languages.html English, Serbian, Russian, Thai, Chinese, Vietnamese, Croatian, Khmer, Spanish, Korean, Macedonian, Portuguese, Italian, Turkish, Arabic, Greek, Laotian.	
Lead Safe Publications ORDER FORM	**no longer available** For multiple copies, contact the Better Health Centre on (02) 9816 0452, down-load order form from www.health.nsw.gov.au/health-public-affairs/bhc/bhc.html or use the order form in this Tool Kit	Better Health Centre
Lead Safe fact sheet - Lead in Ceiling Dust	Lead in Ceiling Dust **Other Lead Safe fact sheets no longer available** For multiple copies of *Lead Safe* Fact sheets, Better Health Centre on (02) 9816 0452 or **NSW EPA** (131 555), or down-load order form from www.health.nsw.gov.au/health-public-affairs/bhc/leadsafe.pdf Ask for it to be reprinted if a title becomes unavailable.	Lead Reference Centre, NSW EPA
Lead Safe fact sheet - Lead Safe		

Renovations		
Lead Safe fact sheet - Lead Safe Housekeeping		
Lead Safe fact sheet - Old Lead Paint		
Lead Safe fact sheet - Lead, your Health and the Environment	Lead, your Health & the Environment is on-line at www.lead.org.au & copies are **available** in Arabic, Chinese, English, Korean, Macedonian, Spanish, Turkish & Vietnamese. Multiple copies **are no longer available** from Better Health Centre	
Lead Safe booklets	**no longer available** For multiple copies of *Lead Safe* booklets, ph Better Health Centre on (02) 9816 0452 or **NSW EPA** (131 555), or down-load the order form at www.health.nsw.gov.au/health-public-affairs/bhc/leadsafe.pdf Ask for it to be reprinted if a title becomes unavailable.	Lead Reference Centre, NSW EPA
Lead Safe booklet: A Renovator's Guide to the Dangers of Lead	**no longer available** Part of A Renovator's Guide to the Dangers of Lead is available on-line at www.epa.nsw.gov.au/leadsafe/projects.htm and www.epa.nsw.gov.au/leadsafe/leadinf4.htm	
Lead Safe booklet: A Guide to Keeping your Family Safe from Lead	An adaptation of the "Guide to Keeping your Family Safe from Lead Booklet", by the National Referral Centre for Lead Poisoning in India run by The George Foundation is available on-line at "Lead Poisoning - Guide For Families",	
Lead Alert Facts: Lead	Multiple copies of Lead Alert Fact Sheets are available by phoning Environment Australia's Community Information Unit on 1800 803 772 and they are available on-line at: www.environment.gov.au/atmosphere/airquality/publications/leadfs.html	Environment Australia
Lead Alert Facts: Lead and the Environment	www.environment.gov.au/atmosphere/airquality/publications/environment.html	
Lead Alert Facts: Lead and Your Health	www.environment.gov.au/atmosphere/airquality/publications/health.html	
Lead Alert Facts: Lead in Auto Paints	www.environment.gov.au/atmosphere/airquality/publications/autopaints.html	
Lead Alert Facts: Lead in Ceramics	www.environment.gov.au/atmosphere/airquality/publications/ceramics.html	
Lead Alert Facts: Lead in House Paint	www.environment.gov.au/atmosphere/airquality/publications/housepaint.html	
Lead Alert Facts: Lead in	www.environment.gov.au/atmosphere/airquality/publications/marinepaints.html	

Marine Paints		
Lead Alert Facts: Lead in Pottery	www.environment.gov.au/atmosphere/airquality/publications/pottery.html	
Lead Alert Facts: Lead in Recreational Activities	www.environment.gov.au/atmosphere/airquality/publications/recactivities.html	
Lead Alert Facts: Lead in Stained Glass	www.environment.gov.au/atmosphere/airquality/publications/stainedglass.html	
The Six Step Guide to Painting your Home (2nd Edition)- Lead Alert	www.environment.gov.au/atmosphere/airquality/publications/leadpaint.html	Environment Australia
Is Your Child Safe From Lead?	www.lead.org.au/fs/Is_your_child_safe_from_lead.pdf For multiple copies phone Better Health Centre on (02) 9816 0452	NSW Health Dept & EPA
Lead Alert – Painting an older home? Does your old paint contain lead? Lead is a health hazard **- Poster**	For multiple copies phone the Community Information Unit of Environment Australia on 1800 803 772	Environment Australia