

# LEAD Action NEWS

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The newsletter of The LEAD (Lead Education and Abatement Design) Group Inc.  
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Editor-in-Chief: Elizabeth O'Brien

## ~~ Grandma Lead Citizen Science and Broken Hill Solutions ~~

### A Message from Grandma Lead

Welcome to our second *LEAD Action News* for 2024.

Last edition, I mentioned that I would share more about my trip to Broken Hill - and time spent with Dr Frances Boreland, Dr Aaron Reuben, Semitj Hopcraft, Jenny Rowbotham and Ghislaine "Gigi" Barbe. Well, in my written interview, you will get an insight into life in the lead-mining town.



We've packed this edition with ideas for citizen science projects and solutions regarding Broken Hill.

Please enjoy!

**Elizabeth O'Brien** (aka Grandma Lead)  
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Lead Scientist and Lead Advisor, The LEAD Group Inc.  
Winner of the United Nations Association of Australia (UNAA) Award for Outstanding Service to the Environment; and two times nominee for Australian of the Year

Photo: #GrandmaLead and Grandson by Alex Jewson  
VAP Entry <https://lead safeworld.com/LAN-GL>

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## Grandma Lead visits Broken Hill

Earlier this year, Grandma Lead (aka Elizabeth O'Brien) visited Broken Hill in outback NSW as part of her mission to create a lead-safe world.

Find out all about the significance of her trip in this written interview.

### What is the historical link between lead and Broken Hill?

Broken Hill is a town in far western New South Wales, Australia. Lead ore has been continuously mined at Broken Hill for over 140 years, since 1883, along with a range of other ores of both radioactive and heavy metals.

Broken Hill NSW is the most productive lead mining town in the world and for over 100 years has supplied lead ore (by train) to the world's most productive lead smelter at Port Pirie in South Australia.



### Why did you go to Broken Hill when you did?

I've been wanting to go to Broken Hill for the entire 33 years I've been researching lead and working to make the world lead-safe, but the tyranny of distance from the east coast where I live, and consequent high travel/time cost has stopped me.

So when Australia's most published lead researcher, Professor Emeritus Brian Gulson (founding and former Head of The LEAD Group's Technical Advisory Board), was asked by [Dr. Aaron Reuben](#) (pictured, also see all hyperlinked references below), postdoctoral scholar in neuropsychology and environmental health at Duke University in the USA to explain Australian lead issues to him for Aaron's upcoming book, Brian (being retired) referred Aaron to me. Via Zoom on 25<sup>th</sup> January 2024 I instantly took to the likeable red-haired Aaron who has a son around the same age as my grandson, so when he told me that he was coming to Australia for four days in early February 2024 and visiting Broken Hill for most of that time, I felt I just had to take the opportunity to meet Aaron there and finally see for myself what living with lead in Broken Hill is all about.



My favourite New Zealand client Brian Arndt (see [Who can mend old leaded men?](#)) had earlier sent me Aaron Reuben's [Childhood Lead Exposure and Adult Neurodegenerative Disease](#) (2018) about the

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millions of Americans [and I posit billions of humans] now entering middle to old age who are potentially facing Alzheimer's Disease, Parkinson's Disease and dementia [among other lead-related fatal diseases such as heart attack, stroke and osteoporosis] as a result of having elevated blood lead levels as children and osteoporosis later in life or for women, just going through menopause.

Based on Port Pirie, Boston, Massachusetts, Cincinnati and Dunedin cohorts, in this [Journal of Alzheimer's Disease paper](#) Aaron expressed, six years ago, the view that "the next twenty years will provide the last opportunities for possible early intervention". Aaron is a former presidential policy intern at the White House Council on Environmental Quality. Wow!

My best effort to encourage governments, institutions and philanthropists to fund such tertiary lead poisoning prevention research is my [Model National Lead Safety Policy - Towards a Lead-Safe World](#) (2023) which I've yet to convince the Australian Prime Minister Anthony Albanese to read let alone fund the development of, and Aaron had just obtained grants to extend the [Dunedin study](#) (to include blood lead testing and bone XRF lead testing) and write a book about lead which enabled his trip to Australia and New Zealand, so I figured I had a lot to learn from him, not only about lead but about getting funding for [solutions to lead's effects](#) and being heard on policy such as that doctors do a whole lot more targeted blood and bone XRF lead screening as people age!

## Did you meet some interesting people when you were there?

Yes! The first Broken Hillite I met was Semitj Hopcraft (photo at right) who kindly picked me up from the airport (where he took the above photo of me) and gave me a tour of his life in Broken Hill as a traditional indigenous artist, photographer, volunteer bush regenerator and all-round amazingly knowledgeable and wonderful Aboriginal elder.



I had been looking forward to meeting Semitj for 8 years, since we applied for a NSW EPA Lead Education School Food Garden Grant together in 2016 and in that process I'd found out that his students (pictured) at Alma Public School where Semitj was the Specialist Gardener, had named Semitj a [Local Land Hero](#).

Later the first day, Dr Aaron Reuben arrived by hire car from Adelaide and it was great to meet him for dinner as we're on the same page - being concerned about the urgent need to research and implement interventions in tertiary lead poisoning prevention or as I put it: stopping the lead that is already in all of us from re-harming us later-in-life or killing us earlier than our peers who have less lead in them.



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On my second day in Broken Hill at lunch with Semitj and Aaron (at right), I had the great honour of finally meeting a tireless Broken Hill Lead-Safety Campaigner, Jenny Rowbotham (at right), who I've been communicating with by phone and email since 1996! Jenny has an encyclopaedic knowledge of lead- and other heavy metal-related local happenings, test results and other unpublished documents, research, policy, political decisions, oversights and environmental, occupational and public health crimes that have occurred during her life raising her sons in Broken Hill.



Jenny provided most of the Broken Hill intel that I included in my [Capture by mining interests of regulatory and political processes voids the fitness for purpose of the mine approvals process](#) - Submission No. 184 into the NSW Parliamentary Inquiry into Gold, Silver, Lead and Zinc Mining, 2023, and her insights, observations and references she's supplied my library over the past 28 years have informed much of what I have written online

about lead, not just this article! I am so grateful to Jenny for the special guided tour by car that she gave me after our lunch together – her lived experience of raising children and now having grandchildren in Broken Hill should underpin any lead education campaign that truly seeks to inform Broken Hill residents and would-be residents.

At the same lunch with Semitj, Aaron and Jenny, I was delighted to meet a new contact I had sought from Dr Amanda Cohn of the NSW Greens (who chaired the 2023 Mining Inquiry): Ghislaine "Gigi" Barbe (at right) - who later took Aaron and I on a fascinating walking tour of Broken Hill city's workers union and mining history.



**Did you encounter anything that made you stop in your tracks?**

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Yes, the first view Semitj showed me was by driving (along this road at left) up on top of the town-bisecting giant line of lode (ore body) which has gradually been covered by mullock – millions of tons of toxic mining waste which constantly gets washed into stormwater as acid mine drainage despite regularly sprayed-on “adhesive”.



Standing at the various lookout points on top of this mullock heap, you can see how shockingly close to houses is both the dust cloud of the current above-ground lead mining operations in one direction (photo bottom left) and close to main town of Broken Hill in the other direction (behind Semitj, middle photo).

I was also awestruck when we visited the iconic rusty metal [Line of Lode Miner's Memorial](#) perched on top of the mullock heap – with its rose tributes to the

over 800 miners who've died.

Aaron and I were later fascinated to see that the first death memorialised was attributed to “Lead Poisoning”, followed by many more “Lead Poisoning” deaths and “Dust on lungs” deaths from the early 1880s (photo at right).



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But death by "Accident" or "Fall", are common and could arguably be related to lead exposure because lead affects balance, reduces IQ and ages the brain. Death by "Heart Attack" and "Heart Failure" – which are definitely lead-related - becomes increasingly common over time (see rose-edged photos). Some miners' deaths were memorialised as "Heart Attack at Work." According to a [1990 article, there are another 2000 occupational deaths that didn't occur underground](#) – where are they memorialised?

I also stopped to wonder why there wasn't a similar memorial for lead-poisoning-related suffering, [miscarriages](#) and death of those Broken Hill residents who didn't earn a living by working in the mines, but were lead poisoned nevertheless by breathing the air, drinking the rainwater and ingesting lead dust and lead-contaminated soil through normal hand-to-mouth activity, growing up in the town.

At least the early miners, before social welfare or mandatory workers compensation insurance, were paid a [Lead Bonus](#) so when a miner died at work, his family would have some capital on which they could live.

**Would you say that Broken Hill is now lead-safe? If not, what further action needs to be taken to support Broken Hill in becoming lead-safe?**

Broken Hill will be lead-safe when above-ground lead mining closes down and the people move to new housing and facilities well away from the line of lode OR the line of lode and every property in Broken Hill is properly remediated and managed far into the future.

On this trip, when I met with Dr Frances Boreland of NSW Environment Protection Authority (EPA), the manager of Broken Hill blood lead testing and remediation programs, it was like she was the embodiment of Professor Mark Taylor's team's 2014 paper [Licenced to pollute but not to poison: The ineffectiveness of regulatory authorities at protecting public health from atmospheric arsenic, lead and other contaminants resulting from mining and smelting operations.](#)

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Dr Boreland explained to me how people in Broken Hill still drink water from rainwater tanks (because town water is so expensive) despite the education program telling them not to, and how difficult it is to get parents to bring their children in for blood lead testing.

From what I know of the Broken Hill lead education program downplaying lead's health impacts over the last three decades, and the fact that there is only enough government funding for Dr Boreland's team and the Maari Ma Health Aboriginal Corporation health centre team to respond to preschoolers' blood lead levels that are over 15 micrograms per decilitre / 15 ug/dL (when the national blood lead action level for all ages is 5 ug/dL or above), and that Broken Hill doctors refuse to test the blood lead levels of children over the age of six, and refuse to test all adults unless they work in direct contact with lead ore processes or are giving birth and their cord blood lead level is tested as part of a study, I personally am not surprised that under informed parents, [mised about lead](#), might avoid blood lead testing of their pre-schoolers.



One remediation technique Dr Boreland mentioned – using a filler to seal all the gaps in the corrugated iron ceilings common in Broken Hill homes which are often bowed by the weight of wind-borne mining dust that has settled in the ceiling void over time - would be the first technique I'd abandon in favour of professional vacuuming of the ceiling void dust using a truck-mounted industrial HEPA Vac (which is currently sitting unused

in Broken Hill), with the waste being sent to the smelter, followed by the family and all their possessions being relocated during replacement of the corrugated iron ceilings with gapless ceiling and roofing materials and effective cornices such that future dust that settles in the void from mining activity and the likely increasingly-frequent (due to climate change) dust storms will be sealed in until it can be safely and regularly vacuumed out again.



Some Broken Hill homes have lead poisoned multiple families and should be condemned, and the families [relocated to lead-safe housing](#) – easily determined with a [LEAD Group Lab-Analysis DIY-Sampling Kit](#) – with repeat blood lead testing and lead source removal until they reach non-notifiable levels (below 5 ug/dL).

I also recommended to Dr Boreland that the town mains water should be tested for lead by collecting a 50mL sample at the tap after 9 hours non-use of the tap following the installation of a new brass tap in the kitchen, then running the water until cold and collecting a “flushed” 50mL sample to determine whether the [new-since-April 2019 Murray River mains water](#) (which Dr Boreland said is softer than the old



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Darling River mains water) is leaching lead from the brass inside new taps. If lead is found to be leaching from new taps – just a couple of [LEAD Group Posted Kits](#) could answer that question immediately, then all plumbers should be advised to only install stainless steel taps.

Knowing that child blood lead test results from Broken Hill are always higher in Indigenous kids, I offered that The LEAD Group is prepared to give [free LEAD Group Kits](#) (worth around \$300 each) to any professional in Broken Hill who is prepared to follow the Kit's sampling instructions and collect 8 samples from the home and/or workplace of any at-risk First Nations families (whether they've had blood lead testing or not), if the (preferably Aboriginal) professional would also be prepared to follow-up with the family and assist them in implementing the recommendations I provide with the lab lead results. To date, Dr Boreland has not taken up this LEAD Group Citizen Science Indigenous Lead-Safety offer.

When Semitj drove me all around Broken Hill, he pointed out hundreds of vacant properties and mentioned that renovation contractors are rare as hen's teeth.



Despite guerrilla gardening efforts of Semitj's circle, bare soil was widespread. This can be easily picked up and redistributed by the wind into ceiling voids and living spaces, and onto previously remediated land so must feature in remediation and ongoing maintenance efforts.

Making Broken Hill houses and yards, footpaths and public parks lead-safe would definitely require some kind of mining company-funded or government-funded Lead Bonus to train up resident contractors in lead-safe renovation techniques and to draw lead-safety-trained and -experienced contractors (including landscapers) to the area to create lead-safe housing for other out-of-towners who are already drawn there by the cheap housing.

Every policy I've already elucidated in my [Model National Lead Safety Policy - Towards a Lead-Safe World](#) (2023) would usefully be urgently implemented in Broken Hill to make it lead-safe, beginning with offering free blood lead testing to every resident no matter their age, and re-training Broken Hill doctors to refer for a "blood lead series", any patient who by questionnaire screening might be at risk of, or who presents with any of the long list of lead exposure signs or symptoms (such as delayed puberty, miscarriage, preeclampsia or hypertension) listed in my Model Policy under the heading [Promote blood lead testing of individuals](#).

When the above-ground and poorly-controlled below-ground mining ends and the giant mullock heap known as the Line of Lode is encapsulated and topsoiled and has plants growing all over it just like the mounds of contaminated soil at Sydney's Olympic Park at Homebush, and all the other [Broken Hill Solutions](#) proposed by two other members of The LEAD Group's Technical Advisory Board (Mark Taylor and Anthony Morrison) and their team, there'll be a chance of lead-safety in Broken Hill.

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In the meantime, for just 1% of the \$30m most recently granted for cleaning up the town, 1000 [LEAD Group Kits](#) would be extremely useful in identifying the most urgent remediation for the most vulnerable residents, then retesting following the remedial works, to ensure lead-safety for young children, people with pica, pets, backyard chickens and anyone who has such a huge body burden of lead already that they can't afford to breathe in any more lead.

There's so much more to know about Broken Hill lead, such as, are residents' rates of domestic violence, high-school drop-out, cataracts, mental health issues like schizophrenia, anxiety and depression, early death from heart attack or stroke or osteoporosis or kidney failure, correlated with cumulative blood lead (obtainable by collecting and collating blood lead data over a lifetime) or bone XRF (obtainable by bone XRF machine which would need to be imported into Australia, but which gives the best measure of a person's total body burden or lifetime exposure to lead, especially in the absence of repeated blood lead testing)?

For instance, since we know that [hot flashes and night sweats protect the heart health of postmenopausal women](#), Broken Hill (and a control town without lead industry) would make the perfect setting for determining whether lead contributes to early death from heart attack in postmenopausal women and whether regular saunas or other ways of sweating (like exercise or physical work) and immediately showering to wash the potentially lead-contaminated sweat off the skin before it can be reabsorbed, can extend life and improve health for these women despite their earlier-in-life lead exposure.

## **What are your biggest takeaways from the trip?**

Semitj Hopcraft is a wise local hero who is well-placed to contribute significantly to making Broken Hill lead-safe for everyone, especially with his plan to grow a million autochthonous (as he corrected me when I, a botanist by training, called them "indigenous") plants to eradicate bare soil in the region!

The walking lead-safety encyclopaedia Jenny Rowbotham should be consulted extensively to give any future Lead Remediation Program its best chance of actually making Broken Hill lead-safe and of compensating its non-occupationally lead-exposed victims of past inadequate Lead Remediation Programs.

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Just for fun, what did you love most about Broken Hill?

The art! Especially the paintings of Semitj Hopcraft!





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And Semitj's photography! (Image: Plumes of dust off South Skimp dump).



But also I loved the local knowledge and the respect and love for country that Semitj demonstrates in everything he does and everything he showed and explained to me (photos below).



2024 Volcano Art Prize (VAP) entry by Elizabeth O'Brien. *Grandma Lead meets Dr Aaron Reuben in Broken Hill.*

Lead-Safety Message: It was truly fabulous to discover Broken Hill with a young and brilliant academic, Aaron Reuben, who could literally be quintessential in the creation of my vision: a lead-safe world by 2041! (iPhone8 selfie)

<https://volcanoartprize.com/portfolio-item/grandma-lead-meets-dr-aaron-reuben-in-broken-hill/>



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## Finally, where can readers get copies of your hyperlinked references?

Everyone is welcome to request copies of any of these references by their LID (LEAD Group Library Identifier) number [below], by contacting The LEAD Group on freecall 1800626086.

### [Dr Aaron Reuben](#)

Dr Aaron Reuben: Duke University postdoctoral scholar in neuropsychology and environmental health (n.d.) <https://moffittcaspi.trinity.duke.edu/aaron-reuben-0> [LID 27808]

### [Who can mend old leaded men?](#)

LEAD Action News vol 20 no 1 - LANv20n1 - Who can mend old leaded men? [includes numerous articles about Brian Arndt] by Elizabeth O'Brien (2019) <https://www.leadsafeworld.com/wp-content/uploads/2019/10/LANv20n1-Who-can-mend-old-leaded-men.pdf>; <https://lead.org.au/lanv20n1/LANv20n1-Who-can-mend-old-leaded-men.pdf>; <https://nla.gov.au/nla.obj-2108484174/view> [LID 19441]

### [Childhood Lead Exposure and Adult Neurodegenerative Disease](#)

and [Journal of Alzheimer's Disease paper](#)

*Childhood Lead Exposure and Adult Neurodegenerative Disease*, by Aaron Reuben (2018) in *Journal of Alzheimer's Disease* 64 (2018) 17-42, DOI 10.3233/JAD-180267, IOS Press, <https://content.iospress.com/articles/journal-of-alzheimers-disease/jad180267> [LID 19407]

### [Model National Lead Safety Policy - Towards a Lead-Safe World](#)

*Model National Lead Safety Policy - Towards a Lead-Safe World: The LEAD Group's Proposal for National Government Policy on the Prevention and Management of Lead Exposure, Poisoning and Contamination*, by Elizabeth O'Brien, Lucinda Curran, Ananda Card, Tim Pye and Anne Roberts, with review comments by Members of The LEAD Group's Technical Advisory Board (TAB) (2023) <https://leadsafeworld.com/fulldoc-natpol> [LID 27279] and [https://www.lead.org.au/lanv21n4/LANv21n4\\_Model\\_National\\_Lead\\_Safety\\_Policy\\_and\\_2023\\_VAP.pdf](https://www.lead.org.au/lanv21n4/LANv21n4_Model_National_Lead_Safety_Policy_and_2023_VAP.pdf) [LID 27718]

### [Dunedin study](#)

*Dunedin Multidisciplinary Health & Development Study (the Dunedin Study for short) - Assessment Phase 52 Has Commenced; Message from the Director, Professor Reremoana (Moana) Theodore*, by DMHDRU - Dunedin Multidisciplinary Health and Development Research Unit, University of Otago, New Zealand (2024) <https://dunedinstudy.otago.ac.nz/> [LID 27863]

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## [Solutions to lead's effects](#)

Solutions – Mainpage of Lead Safe World Website by The LEAD Group Inc. (2013-2024) <https://leadsafeworld.com/solutions/> [LID 17289]

## [Local Land Hero](#)

*Getting Back to Nature re Local Land Hero Semitj Hopcraft* by Lauren Hoysted, Mason Ferguson, Ryan Braes, Quinn Parker and Olivia Gittoes, 2014 Students of Year 5 and 6, and their Teacher: Ashlee Jameson, School: Alma Public School, Broken Hill (2014) <https://www.envirostories.com.au/wp-content/uploads/pdf/2014048Back2Nature.pdf>

## [Capture by mining interests of regulatory and political processes voids the fitness for purpose of the mine approvals process](#)

*Capture by mining interests of regulatory and political processes voids the fitness for purpose of the mine approvals process. Submission No. 184 to NSW Parliamentary Inquiry into Gold, Silver, Lead and Zinc Mining*, by Elizabeth O'Brien (author), Ian Smith (editor), The Lead Education and Abatement Design (LEAD) Group Incorporated (2023) [https://www.parliament.nsw.gov.au/lcdocs/submissions/82416/0184%20Lead%20Education%20and%20Abatement%20Design%20\(LEAD\)%20Group%20Incorporated.pdf](https://www.parliament.nsw.gov.au/lcdocs/submissions/82416/0184%20Lead%20Education%20and%20Abatement%20Design%20(LEAD)%20Group%20Incorporated.pdf) [LID 27620]

## [Line of Lode Miners Memorial](#)

*Line of Lode Miners Memorial, Broken Hill*, by Travel In - Adventures Staff (2016) <https://web.archive.org/web/20190412071319/https://www.travelin.com.au/articles/Line-of-Lode-Miners-Memorial-Broken-Hill-03433> [LID 18899]

## [1990 article, there are another 2000 occupational deaths that didn't occur underground](#)

How Broken Hill is facing up to the winds of change [Quotes from a book by Bob Bottom "Behind the Barrier" which quotes unionist Shorty O'Neill's 1966 speech: "it's the workers who provided all the cripples, all the orphans and all the widows"] by Nicholas Way in Australian Financial Review (5 Oct 1990) <https://www.afr.com/companies/how-broken-hill-is-facing-up-to-the-winds-of-change-19901005-kalh5> [LID 27862]

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## Miscarriages

*Pregnant women and parents misled about dangers of living with lead pollution* by Marianne Sullivan and Donna Green, in *The Conversation* (12th January 2016) reprinted in LEAD Action News vol 19 no 4 LANv19n4

<https://theconversation.com/pregnant-women-and-parents-misled-about-dangers-of-living-with-lead-pollution-52752>; <https://lead.org.au/lanv19n4/LANv19n4-37.pdf>; <https://leadsafeworld.com/wp-content/uploads/2021/01/LANv19n4-37.pdf> [LID 19298]

## Lead Bonus

Broken Hill Line of Lode Memorial article on Monument Australia website (n.d.)

<https://monumentaaustralia.org.au/themes/technology/industry/display/20555-line-of-lode-memorial> [LID 27857]

## **Licensed to pollute but not to poison: The ineffectiveness of regulatory authorities at protecting public health from atmospheric arsenic, lead and other contaminants resulting from mining and smelting operations**

Licensed to pollute but not to poison: The ineffectiveness of regulatory authorities at protecting public health from atmospheric arsenic, lead and other contaminants resulting from mining and smelting operations, by Mark Patrick Taylor, Peter J. Davies, Louise Jane Kristensen, Janae Lynn Csavina, in *Aeolian Research*, Volume 14, September 2014, Pages 35-52, Elsevier (2014) <https://www.sciencedirect.com/science/article/abs/pii/S1875963714000226> [LID 17534]

## Misled about lead

*Misled about lead? An assessment of online public health education material from Australia's lead mining and smelting towns* by Marianne Sullivan and Donna Green, in *Environmental Health* 201615:1

<https://doi.org/10.1186/s12940-015-0085-9> (2016) <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-015-0085-9> [LID 19299]

## Relocated to lead-safe housing

*Impact On Blood Lead In Children And Adults Following Relocation From Their Source Of Exposure And Contribution Of Skeletal Tissue To Blood Lead [in Broken Hill]* by BL Gulson, KJ Mizon, MJ Korsch, D Howarth, A Phillips, J Hall, in *Bulletin of Environmental Contamination. Toxicol.* (1996) 56, 543-550

<https://link.springer.com/content/pdf/10.1007/s001289900078.pdf> [LID 172]

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## [LEAD Group Lab-Analysis DIY-Sampling Kit](#)

Solutions: Lead testing kit information & purchase - LEAD Group DIY-sampling / lab analysis lead test kits. Which samples should I collect? By Lead Safe World Project, The LEAD Group Inc (2013)

<https://leadsafeworld.com/solutions/lead-group-diy-sampling-lab-analysis-lead-test-kits/> [LID 17290]

## [new-since-April 2019 Murray River mains water](#)

Drought-stricken Broken Hill's water supply switched to Murray River as \$500m pipeline turned on, by ABC Broken Hill / Sara Tomevska and Declan Gooch (26/02/2019) <https://www.abc.net.au/news/2019-02-26/wentworth-to-broken-hill-pipeline-turned-on/10844986> [LID 27859]

## [LEAD Group Posted Kits](#) and [LEAD Group Kits](#)

Lead Safe World Shop - for Lead Safe World Posters, LEAD Group Membership and LEAD Group Kits [1-Sample, 2-Sample, 8-Sample Posted (if for water or dust wipes) & Emailed Kits for lead lab analysis of soil eggs, paint, etc plus Add-Ons like extra metal analyses] by Lucinda Curran (2024) <https://www.leadsafeworld.com/shop/> [LID 18000]

## [Free LEAD Group Kits](#)

Free LEAD Group Kits for Indigenous Australians (application form) by Elizabeth O'Brien and Lucinda Curran (2024) <https://leadsafeworld.com/free-lead-group-kits-for-indigenous-australians/>; <https://leadsafeworld.com/freekits> [LID 27820]

## [Promote blood lead testing of individuals](#)

iv) Promote blood lead testing of individuals and inclusion in blood lead surveys of categories of people at risk of historical, current or future lead exposure, in *Initial Steps to Prevent Lead Exposure and Poisoning (part 2)* of Model National Lead Safety, by The LEAD Group (2023) <https://leadsafeworld.com/initial-steps-to-prevent-lead-exposure-and-poisoning-pt2> [LID 27860]

## [Broken Hill Solutions](#)

*Environmental Lead Risks at Broken Hill, New South Wales, Australia: Sources, Exposures and Forward Solutions* by Taylor, M.P., Isley, C.F., Lyle, D., Cattle, S., Dong, C., Juhasz, A., Morrison, A.L., Macquarie University, NSW, Australia. ISBN: 978-1-86408-844-1 (2019) [https://leadsmart.nsw.gov.au/wp-content/uploads/2023/10/BH\\_Pb\\_State\\_of\\_Science\\_FINAL-19-June-2020-Accessible-V2.0.pdf](https://leadsmart.nsw.gov.au/wp-content/uploads/2023/10/BH_Pb_State_of_Science_FINAL-19-June-2020-Accessible-V2.0.pdf) [LID 27864]



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[Hot flashes and night sweats protect the heart health of post-menopausal women](#)

*The Hot Flashes of Menopause May Protect Women's Hearts* [The 10 yr study found women who had the worst menopausal hot flashes & night sweats had an 11% lower risk of having a heart-related health problem & an 8% lower risk of dying from any cause] by Alice Park in Time Magazine Healthland section Reproductive Health, (24 Feb 2011) <https://healthland.time.com/2011/02/24/the-hot-flashes-of-menopause-may-protect-womens-hearts/> [LID 27855]

## When Is The Best Time to Donate to a Charity?

*From the point of view of a charity (us!) - we're happy to accept donations at any time!*

*However, for you - when is the best time?*

*We're glad you asked!*

A good time to donate to The LEAD Group is before the end of the financial year because donations over \$2 are tax-deductible!

That's right! As a registered charity, your donations to us can not only help us, but help you. That's a real win-win.

We visited the Australian Taxation Office (ATO)'s website, and this is what they say:

### **When a gift or donation is deductible**

*You can only claim a tax deduction for a gift or donation to an organisation that has the status of a deductible gift recipient (DGR).*

*To claim a deduction, you must be the person that gives the gift or donation and it must meet the following 4 conditions:*

- 1. It must be made to a DGR.*
- 2. It must truly be a gift or donation – that is, you are voluntarily transferring money or property without receiving, or expecting to receive, any material benefit or advantage in return. A material benefit is something that has a monetary value.*
- 3. It must be money or property – this can include financial assets such as shares.*
- 4. It must comply with any relevant gift conditions – for some DGRs, the income tax law adds conditions affecting the types of deductible gifts they can receive.*

*[....]*

*To claim a deduction, you must have a record of your donation such as a receipt.*

## WHEN IS THE BEST TIME TO DONATE TO A CHARITY?



# LEAD Action NEWS

And, if you'd like to read more, you can go ahead and read the full article here - <https://www.ato.gov.au/individuals-and-families/income-deductions-offsets-and-records/deductions-you-can-claim/gifts-and-donations>

If you'd like to donate, here are our bank details. We ask that you donate via bank transfer otherwise a chunk of your donation is eaten up by PayPal fees.

Account name: The LEAD Group Inc LEAF

BSB: 812170

Account No: 101078454

You can check out more about donating on our website.

<https://leadsafeworld.com/direct-bank-transfer/>

**DONATE TODAY  
TO CREATE A  
LEAD-FREE  
TOMORROW**



## Water and Lead

*You may be aware that water may contain a number of contaminants and that the Australian Drinking Water Guidelines\* are used by water authorities when monitoring contaminants in drinking water.*

*But did you know that water you use can become contaminated within your home?*

That's right! The level of acidity and alkalinity ("basic") can all play a role.

### **Background Information of the pH of Water**

The range of pH goes from 0-14, and 7 is considered to be neutral. Lower levels of pH are acidic, whereas higher levels are alkaline/base.

Water is often referred to as being "hard" or "soft". Soft water is between 6-7 pH. Hard water is between 7-8 pH.

### **How is water with a low pH problematic when it comes to lead?**

A pH below 6.5 may be corrosive (according to NSW EPA's August 2023 report An investigation into metals in domestic tank water around the Newmont gold mine in Cadia) which means that if your water is even slightly acidic, lead (and other metals) could leach into the water.

Lead (and other metals) can leach out of brass taps, ball valves, pumps, lead-soldered pipes or tanks, and lead-flashing on rainwater collection areas.

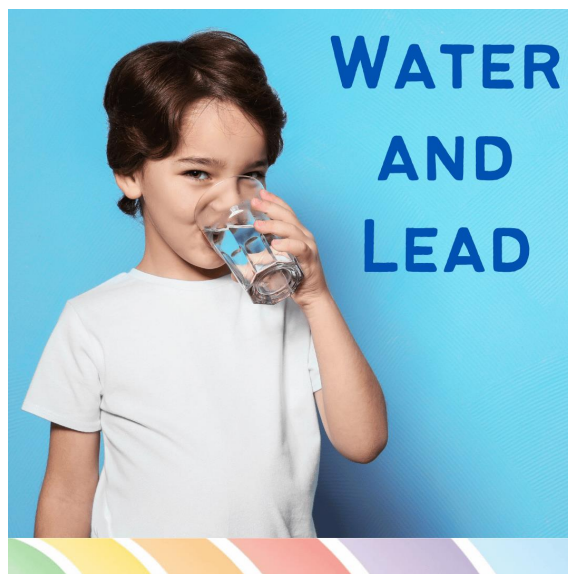
Soft water is known to leach lead (and other metals) into the water out of brass taps, ball valves, pumps, lead-soldered pipes or tanks, and lead-flashing on rainwater collection areas.

### **What should you do?**

#### **Test your water for lead.**

Our test Kits are an effective way to determine the level of lead in your drinking water.

You can get your Kit here: <https://leadsafeworld.com/product/2-sample-lead-testing-kit/>





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# LEAD *Action* NEWS

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**TIP** If you'd like to save on your Kits, then please become a member first - for just \$10/year, the savings will quickly mount up. You can join here: <https://www.leadsafeworld.com.au/contribute/for-individuals/>

## Consider replacing your taps with lead-free stainless steel ones from Vinco.

Stainless steel tapware eliminates the need for costly additional filters and maintenance, making it a more cost-effective choice over the long term.

Vinco is an industry leader in stainless steel tapware for residential and commercial use. They're committed to delivering health and well-being to Australian communities and businesses and ensuring the safety of your drinking water with their lead-free, brass-free tapware products.

Check out Vinco here: <https://vinco.com.au/>

## From the Vaults

*In this edition of LEAD Action News, we're bringing you a new section: "From the Vaults".*

*It is here that we've selected something created many years ago, but is still as relevant today as back then.*

*Grandma Lead (as she is known today) wrote this in 1993... 31 years on it is such important information that we're sharing it here.*

*Step into the time with and help keep this great information alive.*



### **7 Point Plan for the MANAGEMENT OF LEAD by Australian parents and carers.**

This 7 Point Plan was written by Elizabeth O'Brien in 1993 and first web-published at <https://lead.org.au/fs/fst26.html> but has always featured in our top 100 downloads throughout millions of views The LEAD Group's first website, and has been distributed by post, fax, email and at community events to tens of thousands of Australians

Also see the factsheet **"How would you know if you or your child was lead poisoned?"** at [www.lead.org.au/fs/fst3.html](http://www.lead.org.au/fs/fst3.html)

Keep reading!

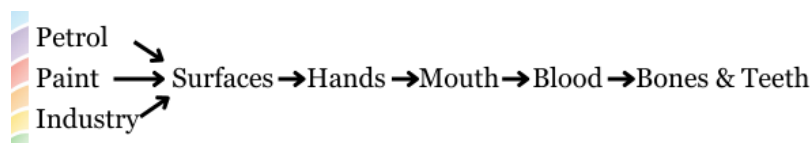


# LEAD Action NEWS

7 Point Plan for the MANAGEMENT OF LEAD by Australian parents and carers

## Lead Flow Chart:

### Major Pathways of Child, Renovator & Worker Lead Poisoning



FOR PARENTS & CARERS

### How to prevent lead ingestion by intervention at the seven points in the Lead Flow Chart (above):

Even though you may only have considered one aspect of lead poisoning prevention, we are providing information on numerous aspects of the problem, in the hope that you will find the holistic approach useful, and that you will realise how powerful you are personally in reducing the toxic lead load (and because lead is often found with other chemicals, reducing the toxic chemical load in general) on people (especially children) and the environment, now and in the future.

**Point 1: Petrol → Surfaces.** Australia reduced the amount of lead in petrol in 1993 and phased out leaded petrol by 1<sup>st</sup> January 2002 but stopping the flow of lead from petrol into the environment does nothing to reduce the historical lead contamination from petrol to be found in car engines, soils, dusts, waterways, sediments, etc.

- Do not undertake servicing or dismantling of old cars on your property;
- Avoid homes or child-care within 10-20 m of major roads;
- Lead from petrol and other sources builds up in the ceiling dust in houses and other buildings and can be an ongoing source (through cracks, ceiling roses, etc) or sudden source (if the ceiling falls down or is demolished) of lead contamination of interior dust. Leaded ceiling dust is just another reason (apart from leaded paint) that renovation is the most likely cause of childhood and renovator lead poisoning. See the NSW government factsheet "**Lead in Ceiling Dust**" – follow link at <https://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/lead-safety> and see the website of the **Australian Dust Removalists Association (ADRA)**, [www.adra.com.au](http://www.adra.com.au) for specialists in ceiling dust removal, in Melbourne, Sydney and

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Broken Hill. Do not attempt ceiling dust removal yourself.

**Point 2: Paint → Surfaces** - to stop lead particles from paint getting onto surfaces that children or pets might touch:

- Test for lead in any pre-1997 deteriorated house paint or pre-2010 industrial paint (see Point 4 for test procedures);
- Use barrier methods (like clear contact, fencing) and consistent clean-up until safe removal can be organised;
- Negotiate a contract with a professional renovator with experience (preferably training) in lead paint removal to remove lead paint hazards, guaranteeing no dispersal of lead, and approved disposal of contaminated debris;
- Protect children, adults of reproductive capacity and pets from renovation works. See "**Lead alert: Six Step Guide to Painting your Home**" on the website [www.environment.gov.au](http://www.environment.gov.au) : and "**Lead in Home Renovations**" link at <https://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/lead-safety>
- Call on your state parliamentarians to institute training and licensing for lead abatement (paint removal) contractors and lead assessors, and for Certificates of Lead Safety for houses and childcare premises. See "**Lead hazard management in children's services**" link at <https://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/lead-safety>

**Point 3: Industry → Surfaces**

- Avoid homes and child-care near lead industry;
- Reduce your use and purchase of all lead products and lead-containing products like plumbing products made with leaded brass or bronze (pumps, taps, etc), cars, leaded jewellery, fishing sinkers; and contribute to maximum possible recycling rates for lead, e.g. car batteries, light bulbs, flashing, pipes, wheel balancing weights, sinkers;
- As lead is one of the toxic emissions from coal burning power stations, reduce your electricity use.

**Point 4: Surfaces → Hands.** Whether the source is petrol, paint or industry, the major pathway of lead poisoning, especially for children (and pets) is via soil and dust (residual) contamination, to surfaces and then from hands to mouth. To stop lead getting from surfaces to hands:

- Have your home or childcare centre assessed for lead contamination by an experienced lead



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assessor or building biologist. Or if you can't afford to engage a professional to come out to the house,

- Purchase a **LEAD Group Kit** at [www.leadsafeworld.com/shop](http://www.leadsafeworld.com/shop) - and follow the sampling instructions for sending soil, dust, drinking water, paint, home-grown eggs and a range of consumer products for lead content analysis to Sydney Analytical Laboratories. This is an independent NATA accredited lab which then sends the results to The LEAD Group who write you an interpretation and plan for reducing lead risks. Lead test kits which change colour to show if lead is present in paint or ceramics etc are available from some hardware stores and paint trade centres but cannot tell you how much lead is in the sample and may give false positive or false negative results. Any contractor (eg painter, roofer, demolisher) who works on paint or ceiling dust containing more than 1% lead (only a lab result can tell you) must notify the worker health authority before starting work, Dust and soil testing for lead should always follow.
- Industrial HEPA vacuum, wet down and then remove old carpets, replace with washable hard surfaces like cork;
- Carpets which remain, and drapes and soft furnishings can be delead on the surface by **Elite Maintenance Service Pty Ltd** (ph 131580). Carpets should be vacuumed with a HEPA-vacuum or when children are out of the room, and Elite-cleaned every 3 months. Never put vacuum cleaner dust or street dust in your compost/worm farm;
- Wet wipe, using liquid sugar soap and a sponge or mop, all hard surfaces your child may contact, at least fortnightly, and preferably twice weekly or even daily during the crawling phase;
- Stop track-in of dust or soil by placing washable mats or wet towels at the front and back doors (see VAP entry below);
- Cover bare soil with grass or more permanent barriers like rubber mats that let the grass grow through, gravel, etc;
- Mop paths, verandahs. See the fact sheet "**Lead Aware housekeeping**" at [www.lead.org.au/fs/fst4.html](http://www.lead.org.au/fs/fst4.html) and "**Lead safety at home**" – see link at <https://www.epa.nsw.gov.au/your-environment/household-building-and-renovation/lead-safety>
- Before purchasing or renting a house which is likely to be lead contaminated, use a LEAD Group Kit or have a lead assessment done and negotiate a fair price/rent for the house taking into account the cost of remedying lead hazards.

# LEAD Action NEWS



Lead Flow Chart - Major Pathways of Childhood Lead Poisoning



Whether the lead source is petrol, paint or industry, the major pathway of lead poisoning is via soil and dust (residual) contamination, to surfaces and then from hands to mouth. To stop lead getting from outside to surfaces:

- Stop track-in of dust or soil by placing washable wet mats or wet towels at the front and back doors – wash when still moist in own load with liquid sugar soap as detergent;
- Cover bare soil with grass or more permanent barriers like rubber mats that let the grass grow through, gravel, etc;
- Mop paths, verandahs. See <https://lead.org.au/fs/fst26.html>

Image: 2022 Volcano Art Prize (VAP) Entry by Elizabeth O'Brien. Title: Wet towels collecting leaded soil off Harry's shoes. Lead-safety Message: Stop leaded soil track-in with wet washable towels at the back door. After washing a load and laying the towels back down wet from the machine, wet-wipe down the machine and run a cycle with no washing to clean the bowl for ordinary

clothes washing. <https://volcanoartprize.com/portfolio-item/wet-towels-collecting-leaded-soil-off-harrys-shoes/>

## Point 5: Hands → Mouth

- Wash children's hands whenever they get dirty, and before eating or sleeping; wash own hands after smoking;
- Use a brush to clean under fingernails;
- Don't allow children to eat away from the table;
- Pin dummies to baby's clothing; don't create lead paint dust or allow lead dust to get onto your work clothes; change out of dusty work clothes and shower before hugging or picking up children;
- Ensure supervision sufficient to prevent the child eating old paint or contaminated soil.

**Point 6: Mouth → Blood.** Many individual factors influence what percentage of the lead that is eaten is absorbed from the gut, e.g. an empty stomach absorbs far more lead than a full one, children absorb 5 times more of the lead in the gut than adults. To minimise lead absorption:

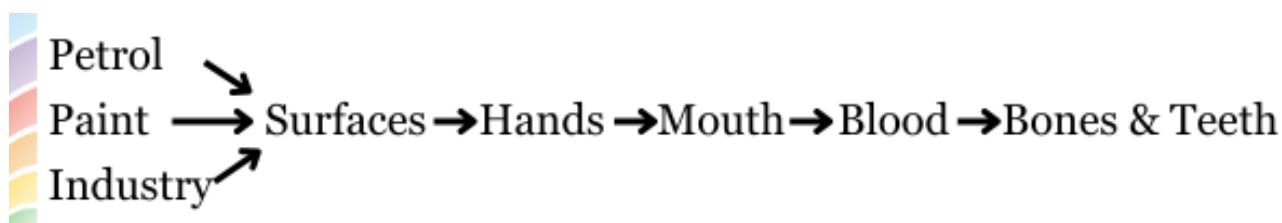
- Ensure adequate iron, calcium, zinc, Vit C, protein, omega 3 fatty acids, pectin, wholegrain rice and a host of other nutrients in the diet. See [www.leadsafeworld.com/solutions/foods-for-lead-detox/](http://www.leadsafeworld.com/solutions/foods-for-lead-detox/)

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- Ensure that fatty fast foods (high in omega 6 fatty acids) are not consumed too frequently;
- Stick to the good food pyramid.
- Ensure children have frequent small meals, especially before playing in the morning.
- Testing the blood for lead is the best way of assessing recent exposure (over the last 3 months) to lead. See "**Childhood Lead Poisoning Risk Factor Questionnaire**" at [www.lead.org.au/fs/fst10.html](http://www.lead.org.au/fs/fst10.html) and "**Medical Evaluation Questionnaire for Occupational Lead Exposure**" at [www.lead.org.au/fs/fst66.html](http://www.lead.org.au/fs/fst66.html) . To gain some understanding of the wide range of health effects of increasing blood lead levels, see the factsheet: "**Health Impacts of Lead Poisoning**" at [www.lead.org.au/fs/fst7.html](http://www.lead.org.au/fs/fst7.html)

## Point 7: Blood → Bones and Teeth

- Fruits with lots of pectin eg apples and pears, citrus fruit peel (eg in marmalade), plums, MAY reduce blood lead levels, ie after lead has already been absorbed from the gut. Eating fruit with lots of pectin can't hurt;
- Ensure prospective parents' blood lead levels are (well below 5 µg/dL and preferably below 1 µg/dL) before a baby is conceived, and for men for 4 months before a baby is conceived in order to avoid fertility problems or passing on lead to the foetus; test the mother's blood lead level in the first & third trimesters & the cord blood at the birth;
- Test a baby's blood for lead just after crawling begins, and at least annually until age 6. If blood lead testing was not done, testing children's shed baby teeth for lead is the best way to assess the child's lead exposure at the time of the development of the teeth, which happens to coincide with the early years of life when children are high-risk for ingesting and absorbing lead and high sensitivity to the effects of lead. Send baby teeth for tooth lead testing to a NSW Health lab. See [www.lead.org.au/fs/Tooth%20analysis.html](http://www.lead.org.au/fs/Tooth%20analysis.html) . Note: hair lead tests are uninterpretable.



## Changing Ideas About What Is A Safe Blood Lead Level (Info Pack 56)

By Elizabeth O'Brien, BSc, Grad Dip Health Edn; Lead Scientist and Lead Advisor, The LEAD Group Inc, Australia

This fact sheet is the 10 June 2024 update of the 28 June 2014 LEAD Action News article and Info Pack 56 published on our old site and new site.



### What does my blood lead test result mean?

The (November 2012) recommendation of The LEAD Group is that everyone should have a blood lead level below 1 microgram per decilitre and that action be taken to lower blood lead levels that are above 1 microgram per decilitre.

The table below is what I have in mind when I interpret blood lead levels. Rather than following the 2015 Australian government / pathology report advice to take no action if a blood lead level is below or at 5

#### Blood Lead (2011 - 2018)

CAS Number 7439-92-1

Geometric mean and selected percentiles of blood concentrations (in µg/dL) for the U.S. population from the National Health and Nutrition Examination Survey.

| Demographic Categories | Survey (Years) | Geometric Mean (95% CI) | 50th Percentile (95% CI) | 75th Percentile (95% CI) | 90th Percentile (95% CI) | 95th Percentile (95% CI) | Sample Size |
|------------------------|----------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------|
| Total population       | 11-12          | .973 (.916-1.04)        | .930 (.880-.980)         | 1.52 (1.41-1.61)         | 2.38 (2.17-2.61)         | 3.16 (2.77-3.68)         | 7920        |
| Total population       | 13-14          | .858 (.813-.906)        | .830 (.780-.870)         | 1.32 (1.24-1.42)         | 2.10 (1.96-2.30)         | 2.81 (2.49-3.14)         | 5215        |
| Total population       | 15-16          | .820 (.772-.872)        | .780 (.740-.840)         | 1.32 (1.21-1.42)         | 2.14 (2.02-2.24)         | 2.75 (2.50-2.98)         | 4988        |
| Total population       | 17-18          | .753 (.723-.784)        | .730 (.690-.770)         | 1.22 (1.17-1.27)         | 1.86 (1.75-1.95)         | 2.41 (2.24-2.67)         | 7513        |
| Age 1-5 years          | 11-12          | .970 (.877-1.07)        | .950 (.870-1.04)         | 1.34 (1.20-1.65)         | 2.26 (1.88-2.65)         | 2.91 (2.41-3.83)         | 713         |
| Age 1-5 years          | 13-14          | .782 (.705-.869)        | .740 (.680-.800)         | 1.08 (.940-1.24)         | 1.58 (1.33-1.90)         | 2.24 (1.68-2.64)         | 818         |
| Age 1-5 years          | 15-16          | .758 (.675-.850)        | .690 (.610-.790)         | 1.10 (.950-1.32)         | 1.86 (1.50-2.65)         | 2.76 (1.94-3.81)         | 790         |
| Age 1-5 years          | 17-18          | .670 (.600-.748)        | .620 (.540-.740)         | .980 (.810-1.18)         | 1.49 (1.28-1.72)         | 2.02 (1.67-2.44)         | 629         |
| Age 6-11 years         | 11-12          | .681 (.623-.744)        | .640 (.600-.700)         | .930 (.820-1.05)         | 1.34 (1.14-1.60)         | 1.89 (1.36-2.94)         | 1048        |
| Age 6-11 years         | 13-14          | .567 (.529-.607)        | .530 (.500-.570)         | .760 (.700-.820)         | 1.13 (1.01-1.23)         | 1.42 (1.21-1.83)         | 1075        |
| Age 6-11 years         | 15-16          | .571 (.523-.623)        | .550 (.510-.600)         | .780 (.720-.830)         | 1.18 (.970-1.44)         | 1.59 (1.24-2.24)         | 1023        |
| Age 6-11 years         | 17-18          | .475 (.456-.494)        | .460 (.430-.490)         | .650 (.610-.690)         | .930 (.840-1.04)         | 1.19 (1.04-1.40)         | 833         |
| Age 12-19 years        | 11-12          | .554 (.511-.601)        | .530 (.490-.570)         | .740 (.660-.830)         | 1.09 (.960-1.19)         | 1.31 (1.16-1.65)         | 1129        |
| Age 12-19 years        | 13-14          | .506 (.464-.551)        | .460 (.420-.500)         | .670 (.600-.750)         | 1.13 (.870-1.53)         | 1.69 (1.27-2.06)         | 627         |
| Age 12-19 years        | 15-16          | .467 (.433-.504)        | .450 (.410-.490)         | .680 (.610-.730)         | .930 (.820-1.03)         | 1.17 (.990-1.36)         | 565         |
| Age 12-19 years        | 17-18          | .411 (.387-.436)        | .390 (.370-.410)         | .530 (.490-.600)         | .830 (.730-.940)         | 1.09 (.930-1.45)         | 1030        |
| Age 20+ years          | 11-12          | 1.09 (1.03-1.16)        | 1.05 (1.00-1.12)         | 1.67 (1.56-1.79)         | 2.56 (2.33-2.77)         | 3.36 (2.98-3.93)         | 5030        |
| Age 20+ years          | 13-14          | .967 (.921-1.02)        | .940 (.900-.980)         | 1.45 (1.37-1.55)         | 2.26 (2.09-2.49)         | 3.03 (2.65-3.55)         | 2695        |
| Age 20+ years          | 15-16          | .920 (.862-.982)        | .880 (.810-.960)         | 1.46 (1.35-1.59)         | 2.30 (2.15-2.44)         | 2.89 (2.65-3.07)         | 2610        |
| Age 20+ years          | 17-18          | .855 (.816-.895)        | .850 (.780-.900)         | 1.34 (1.27-1.43)         | 2.01 (1.86-2.17)         | 2.62 (2.41-2.86)         | 5021        |

micrograms per decilitre (5µg/dL), I recommend you first compare a blood lead result to the relevant geometric mean in the US population, then decide what blood lead action level to use.

Table Reference: Fifth National Report

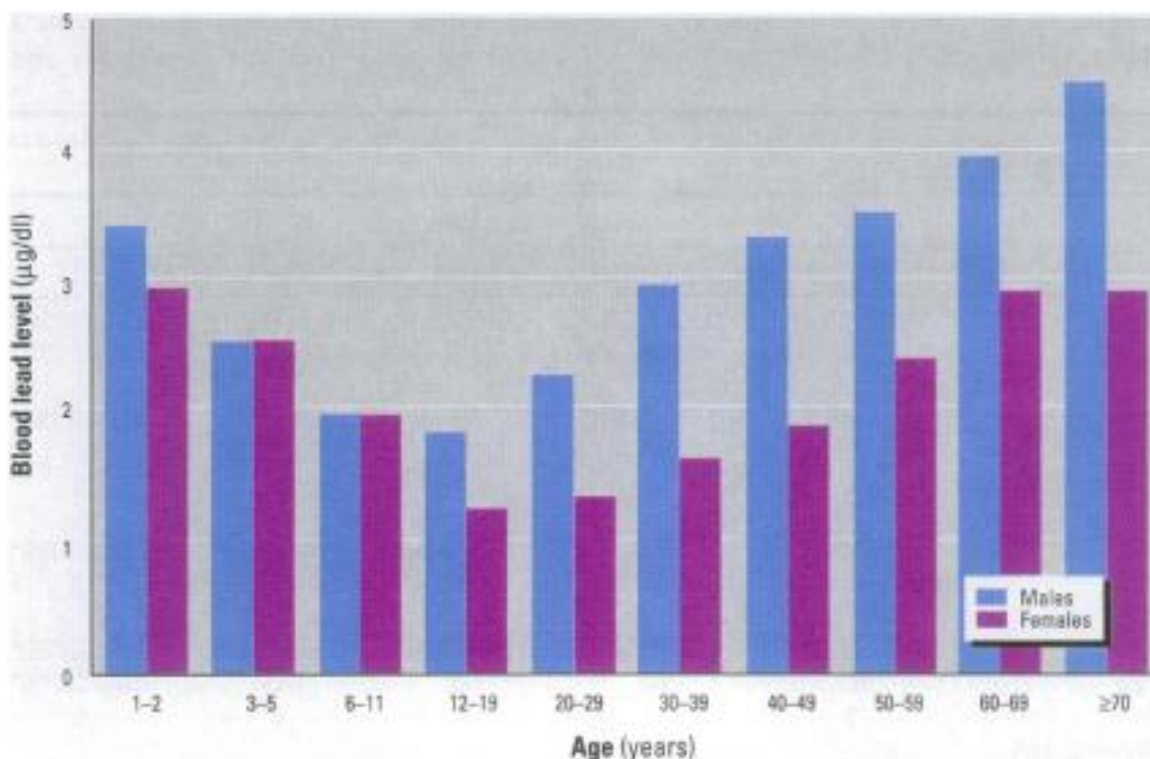
on Human Exposure to Environmental Chemicals Biomonitoring Tables: Metals and Metalloids - Blood Lead (2011-2018) table extract [1-5 years, 6-11 years, 12-19 years & 20+ years, Male, Female] - data from US National Health and Nutrition Examination Survey (NHANES), last reviewed 30 April 2024, [https://www.cdc.gov/exposurereport/data\\_tables.html](https://www.cdc.gov/exposurereport/data_tables.html)



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## How do blood lead test results typically vary over a lifetime?

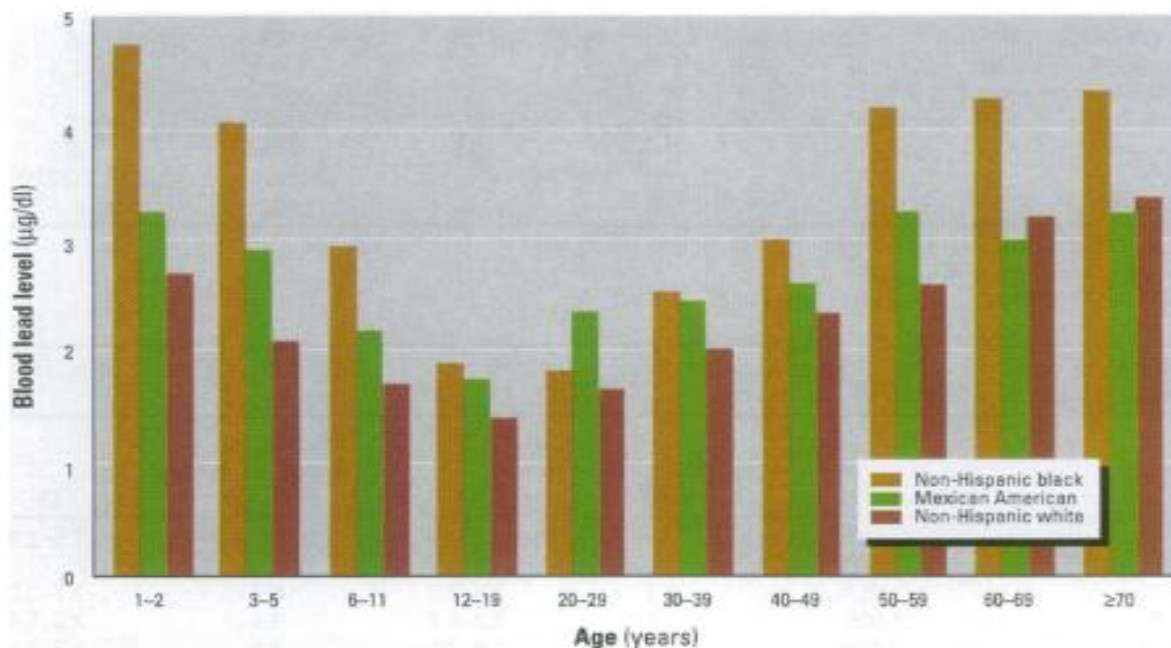
The following two figures from Pirkle et al 1998 [Exposure of the U.S. Population to Lead, 1991-1994 \[NHANES III\]](#) also provide evidence of typical differences by age, gender and race/ethnicity in mean US blood lead levels in the early 1990s and how blood lead might change over an individual's lifetime with two peaks: one in early childhood (especially high for Black males) and one from late adulthood towards a lifetime peak at death (at least for Hispanic and Non-Hispanic White males, if not Black males). Australians could usefully compare their current blood lead level to these 30 year-old US means and take more serious action to reduce your blood lead level if it is even close to these "bad old days" when leaded petrol vehicle emissions meant everyone was breathing in lead with every breath. Leaded gasoline was phased out in 1996 in the US (and in New Zealand) but in 2002 in Australia.



**Figure 1. Geometric mean blood lead levels by age category and sex: United States, 1991-1994.**



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**Figure 2. Geometric mean blood lead levels by age category and race/ethnicity: United States, 1991–1994.**



Volcano Art Prize (VAP) 2024 Entry  
 Artist: Tianyang Zhao, Creative Einstein school, age 10. Title: **Ebony and Ivory**  
**Lead-Safety Message: United States mean blood lead levels are like the keys of a piano - at every age category the Black population is higher than the White or Hispanic population.** Description of Work: Colouring pencils on paper. Reference for Lead-Safety Message: Pirkle et al 1998 [Exposure of the U.S. Population to Lead, 1991-1994 \[NHANES III\]](https://pubmed.ncbi.nlm.nih.gov/9711111/).

<https://volcanoartprize.com/portfolio-item/ebony-and-ivory/>

Your blood lead level today is not only influenced by new lead coming into your body, but also by lead leaching from your bone and teeth stores of lead, back into your bloodstream.

## **How far behind the US are Australian blood lead test results likely to be?**

My best guess, based on the one, the only national blood lead survey ever done in Australia, and my knowledge of the paucity of lead safety policy in Australia compared to the United States, is that typically the mean blood lead level for Australian children is twice the level (or trailing by about 7 years behind) the mean blood lead for US children. Reference: Lead Poisoning Case Management: Australia compared to the USA - LEAD Action News vol 12 no 3 - LANv12n3: [front page] Graph of Geometric mean blood lead level of US and Australian pre-schoolers and leaded petrol phase-out dates, 31st May 2012, <https://www.lead.org.au/lanv12n3/lanv12n3.html>

So if your GP tells you that your blood lead level is "normal" or "acceptable" or any other term denoting that they've seen recent blood lead study results for Australia, please let the doctor know there is no such data available until the government decides to do a blood lead study of all ages with oversampling for Indigenous Australians and newly-arrived immigrants from low to middle income countries, so no one can possibly know what the Australian mean of blood lead levels is by age, gender or race/ethnicity.

## **What do expert authorities say my blood lead test result should be?**

The World Health Organisation (WHO) wrote in [GLOBAL HEALTH RISKS - Mortality and burden of disease attributable to selected major risks](#), 2009 that: "The ideal exposure level for lead is less than 1 µg/dl (1 µg/dL or 1 microgram per decilitre)".

You can find a list of news articles generated by two professors from The LEAD Group's Technical Advisory Board (Professor Mark Taylor and the late great Professor Chris Winder), on the subject of lowering Australian guidelines on blood lead available [here](#).

On 5th March 2013, the Today Tonight Ch 7 Lead Story was broadcast and their fact sheet remains available online (<https://www.lead.org.au/fs/fst84.html>). The Ch 7 news headline "The health of as many as 100,000 children under the age of five is under threat from lead pollution, linked to intellectual and behavioural problems" refers to Professor Taylor's estimate that 100,000 Australian children under 5, probably have a blood lead level above 5 ug/dL.

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# LEAD Action NEWS

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## What are the health impacts of even low blood lead test results?

There are two media releases that explain the dangers of blood lead levels above 2 micrograms per decilitre in both adults and children:

- [9th December 2010](#) "[Current 'acceptable' blood lead levels too high, Overwhelming body of research supports The LEAD Group's call for a change in national policy](#)" and
- [3rd December 2010](#) "[Radical new policy on prevention of lead poisoning](#)".

The fact sheets referred to in the most recent media release above are online at:

- [https://www.lead.org.au/fs/Dangers\\_of\\_BPb\\_Level\\_Above\\_2µg\\_children\\_20101202.pdf](https://www.lead.org.au/fs/Dangers_of_BPb_Level_Above_2µg_children_20101202.pdf) and
- [https://www.lead.org.au/fs/Dangers\\_of\\_BPb\\_Level\\_Above\\_2µg\\_Adults\\_20101202.pdf](https://www.lead.org.au/fs/Dangers_of_BPb_Level_Above_2µg_Adults_20101202.pdf)
- and [https://www.lead.org.au/fs/Blood\\_lead\\_testing\\_20090810.pdf](https://www.lead.org.au/fs/Blood_lead_testing_20090810.pdf) is also very useful.

For older research findings on health effects of higher blood lead levels, usually above 10 µg/dL, please refer to [https://www.lead.org.au/fs/Health\\_Impacts\\_of\\_Lead\\_Poisoning.pdf](https://www.lead.org.au/fs/Health_Impacts_of_Lead_Poisoning.pdf) (our most popular fact sheet of all time).

For the most comprehensive analysis of all research on the effects of low-level lead exposure, please see the "[NTP MONOGRAPH ON HEALTH EFFECTS OF LOW-LEVEL LEAD](#)" (June 13, 2012).

The LEAD Group's latest compilation (22 Sept, 2020) of lead health effects research is [Health effects of a blood lead level below 10 µg/dL in both adults and children and even below 1 µg/dL in pregnancy](#)

In their 5<sup>th</sup> Nov 2012 Letter to the Medical Journal of Australia [Eliminating childhood lead toxicity in Australia: a call to lower the intervention level](#) Professors Mark Taylor, Chris Winder and Bruce Lanphear stated: "...reviews [by the World Health Organization, Germany's Human Biomonitoring Commission and US national agencies such as the Agency for Toxic Substances and Disease Registry, Centers for Disease Control and Prevention, National Toxicology Program and Environmental Protection Agency, as well as Health Canada] indicate that the current [Australian] National Health and Medical Research Council [NHMRC] guideline for lead (previously 10 µg/dL, now 5 µg/dL) is too high and should be revised downwards."

In Germany, since 2009, children up to the age of 14 get action from their doctor and the health department, if the blood lead level exceeds 3.5 µg/dL and the action level for women is 7 µg/dL and for men 9 µg/dL.

In May 2012, US policy on childhood lead poisoning prevention (see [CDC Accepts Advisory Committee Recommendation to Replace "Level of Concern" for Lead Poisoning with New Reference Value](#) stated that the new blood lead action level for children under 5 years of age in the US would be 5 micrograms per decilitre (half the old action level of 10 µg/dL). And on 27th October 2021 (in [CDC Recommended](#)

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# LEAD Action NEWS

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[Actions Based on Blood Lead Level](#)) the US Reference value was further moved down from 5 µg/dL to 3.5 µg/dL.

Canada is currently considering making blood lead levels above 1 ug/dL the new action level, so that's what The LEAD Group has asked the federal government to consider for Australians of all ages, so we can lead the world in having the most stringent response level, just like we currently lead the world in the volume of lead exports.

See for instance, the [Health Canada Final Human Health State of the Science Report on Lead](#) states: "Health effects have been associated with BLLs [blood lead levels] as low as 1–2 µg/dL... It is considered appropriate to apply a conservative approach when characterizing risk; accordingly, additional measures to further reduce exposures of Canadians to lead are warranted."

## **What does Australia need to do to about blood lead testing and results?**

Hopefully this information will motivate you to contact your Federal Health Minister to ask the Health Minister why your federal health department has not revised the blood lead action level downwards in Australia since 2015, why we have no idea what average blood lead levels are in Australia or why doctors know so little about lead.

Lowering the blood lead action level, having ongoing national blood lead surveys of all ages, educating doctors as to when blood lead testing should be considered for their patients and collating all blood lead results federally are just four of the plethora of excellent government policy recommendations The LEAD Group has made in our *Model National Lead Safety Policy* (18 July 2023) at <https://leadsafeworld.com/fulldoc-natpol>

## Volcano Art Prize (VAP)

### **Volcano Art Prize (VAP) – Citizen Science Lead Awareness-Raising through Art and Photography**

Each year during International Lead Poisoning Prevention Week of Action (20<sup>th</sup>-26<sup>th</sup> October 2024), we announce the winners of our art competition, the Volcano Art Prize (VAP) – a fabulous way to find out about lead-safety issues, and inspire others with your artwork, photos or film.

Submitting an entry before the **Friday 11<sup>th</sup> October 2024 deadline** not only raises lead-safety awareness in you and your circle, but puts you in the running for over 30 fabulous prizes including cash prizes.



Did you know that you can submit now at  
<https://volcanoartprize.com/submitentry/>  
for our 2024 prizes?

And, best still, entry is free for all children  
and all adults from non-OECD countries.

For everyone else, it is just AUD\$10.

**Have you got an image with a lead-safety message  
that you'd like to share?**



# LEAD Action NEWS

## Could your child's preschool, kindergarten or school be interested in taking part?

Please feel free to share these details with them. If there's no time during class time, perhaps it could go in the newsletter...

- Volcano Art Prize is an art competition held by The LEAD Group Inc.
- It is open to all age groups
- Entry is free for children and anyone living in non-OECD countries
- Entries can be drawings, paintings, poetry, video, performances... anything creative!
- Prizes include cash prizes and mugs from our sponsors, [www.PictureProducts.com.au](http://www.PictureProducts.com.au)

## One of Our 2023 VAP Joint First Prize Winners – Jennifer Chua



Artist: Jennifer Chuah, aged 12. School: Creative Einstein

Title: Leaf Creates Ripples

Lead-Safety Message: Just as touching the tip of a leaf to water creates ripples, so donating to environmental health charities such as [The LEAD Group's Lead Education and Abatement Fund \(LEAF\)](http://The LEAD Group's Lead Education and Abatement Fund) promotes the global spread of lead-safety.

Description of Work: Colouring pencils on paper

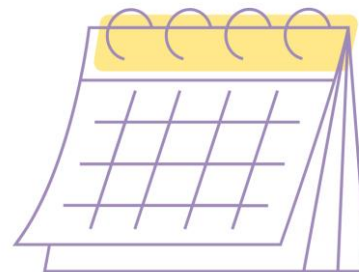
<https://volcanoartprize.com/portfolio-item/leaf-creates-ripples/>



## Lead: Important Dates

We wanted to empower you with lead-awareness so created this list of important dates so that you can keep them handy for future reference.

### LEAD: IMPORTANT DATES



### Limiting Lead Content in Residential Paint

- In Australia, from 1997 lead was limited in residential paint to 1000 ppm.
- From 2021 it was limited to 90 ppm.
- The LEAD Group recommends either assuming pre-1997 paint should not be dry-sanded or heat-gunned OR test it.

### Phasing Out Leaded Petrol

- In Australia, leaded petrol was phased out in 2002.
- The LEAD Group recommends testing for lead in ceiling void dust in urban homes and other buildings built before 2002.

### Brass Taps

- In Australia, brass taps are still permitted to contain up to 4.0% lead.
- All drinking water from new brass taps installed in the last 3-4 years should be tested at a lab for lead.
- The LEAD Group recommends that you only install stainless steel taps.

### Leaded Flashing on Roofs

- Since 2004 the Australian Building Code has stopped lead flashing being placed on planned rainwater collection roof areas.
- Rainwater should be tested for lead in any home built before 2004 or any later home where the rainwater tank was added after the building was built.

# LEAD Action NEWS

## Volunteer with Us!

*Would you like to contribute your time and skills to creating a lead-safe world by 2041?*

*Then we'd love to welcome you to The LEAD Group!*

As a charity, it is the support and generosity of the community that helps us help others.

We're able to create a role for you based on your skills, interests and time available.

If you'd like to join us then give us a call on 1800 626 086 between 10 am and 4pm each weekday and let us know!

## VOLUNTEER WITH THE LEAD GROUP



## DO YOU LIKE RESEARCHING AND/OR WRITING?



## Do You Like Researching and/or Writing?

Get involved with The LEAD Group!

Then give us a call on 1800 626 086 between 10 am and 4pm each weekday and talk to us about volunteering.

We'd love you to be involved!



## LEAPP Alliance UK Update

*LEAPP Alliance (Lead Exposure and Poisoning Prevention Alliance) is a joint initiative of the Lead Containing Materials Association, Lead In The Water and Lead Safe World UK.*

*The mission of the alliance is to use our collective knowledge, experience and skill to promote lead poisoning prevention in the UK. If you want to do something about lead toxicity in the UK, please endorse us. You can find their website here: <https://leappalliance.org.uk/>*

*Here's their update.*

### LEAPP ALLIANCE UK UPDATE



To: All Supporters of the LEAPP Alliance

This is one of my occasional updates on activities of the LEAPP Alliance. Firstly, some appeals for help...

- Do you live in a council home, or other social housing, and think you may have lead hazards?. I am working with a journalist from the Financial Times called Laura Hughes who is interested in writing a piece on this. She would like some personal stories, but these can be anonymous if you wish. Please let me know if you can help.
- There are many potential opportunities to try to progress lead poisoning prevention and we are letting a lot pass by. Please let me know if you are willing and able to help in any way – you choose what way, of course.
- If you would like to get more involved with setting our priorities, I would like to invite you to join our steering group. We meet for an hour once every two months. Please let me know if you would like to be told about the next meeting which will be in May.

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# LEAD *Action* NEWS

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Some things that have been happening include:

## **Supporters**

We now have over 90 supporters with a good mix of householders, researchers, service providers and advocates.

## **Spokespeople**

I am attempting to grow our capability by having spokespersons on different topics. The idea is that I can field enquiries to others. So far we have the following:

- Child health – Erik Millstone
- Toys and baby foods – Becky Farr-Barron
- Lead-safe DIY – Tim Pye

If you feel you could be the spokesperson on any of the following topics, or others, please let me know:

- Drinking water
- Soil
- Construction
- AVGAS
- Food
- Ceramics, glasses and other foodware
- Cosmetics
- Traditional medicine
- Jewellery
- Wildlife
- Health impacts of lead toxicity



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# LEAD Action NEWS

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## UK Lead Safe Mamas

A private Facebook group called [UK Lead Safe Mamas](#) is active and growing rapidly - now with 110 members. You don't have to be a "mama" to join!

## Media

BBC Morning Live presented two good films about lead hazards from old paint on 8<sup>th</sup> February. Clips from the programme can be found [here](#). Or on [BBC IPlayer](#) from timings 11:56 to 19:29 and 29:25 to 36:08. The films feature LEAPP Alliance supporters Suzanne How, Paulina Spencer, Caroline Taylor, Ludovica Gazze and Hesaan Sheridan. The anchor man said they had a lot of emails.

Lee Crawford has published a succinct and persuasive article for the Social Media Foundation called "[The need for the UK to address lead poisoning](#)". I recommend sharing it.

I recorded a podcast for the [ENDS Report](#) ("*The UK's No 1 source of intelligence for environmental professionals*"). It is not published yet.

Laura Hughes, Financial Times, is working on articles about lead in the food chain and lead hazards in council homes. I am providing information.

## Governmental

### Health and Social Care Committee

Our submission to their prevention enquiry is now online. However, there have been 300 submissions with no transparency on prioritisation. Their report on "[Prevention in health and social care: healthy places](#)" does not mention lead hazards.

### Healthy Homes and Building All Party Parliamentary Group

I asked a meeting of the HHB APPG, on 24<sup>th</sup> Jan, why their "[Healthy Homes Manifesto](#)" does not mention lead hazards. The chair, Lord Best, responded with "another one for the list". I also gave him a copy of our manifesto.

## **Manchester and Liverpool Westminster Group**

I attended a meeting of this group titled "[Unlocking Great North West Homes and Places](#)". This was not really useful, but I did talk to Lord Stunnell who is a member of the HHB APPG and gave him one of our leaflets.

## **National Screening Committee**

The NSC review of their [recommendation against screening children](#) was due in 2021/22. I have asked why this has not been done. Their answer was recruitment and procurement difficulties. They added that it is now "part of a wider programme of work" and there is no confirmed date.

## **UK Health Security Agency**

I have corresponded with Dr Edward Wynne-Evans, Director, Radiation, Chemical and Environmental Hazards, in the UKHSA. He acknowledges the importance of preventing lead exposure, but the plans are to gather more evidence and to map the health and policy landscape before doing anything. I have asked why they cannot take some quick, cheap simple actions that do no more than amplify existing messages. I have not yet received an answer.

I also attended a meeting of the Lead Exposure, Public Health Interventions and Surveillance (LEPHIS) steering group where priorities were voted on. I had suggested some more before the meeting, as requested, but these were not added to the list. I expressed frustration at the lack of practical action to prevent lead poisoning.

## **ECLIPS**

The funding application for the Elevated Childhood Lead Interagency Prevalence Study (ECLIPS) pilot has been submitted. A decision is expected by June. If approved, it is expected that the pilot will take 2 years starting in October and be followed by a study which will estimate the prevalence of elevated blood lead in UK children.

## Water

### Sampling protocols

We have had further discussion with Nicholas Adjei, Deputy Chief Inspector, Drinking Water Inspectorate about recommending that water companies ask customers to leave their taps overnight before testing for lead. He says that “the Inspectorate does not consider there is a level of evidence to support a change in the position”. We wonder what evidence they are basing their 30 minute stagnation time position on. Our plan is to make contact with Colin Hayes who has published research into this.

### Scottish Government

The new [Repairing Standard: Statutory guidance for landlords](#) requires that properties “should be free of lead pipes”. Landlords are required to comply from 1 March 2024. I am not aware of any plan to extend this to the rest of the UK.

## Communications

### Painting and Decorating Association

We have submitted over 50 suggested changes to a draft leaflet prepared by Shepherd PR for the PDA.

### Royal Society of Chemistry

An article called “Why we still need to worry about lead” is being prepared. A number of revisions were identified at a recent meeting and I now need to apply them to the draft.

### Manifesto and Leaflets

I just thought I would mention that our leaflets and manifesto, that several of you contributed to, continue to be used. The leaflets are on their third reprint! Thank you for your input to these.

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# LEAD Action NEWS

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## Social Media

I continue to post on Facebook, Linked In and Twitter.

## DIY Testing

I have been doing some comparative amateur evaluation of two newish lead detection methods.

### Scitus Swabs

These seem to work as well as 3M LeadCheck including not giving false positives on copper, tungsten, or even in air, as found with some water activated swabs.

I have also been sent a prototype for testing for lead in soil.

### Lumetallix

This kit utilises a reaction, used in the production of solar panels, where methyl ammonium bromide reacts with lead to form perovskite compounds which luminesce in ultra-violet light. I will be sharing a report on what I have found.

What is disturbing, and also found by the developers, is that many beer glasses that are coated with lead paint. For example:

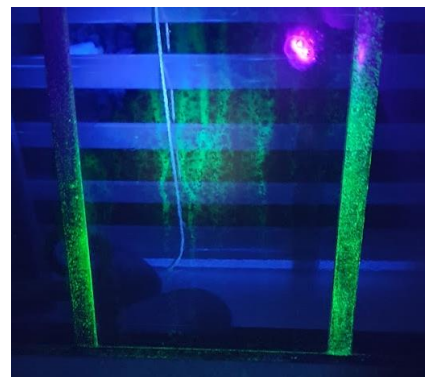


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# LEAD *Action* NEWS

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The method also shows up how contamination spreads from leaded windows to the glass in between.



## Individuals

I try to help individuals where I can. I was also contacted by a team of final year students at Manchester who are looking at lead contaminated water in schools and heavy metals in industrial waste

Best regards,

Tim Pye, LEAPP Alliance UK

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## Featured Post: Unleaded Kids

In this edition, we've chosen to share with you a recent post from **Unleaded Kids** - an organisation that, here at The LEAD Group, we hold in very high regard!

Unleaded Kids, a nonprofit, strives to address major gaps in lead policy in the United States.

This article is reprinted with kind permission - and can be found on their website at

<https://unleadedkids.org/open-data/2024/06/13/>

It is by Tom Neltner and was published on 13 June 2024.

## FEATURED POST

Reprinted with Kind Permission From



## Lead in Products: Local Efforts Shine Critical Light; Benefits Could Drive Larger Change

### What Happened?

We just learned of two great resources for those seeking to understand lead in consumer products.

The [New York City \(NYC\) Health Department](#) publishes (on the NYC Open Data website) the results of thousands of consumer products tested for arsenic, cadmium, lead, or mercury. The products have been collected during lead poisoning case investigations and surveys of NYC retail stores since 2011. It is updated annually. It has more than 5,700 entries for lead with spices making up 45% of those. Most of the products are imported with more than 100 countries represented; however, 301 are from the U.S., and almost 1,800 are of unknown origin.

The [Public Health – Seattle & King County](#) and the [Hazardous Waste Management Program in King County, WA](#) publishes on the [King County Open Data](#) website the lead testing results of consumer products collected since 2022. The products were collected from several sources, including community product testing events, in-home investigations of lead-poisoned children, and products purchased for testing for research projects. It has more than 1,300 products from more than 100 countries; 91 are from the U.S., and more than 430 are of unknown origin.

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# LEAD Action NEWS

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## Why it Matters

The risk of children's exposure to lead from consumer products is poorly understood, often because it is

- Not captured by national testing programs, which focus on traditional retail outlets and items carried into the U.S. from abroad rather than those purchased from online marketplaces;
- Masked by sources such as deteriorated paint or water; or
- Driven by outdated standards.

The Open Data efforts by NYC and Seattle/King County provide a valuable service by shining a light on the issue. They help to target and prioritise efforts to protect people, especially those who rely on online marketplaces or hand-carry products from abroad.

## Our Take

Every day in communities across the country, professionals affiliated with state and local health departments conduct environmental investigations when children are found with elevated blood lead levels. They are doing the hard work that must be done when primary prevention efforts falter or fail.

While these professionals usually track the source of exposure to lead-contaminated dust in the home from lead-based paint, many go beyond the obvious and look for lead pipes, consider soil carried into the home, check for nearby industrial sources, or test for consumer products. As we saw in [North Carolina](#) with the applesauce puree, this type of vigilance and persistence can protect children everywhere. Similarly, NYC and Seattle/King County extended their efforts by proactively testing consumer products and then making the information publicly available. We applaud their individual and collective efforts!

We also recognize the obligation their efforts create for all of us who are committed to protecting people from the harm posed by lead to translate their actions into international, national, state, local and corporate policies that will protect all children.

Ideally, the goal should be strong international standards designed to prevent contamination so that all children benefit, not just those in the United States. For these reasons, we cheer [USAID's fledgling efforts](#) and applaud organisations like [PureEarth](#) and the [Global Alliance to Eliminate Lead Paint](#). We also call out tepid efforts like those by [Codex Alimentarius](#) for food.

However, we cannot rely on international action and must continue to press for tighter national, state and local efforts to drive progress everywhere.

Systematic success will come when the federal agencies (and international organisations) are willing and able to act in a timely manner when they learn of a problem from lead poisoning professionals. We applaud FDA for quick action when informed of North Carolina's applesauce findings but recognize that it is an exception. Federal agencies have often ignored health departments' findings, feeling they must reproduce it before acting.

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# LEAD Action NEWS

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## Next Steps

The federal government manages two systems where lead-contaminated consumer products can be reported to FDA for foods, dietary supplements and cosmetics and to CPSC for all others. Both appear to be underutilised. We encourage state and local health departments and other lead poisoning professionals to report their results and help press the FDA and CPSC to act.

- [CPSC's Safer Products](#): Designed to allow consumers and others to report complaints about products. Where the complaint identifies a manufacturer, brand or retailer, the company is notified and given an opportunity to respond quickly. Then CPSC staff can investigate. We found more than 1,100 items related to lead out of more than 67,000 since 2009.
- FDA Center for Food Safety And Applied Nutrition (CFSAN) Adverse Event Reporting System ([CAERS](#)): A database tracking adverse event and product complaint reports submitted to FDA for foods, dietary supplements, and cosmetics by consumers, healthcare providers and pharmaceutical industry. We found that out of more than 200,000 entries since 1999, only 237 entries were for metal poisoning.



Thanks, Unleaded Kids, for giving us permission to share this post!

If you'd like to check out their website, please visit: <https://unleadedkids.org/>

## Citizen Science Projects

*Are you finding out about lead hazards, lead exposure pathways and that there's no safe level of lead in the blood?*

*If you already know more than other people in your street, network, parent group, community, shooting club, etc about preventing lead poisoning or reducing blood lead levels and you want to spread the awareness or start a Citizen Science Project, then consider the following.*

LEAD Group Kits can be ordered online, are often less expensive than going directly to an accredited lab yet the samples in a LEAD Group Kit are analysed at NATA-accredited labs and included in the price of the Kit (plus Add-Ons you might choose) is:

- Sampling instructions for finding the worst-case scenario result (not like some instructions which aim to find the best-case scenario result and leave you in the dark about your exposure to lead and other toxic metals)
- Analysis costs for analysing lead and other toxic metals (and even detecting asbestos or fluoride etc)
- All-important Interpretation and Advice on what to do about the results...

## CITIZEN SCIENCE PROJECTS



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# LEAD Action NEWS

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## Citizen Science Project: Lead exposure from dust, soil, paint, water, backyard eggs, incense & cassava puffs/chips!

By Grandma Lead, aka Elizabeth O'Brien, Lead Scientist and Lead Advisor, The LEAD Group Inc, Australia. 16<sup>th</sup> June 2024. Backyard chickens photo by Elizabeth O'Brien.

A LEAD Group Kit purchaser sent me the news story: [Two brands of 'healthy' chips are found to contain high levels of toxic metal that can lower people's IQ | Daily Mail Online](#) and I replied....

If your children eat a lot of cassava puffs or cassava chips, it would be great if you'd have their blood lead levels checked and if they're above 1 microgram per decilitre (1 ug/dL) and you've tested all the other more likely lead exposure sources (dust, soil, paint, water, backyard eggs & even incense), The LEAD Group would certainly set up a **Citizen Science Project of Cassava Snack Foods Lead Test Results via LEAD Group Kits** and ask the government to lead test cassava-based puffs/chips/toddler snack foods available in Australia.

I see at

<https://www.consumerreports.org/health/food-safety/lesser-evil-serenity-kids-cassava-puffs-high-lead-levels-a2654657249/> that Consumer Reports USA (who lab lead tested the cassava puffs in the Daily Mail UK article) use the same Californian Maximum Allowable Dose Level (MADL) of 0.5 micrograms of lead per day that I use when interpreting backyard chicken egg lead results lab tested through LEAD Group Kits.



The worst cassava puffs by Lesser Evil had 112% of that Californian MADL per serving (ie **0.56 µg/serving**) and Consumer Report thus recommended allowing toddlers less than half a serving per day (equivalent to 17 puffs), but they also reported, at the URL above that:

*“Lesser Evil announced on June 13, 2024, that it would [phase out the use of cassava flour](#) in its Lil' Puffs line of products...”*

Interestingly, today (16<sup>th</sup> June 2024),

<https://www.doorsteporganics.com.au/product/Paleo-Puffs-Himalayan-Pink-Salt-Lesser-Evil-140g> is out of stock of these cassava chips/puffs but you may still wish to send the Daily Mail article and original Consumer Report report to Door Step Organics and ask them if they know that Lesser Evil was the brand that Consumer Reports found had the highest lead content of the four organic cassava (root vegetable) puffs they tested.



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# LEAD Action NEWS

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It is quite common for LEAD Group Kit backyard chicken egg lead results to be **more than 0.5 micrograms per egg** ( $\mu\text{g}/\text{egg}$ ) and even up to **4.5 $\mu\text{g}/\text{egg}$**  to which my Comment [Lab Results, Comments and Interpretation are included in the cost of LEAD Group Kits] was:

"...your lead result per egg is **9.0 times** [900%] the daily lead intake level at which consumer products sold in California have to be labelled, under Proposition 65 legislation, with a warning about the hazards of lead ingestion. If the product could contribute only 0.5 micrograms per day to a person's lead intake, in California, it would require the following label:

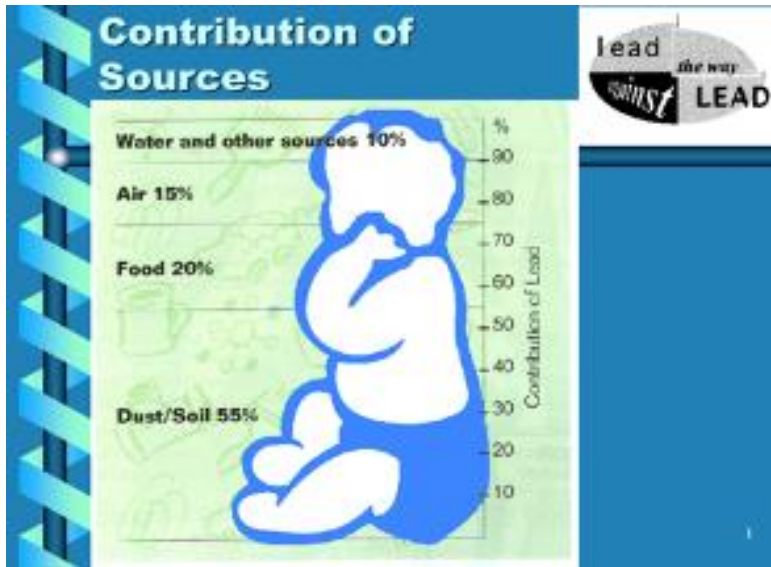
**WARNING:** Consuming this product can expose you to chemicals including lead, which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov/food](http://www.P65Warnings.ca.gov/food)

We therefore recommend you don't allow pregnant women or children or anyone wishing to conceive to eat the eggs until you follow the Spliethoff et al (2013) study's recommendation to reduce lead in your eggs, test for lead in your commercial chicken feed/s and then test for lead in another egg from the youngest hen."

So if you want to spread the word about backyard egg lead and get more lead testing done on foods sold in Australia, please keep in mind that there's no Lead in Consumer Products database for Australia and with no government funding The LEAD Group's Kits are still the best way for Australian consumers to have foods (it costs an extra \$90/sample to test lead in food samples) but especially backyard eggs (it only costs an extra \$30/sample to test eggs) tested for lead.

Importantly, I still recommend first testing the "big four" most likely child-lead exposure sources of the early 21<sup>st</sup> century: dust, soil, paint (if sanded/heatgunned or degraded, child-accessible and being ingested or inhaled) and water (if taps are new or you drink rainwater). Plus always test backyard eggs if eaten! Late last century, leaded petrol vehicle emissions contributed 90% of lead in air which in turn raised food lead levels which explains why this 1997 graphic (at right) lists the "big four" lead sources for young children then as dust/soil (contributing 55%), food (20%) and air (15%) [and water and other sources (10%)].

# LEAD Action NEWS



Graphic: Slide 7 Contribution of Sources [1997] from

Dr Ben Balzer's "Lead Poisoning" Slide Show at

[https://lead.org.au/bblp/Ben\\_Balzer\\_Lead\\_Poisoning\\_files/v3\\_document.htm](https://lead.org.au/bblp/Ben_Balzer_Lead_Poisoning_files/v3_document.htm)

Original reference: "Lead Safe - A Guide For Health Care Professionals" (1997) by Lead Reference Centre (LRC) - a now defunct part of NSW Environment Protection Authority (EPA)

[https://www.lead.org.au/fs/lead\\_safe/A\\_Guide\\_For\\_Health\\_Care\\_Professionals\\_Lead\\_Safe.pdf](https://www.lead.org.au/fs/lead_safe/A_Guide_For_Health_Care_Professionals_Lead_Safe.pdf)

Tom Neltner of Unleaded Kids in the US, said in his 13 June 2024 blog "Lead in Products: Local Efforts Shine Critical Light; Benefits Could Drive Larger Change" at <https://unleadedkids.org/open-data/2024/06/13/> (you can subscribe to the blog for free on the homepage) that:

*"While these **professionals [who investigate child elevated blood lead levels (EBLLs)] usually track the source of exposure to lead-contaminated dust [see slide above] in the home from lead-based paint, many go beyond the obvious and look for lead pipes [which we apparently don't have in Australia], consider soil carried into the home, check for nearby industrial sources, or test for consumer products.**"*

Neltner also noted that 45% of 5,700 consumer products tested in New York City since 2011 via studies or child EBLL investigations where lead was detected were spices.

Neltner points out a second useful database at [https://data.kingcounty.gov/Health-Wellness/Lead-Content-of-Consumer-Products-tested-in-King-C/i6sy-ckp7/about\\_data](https://data.kingcounty.gov/Health-Wellness/Lead-Content-of-Consumer-Products-tested-in-King-C/i6sy-ckp7/about_data) which gives lead results in parts per million (ppm) by either XRF screen (eg keys, jewellery, cookware, dishware, toys) or the far more accurate and reliable laboratory analysis (eg spices, cosmetics, supplements).

# LEAD Action NEWS

I caution anyone reading lead results in consumer products to consider not only how much lead is in the product but HOW the lead could get from the consumer product into the person, frequency of use, how much of the product is consumed and how much of the lead is actually going to be absorbed.

For example, it is obvious that food lead is ingested but the absorption rate can vary from 10-64%, cosmetics lead is potentially ingested and/or absorbed via the skin (see <https://www.fairtrading.nsw.gov.au/news-and-updates/news/hashmi-eyeliner-recall> where you will find information in community languages: Arabic, Punjabi, Hindi, and Urdu re: Leaded eyeliner/kohl from India poisons Sydney children July 2018) and for leaded products that are intended to be burned, the lead is inhaled and typically 100% absorbed.

Picture: 2013 Volcano Art Prize (VAP) Entry.

Title: Kajal Eyes.

Lead-safety message: Make sure your black eye make-up like Kajal / Kohl / Surma is lead-free. You can test it with a LEAD Group test kit and ask your doctor for a blood lead test.

Artist: Swetha Lingala.

<https://volcanoartprize.com/portfolio-item/kajal-eyes/>



The most interesting results I found from the [Lead Content of Consumer Products tested in King County, Washington](#) database were for incense which it says in the **USA Lead Limits for Consumer Products** pdf (from the site) should have a zero or undetectable lead level, yet of 10 samples tested, results ranged from 0.5-**83** ppm lead! My conclusion, **NEVER burn incense!**

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# LEAD *Action* NEWS

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Picture: 2013 VAP Entry

Title: *Incense Smoke Dangerous to Your Health*

Lead-safety message: *Incense sticks (agarbatti) could come with a health risk.*

Artist: Rama Veeraghanta.

<https://volcanoartprize.com/portfolio-item/incense-smoke-dangerous-to-your-health/>



I'm really glad you're still on the lookout for news about lead, and I hope you and every other parent, chook-owner, renovator and Building Biologist in Australia continues to always use LEAD Group Kits to collect dust wipe, soil, paint, water, ceiling dust and egg samples if they have backyard eggs!

# LEAD Action NEWS

## Citizen Science Project: Backyard Chickens and Lead in Oz

### Is Your Commercial Chickenfeed Lead-contaminated?

By Grandma Lead, aka Elizabeth O'Brien, BSc, Grad Dip Health Edn; Lead Scientist and Lead Advisor, The LEAD Group Inc, Australia, June 2024

## BACKYARD CHICKENS



## AND LEAD IN OZ



2022

Volcano Art Prize (VAP) Entry. Photographer: Max Taylor, age 11. Title: **Max's Chickens.**

Lead-safety Message: Lead in the dirt contaminates our eggs.

<https://volcanoartprize.com/portfolio-item/maxs-chickens/>

Enter your chicken photos and very short films in VAP at

<https://volcanoartprize.com/submitentry/>

Prevention is so much better than cure so in September 2022 The LEAD Group embarked on a Backyard Chickens and Lead Citizen Science Project and we thank you in advance if you decide to buy a LEAD Group Kit at <https://leadsafeworld.com/leadkits> specifically to test an egg (this costs an extra \$30 in addition to the price of the Kit) and to test commercial chicken feeds you feed your backyard chickens that are different or the same as the ones we have had analysed for lead (see results in the table below).

The Stock Feed Manufacturers' Council of Australia has asked us to provide the batch numbers and lead results for any stockfeeds tested for lead in our Backyard Chickens and Lead Citizen Science Project. We can also report to your state primary industry department if your chicken feed lead results don't comply with the Maximum Recommended Limit for lead, so please let us know if you do feed your chickens with any of the feeds that have been found already to not comply.

Please check out the key Macquarie Uni research in inner Sydney by Professor Mark Taylor (from The LEAD Group's Technical Advisory Board) and his team that inspired me to start the Project:

[Lead poisoning of backyard chickens: Implications for urban gardening and food production](#) by Tahereh [Sara] Yazdanparast, Vladimir Strezov, Peter Wieland, Yi-Jen Lai, Dorrit E. Jacob & Mark



# LEAD Action NEWS

Patrick Taylor, Environmental Pollution 310 (2022) 119798 / Volume 310, 1 October 2022, online 18 July 2022.

The Sydney backyard chickens study (Yazdanparast et al 2022) basically says that while soil lead is the best predictor of egg lead, incredibly, 69% of the commercial chicken feeds XRF-screened for lead and 43% of the chicken water samples analysed for lead also had too much lead in them! So to prevent lead poisoning of backyard chickens and their eggs and anyone who eats the eggs it is essential that you ensure all the soil they have access to is extremely low in lead, that you choose commercial chicken feeds with non-detectable or at least the lowest lead levels possible (see the 10 we had tested at the National Measurement Institute (NMI) Lab in the above attachment and consider having yours tested via a LEAD Group Kit so we can increase the number of Chicken Feed Lead results we can send to our clients), and that you ensure low-lead drinking water for the chickens. Test your chicken water for lead with a LEAD Group Kit if the tap is less than three years old or if you water the chickens with a PVC hose or if the water source is rainwater or borewater.



2016 VAP Entry.

Photographer: Elizabeth O'Brien.

Title: Test your stock feed at a lab with a LEAD Group Kit,

Lead-safety Message: Does your stock feed meet the Stock Food Act lead, cadmium and mercury limits? A LEAD Group Kit found a brand of chicken feed (not shown here) had 5 times the lead limit but there was no lead detected in the Organic chook food / layer mash made by Country Heritage Feeds. <https://volcanoartprize.com/portfolio-item/test-your-stock-feed-at-a-lab-with-a-lead-group-kit/>

If your poultry's soil lead level is above 30 mg/kg (milligrams of lead per kilogram of soil), The LEAD Group recommends that you ask the doctor to test the blood lead level of anyone who has eaten or may in future be regularly eating the eggs, and that you have an egg (per laying chicken) tested for lead. Egg analysis for lead (and other heavy metals and a scan for pesticides) can be done using a LEAD Group kit, available at <https://www.leadsworld.com/shop/> - by ordering a LEAD Group Kit and Egg Preparation for Testing and just packaging up the whole raw egg - so it doesn't break in the mail, and posting it with your other LEAD Group kit sample containers, to our lab.

The lead analysis is included in the price of the kit, and you pay extra per sample:

- \$30 for digestion (preparation for analysis) of each egg
- \$15 for each other heavy metal you want analysed, and

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# LEAD *Action* NEWS

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- \$60 if you want the pesticides scan.

Please note that if you want both metals and pesticides tested in eggs, you need to send one egg for the metal analysis/es and another egg for the pesticides scan (as it will be sent out from our lab to be analysed/scanned at two other labs).

Currently, the cost of lead analysis, Other Heavy Metal analysis, Asbestos Detection and Egg Preparation for Testing can be paid by Paypal or Credit Card when you order a kit at <https://www.lead safeworld.com/shop/> so if you want to pay for more tests eg scan of pesticides in soil, commercial chicken feed or eggs, you should first phone to check the price then pay by Direct Debit and email us a copy of your online banking receipt for your transfer, along with your name, phone number/s and postal address so we can send you the kit by email.

Our bank account details for these payments can be found at <https://lead safeworld.com/direct-bank-transfer/> and are:

Account Name: The LEAD Group LEAD  
BSB: 812170  
Account Number: 101078452  
Reference: [write what you're paying for]

# LEAD Action NEWS

Please check out the following lead results in Commercial Chickenfeeds available in Australia obtained so far in this Citizen Science Project

Table: Chicken Feed Lead Results from National Measurement Institute (NMI) for The LEAD Group's Citizen Science Project: Backyard Chickens and Lead in Oz – Is Your Commercial Chickenfeed Lead-contaminated?

**Chicken Feed Lead Results from National Measurement Institute (NMI) for The LEAD Group's Citizen Science Project: Backyard Chickens and Lead in Oz – Is Your Commercial Chickenfeed Lead-contaminated?**

**Result Highlight colour key:**  
 <0.01 mg/kg – Non-detectable Lead (i.e. less than 0.01 mg/kg or 11111 grams of lead per kilogram of chicken feed (the best result possible from NMI) )  
 >0.01 – <0.1 mg/kg – Equal to or greater than 0.01 mg/kg (one twentieth of 0.2 mg/kg) but less than 0.1 mg/kg – half the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods)  
 >0.1 – <0.2 mg/kg – Equal to or greater than 0.1 mg/kg (half of 0.2 mg/kg) but less than the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods)  
 >0.2 mg/kg – Equal to or greater than the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods

| SAMPLE NO. > | SAMPLING DATE & SAMPLE TYPE > | PHOTO OF SAMPLE >   | DESCRIPTION OF SAMPLE >   | LEAD RESULT > |
|--------------|-------------------------------|---|---|---------------|
| 202209001A > | 1/9/2022 ><br>Chicken Feed >  |   | Home-mix (In a galvanized but new/clean rubbish tin) of sunflower seeds and wheat and milo grains from Kensington Produce, from Anne >  | <0.01 mg/kg > |
| 202209001B > | 1/9/2022 ><br>Chicken Feed >  |  | Villa Stock Feeds Free-Range-Layer-Pellet, purchased at petO, from Linden >   | 0.36 mg/kg >  |
| 202209001C > | 1/9/2022 ><br>Chicken Feed >  |  | Beco Top Essential Feeds Top-Layer-Complete-and-Balanced Premium Mash, purchased at petO, from Linden >   | 0.028 mg/kg > |
| 202209001D > | 1/9/2022 ><br>Chicken Feed >  |  | Peckish Produce Performance Layer Mix purchased from Pets Domain by Elizabeth. The empty bag had already been recycled by the time SFMCA asked The LEAD Group for the Batch Number. > | 0.16 mg/kg >  |
| 202209001E > | 1/9/2022 ><br>Chicken Feed >  |  | Peckish Produce Layer Pellets purchased from Pets Domain by Elizabeth. The empty bag had already been recycled by the time SFMCA asked The LEAD Group for the Batch Number. >         | 0.4 mg/kg >   |

# LEAD Action NEWS

## Chicken Feed Lead Results from National Measurement Institute (NMI) for The LEAD Group's Citizen Science Project: Backyard Chickens and Lead in Oz—Is Your Commercial Chickenfeed Lead-contaminated?¶

|                  |                            |   |   |             |
|------------------|----------------------------|---|---|-------------|
| ¶<br>202209001F¶ | 1/9/2022¶<br>Chicken-Feed¶ |    | Vella-Stock-Feeds-Scratch-Mix-(Grains)-from-Emily¶  | 0.19mg/kg¶  |
| ¶<br>202209001G¶ | 1/9/2022¶<br>Chicken-Feed¶ |    | Vella-Stock-Feeds-Scratch-Mix-(Pellets)-from-Emily¶   | 1.4mg/kg¶   |
| ¶<br>202209001H¶ | 1/9/2022¶<br>Chicken-Feed¶ |    | Avigrain-Scratch-Mix-(Grains,-Seeds-and-Pellets),-from-Catherine.-The-empty-bag-had-already-been-recycled-by-the-Time-SFMCA-asked-The-LEAD-Group-for-the-Batch-Number.¶ | 0.56mg/kg¶  |
| 202209001J¶      | 1/9/2022¶<br>Chicken-Feed¶ |   | Aunty-Kate's-Scratch-Mix-(Wheat,-Milo,-Cracked-Corn-and-Sunflower-Seeds),-[made-by-Avigrain?]-from-Jenny¶   | <0.01mg/kg¶ |
| 202209001K¶      | 1/9/2022¶<br>Chicken-Feed¶ |  | No-brand-no-product-name-no-batch-number-Pellets-sold-in-clear-plastic-bag,-purchased-from-Kempsey-Produce-by-Jenny¶  | 0.26mg/kg¶  |

Result-highlight-colour-key:¶

<0.01 mg/kg--Non-detectable-Lead-is-less-than-0.01 mg/kg or milligrams-of-lead-per-kilogram-of-chicken-feed-(the-best-result-possible-from-NMI-lab)¶  
 =>0.01~<0.1 mg/kg--Equal-to-or-greater-than-0.01 mg/kg (one-twentieth-of-0.2 mg/kg) but less than 0.1 mg/kg--half-the-NSW-BioSecurity-Act-(2015)-maximum-limit-for-lead-of-0.2 mg/kg-in-stock-foods¶

=>0.1~<0.2 mg/kg--Equal-to-or-greater-than-0.1 mg/kg (half-of-0.2 mg/kg) but less than the NSW BioSecurity-Act-(2015)-maximum-limit-for-lead-of-0.2 mg/kg-in-stock-foods¶

=>0.2 mg/kg-- Equal to or greater than the NSW BioSecurity-Act-(2015) maximum limit for lead-of-0.2 mg/kg-in-stock food

©-The-LEAD-Group--ABN:25819463114¶



# LEAD Action NEWS

## Citizen Science Project: Is Magnetite a Lead-Safety Solution to Leadlighting?



By Grandma Lead, aka Elizabeth O'Brien, BSc, Grad Dip Health Edn; Lead Scientist and Lead Advisor, The LEAD Group Inc, Australia, June 2024

In 2020 when the mother of a child with an elevated blood lead level purchased a LEAD Group Kit and collected a surface dust wipe sample from the floor below the front leadlight door (pictured), the result was astronomical so the father immediately replaced the front door and the child's blood lead level began to fall.

## IS MAGNETITE A LEAD-SAFETY SOLUTION TO LEADLIGHTING?



It was only after that case that I discovered Magnetite (pictured at right, in place over each of the leadlight panels) and wondered: Is Magnetite a Lead-Safety Solution to Leadlighting even though it is designed to solve noise and heat insulation problems?



Before LEAD Group Kit result

After LEAD Group Kit result

2020 Volcano Art Prize (VAP) Entry.

Title: Through the looking glass.

Lead-Safety Message: Children are the future and they may be at risk of lead poisoning from common household objects and furniture. This beautiful rose coloured leadlight glass door on the left produces dust with an extremely high lead content of 27,000  $\mu\text{g}/\text{m}^2$ . Through a simple dust wipe it was determined that this glass door was unsafe. The LEAD Group recommended to get the lead dust down to 12  $\mu\text{g}/\text{m}^2$ . I did this by simply changing my front door to one without leaded glass. I can rest easy knowing my kids are safer thanks to The LEAD Group.

<https://volcanoartprize.com/portfolio-item/through-the-looking-glass/>

So when a LEAD Group Kit purchaser receives a very high dust wipe lead result near lead patterned windows or leadlighting, I provide the usual wet-cleaning advice, but I also highly recommend either replacement of the leaded windows/doors with non-leaded windows, (which can still be beautiful eg see <https://www.axessglassonline.com/> and use



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the site's search function to find DesignLam - non-lead / lead-replacement stained glass, produced and distributed by Axxess Glass Products and their suppliers throughout Australia), or, if keeping the leadlighting and it is child-or pet-accessible exteriorly, add a layer of glass on the outside. If they are fixed windows (non-opening) I recommend adding another layer of glass on the inside but if they are opening windows (for which triple glazing would be too heavy), I now recommend Magnetite clear acrylic on the inside. You can obtain free quotes for supply and installation of Magnetite at <https://www.magnetite.com.au/request-a-quote.html> or by phoning 1300738763 [1300 RETROFIT] in Australia. The product can even be installed on circular windows!



More recently, I've realised that LEAD Group Kit purchasers who have high dust wipe lead results in child-inaccessible areas underneath leadlighting – is the perfect situation for some Citizen Science!

Anyone who has a very high LEAD Group Kit dust wipe lead result under leadlighting in a situation where there is no chance of child or pet access to the dust is eligible to participate in this new Citizen Science Project: Is Magnetite a Lead-Safety Solution to Leadlighting? The LEAD Group is prepared to post Magnetite Citizen Science Project participants 5 free Ghost Wipes per location with the instructions for collecting dust wipe samples under the leadlighting and to pay for the lead analysis of those samples IF you decide to go ahead with having Magnetite clear acrylic installed on the child-facing side/s of your leadlight window / door and follow the steps below to demonstrate whether that is a sufficient (potentially fabulous!) lead-exposure mitigation solution:



1. Take a photo of the dust wipe collection area and add that to the Chain of Custody form we'll also provide, along with a record of your best recollection of the time between the most recent clean of the windowsill and the collection of the sample which resulted in these two astronomical lead dust wipe near leadlighting results, and a description of whether or for how many hours a day the leadlighting is partially or completely in sunshine.
2. Before the Magnetite is installed, do a thorough wet-clean of the nearby windowsill/s, floor/s and surrounding surfaces then use the first free Ghost Wipe to collect the "baseline" windowsill and/or floor dust wipe sample. Complete the Chain of Custody form we will provide with a description of the frequency of opening and closing of the window. Post the sample to SAL for analysis and my comments on the result.

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3. After the Magnetite is installed, don't clean the windowsill or nearby floor for one month, then use the second free Ghost Wipe to collect the "one-month without cleaning after Magnetite installed" sample. Complete the Chain of Custody (CofC) form we will provide, with:
  - a note that this is the one-month without cleaning after Magnetite installed sample
  - a description of frequency of opening and closing of the window / door and
  - the fact the windowsill / floor was not cleaned since the date the Magnetite was installed, plus
  - a description of whether or for how many hours a day the leadlighting is partially or completely in sunshine.
  - Post the sample to SAL for analysis and my comments on the result.
4. Repeat Step 3 at the appropriate dates for the:
  - "3-months without cleaning after Magnetite installed" sample
  - "6-months without cleaning after Magnetite installed" sample
  - "12-months without cleaning after Magnetite installed" sample

Note, if you find that you can't not-clean, please collect the 3-, 6- and 12-month samples immediately prior to your I-must-clean moment, and describe that situation on the CofC.

Thank you for considering being a part of this vital Citizen Science Project: Is Magnetite a Lead-Safety Solution to Leadlighting? If you decide not to participate yourself, please consider asking your family, friends, work and social media contacts who have leadlighting if they'd be prepared to pay for the LEAD Group Kit to obtain the initial dust wipe result, to determine if their lead result warrants that they be advised to overcome this largely unknown leadlighting lead dust hazard before it leads to lead exposure of more young children or pets!

An example of how little-known leadlighting is as a cause of indoor lead dust contamination, is that the 28 March 2024 Sowers et al analysis United States house dust Pb concentrations are influenced by soil, paint, and house age: insights from a national survey at <https://www.nature.com/articles/s41370-024-00655-0.pdf> re: vacuum dust lead concentrations in 346 homes participating in the American Health Homes Survey II (AHHS II), a US survey (2018-2019), did not even mention leadlighting as a source of interior house dust lead.

## Why Are Eggs a Possible Source of Lead Exposure?

*Have you ever wondered why we recommend testing eggs for lead - even when they are chooks in your own garden?*

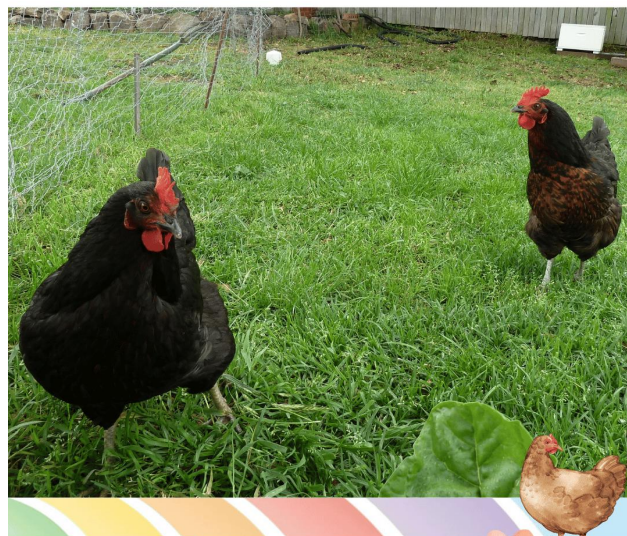
*Volcano Art Prize (VAP) Entry*

*Photographer: Emily Grace*

*Title: Backyard Chickens*

*Lead-Safety Message: Lead in home-grown eggs from urban areas tends to be higher than in commercial eggs; as soil lead increases, the concentration of lead in eggs tends to increase. Test your soil for lead with a LEAD Group DIY-sampling lab analysis kit.*

<https://volcanoartprize.com/portfolio-item/backyard-chickens/>



*Photograph by Emily Grace. Volcano Art Prize Entry.*

According to the 1996 article Human exposure to soil contaminants through the consumption of home-grown produce by Cross, Sue J and Taylor, E R. (Roscoe), most of the lead ingested by hens goes into the shell of their eggs. Thus roosters on the same lead-contaminated soil can be expected to have much higher blood lead levels than the hens. The Cross and Taylor article states:

“Despite substantial faecal excretion of orally administered lead (as lead acetate), lead was also found to accumulate in the eggs” (Maziah et al, 1989). However, partitioning within the egg appears to follow the order: Shell » Yolk » White (albumen), with no apparent accumulation of lead in the egg white.

Cross and Taylor’s conclusion from an experiment in which hens were purposefully dosed with liquid lead acetate (“treated”) and a control group was “untreated” (not purposefully lead poisoned) was:

*“The eggs of untreated hens contained some lead, with the shell containing approximately ten times more lead than the yolk, which itself contained more than twice the lead content of the egg white. The lead content of egg whites was unaffected by the oral administration of lead, but the egg yolk and shell residues increased by at least five fold.”*

The following interpretation advice regarding lead in eggs is by Australian Egg heavy metal researchers Emily Grace & Geoff MacFarlane, from their study: Assessment of the bioaccumulation of heavy metals in chicken eggs from residential backyards in the Lower Hunter (December 2013):

*“This study found that the lead content of home-grown eggs was generally higher than commercial eggs...”*

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*“Although soil lead contamination was a contributing factor in egg lead contamination, soil lead only explained some of the variation in egg lead. In contrast, Waegeneers et al. (2009a) concluded that the major source of lead in Belgian home-grown eggs was ingestion of contaminated soil...”*

**“There are no Australian guidelines for the lead limit in soil to safely keep poultry.”**

In July 2022 in “Lead poisoning of backyard chickens: Implications for urban gardening and food production”, Yazdanparast et al from Macquarie University in Sydney, found that:

*“Older homes were correlated with higher chicken blood Pb [lead] and egg Pb ... and younger chickens (<12 months old) had greater Pb [blood and egg lead] concentrations... (i) in order to retain chicken blood lead below 20 µg/dL, soil Pb needs to be < 166 mg/kg; (ii) to retain egg Pb < 100 µg/kg (i.e. a food safety benchmark value), soil Pb needs to be < 117 mg/kg. These concentrations are significantly lower than the soil Pb guideline of 300 mg/kg for residential gardens. This research supports the conclusion that a large number of inner-city homes may not be suitable for keeping chickens [until lead abatement work and re-testing is carried out - Grandma Lead] and that further work regarding production and consumption of domestic food is warranted...”*

In California, since 1989 any product, including food, which adds more than a specified amount of 900 chemicals to a person when used/ingested as intended, must carry a warning label re health harms. For example, 0.5 micrograms per day (0.5 µg/day), is the safe harbour for lead (also known as the Maximum Acceptable Dose Level, or MADL. See About Proposition 65 and Court Affirms Lead Limits Under Proposition 65 (2018).

### So let's look at an example...

If your LEAD Group Kit egg lead result was 25 µg/kg and (1.5 µg/egg) you'd be right in thinking the Australian government would be fine with you feeding this egg to your child, but the US government advice would be to take into account that just one of these backyard eggs per day would be half the maximum recommended daily intake of 3 µg/day and if you were to sell that egg in California, it would require a health warning.

If you lived in the US, because they do so much more lead research there and awareness-raising media campaigns, you'd probably be aware that there's lead (and other heavy metals) in children's food. For instance, on 11th August 2022, CNN published “Homemade baby food contains as many toxic metals as store-bought options, report says” at <https://edition.cnn.com/2022/08/11/health/homemade-baby-food-toxic-metals-wellness/> stating that:

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*"Lead was found in 90% of manufactured baby food bought by shoppers for the report and 80% of store- bought family food and homemade purees."*

The Food Standards Australia and New Zealand, 2019 "Market Basket Survey" or "25th Australian Total Diet Study" cited above by Yazdanparast et al (2022) also states:

*"The major contributing food categories to lead exposures were 'Beverages' (28–57%), 'Fruits and nuts' (14–36%) and 'Cereals and cereal products' (9–29%) for all age groups assessed. 'Meat, poultry, seafood and eggs' (8–10%) was a major contributor for those aged 6 years and above and for the general population aged 2 years and above. 'Sugars and confectionary' (6–9%) was a major contributing food category for all population groups aged 2 years and above. 'Vegetables' was a minor contributor (2–4%) for all population groups. In the 'beverages category', water (all sources) and intensely sweetened soft drinks (28–57%) were a major contributing food group for all age groups."*



# LEAD *Action* NEWS

Featured Post: *Basel Convention Competency Over Ships Under Attack*



*delegate alert*



*Basel Convention*  
**COMPETENCY**  
**OVER SHIPS**  
**UNDER ATTACK**



## ***Once Again Basel Must Stand Firm Against Efforts to Remove Basel Competency Over Waste Ships***

By Jim Puckett, Basel Action Network, 80 Yesler Way Suite 300, Seattle, WA 98104 US,

**June 20th, 2024** – reprinted with kind permission



*Hong Kong Convention is no replacement for Basel Convention Obligations*

### **Hong Kong v. the Basel Conventions**

From the moment the issue of end-of-life ships was first brought to the agenda of the Basel Convention at the 5th Conference of Parties in 1999, culminating at COP10 in Cartagena, Colombia in 2011, the shipping industry, including the International Chamber of Shipping, tried very hard to wrestle competency and control over end-of-life ships away from the Basel Convention.

This effort did not succeed, but the shipping industry which holds sway at the International Maritime Organization, did convince that UN body to create a separate treaty on the recycling of end-of-life vessels which became known as the Hong Kong Convention. The shipping industry hoped that the new treaty would replace the Basel Convention and in so doing sidestep international law which considers end-of-life ships to be hazardous waste for which the export to developing country beaches for dirty and dangerous scrapping is an international crime.

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While the Basel Convention Parties could do little to prevent the IMO from proceeding with their own convention on ship recycling, the Parties did insist in Decision VII/26 that the IMO do so in a manner which provided an "equivalent level of control" -- this phrase being an abbreviated way of referring to the requirements of Article 11 that require such agreements to include "provisions which are not less environmentally sound than those of the Convention in particular taking into account the interests of developing countries."

The issue of whether the Hong Kong Convention provides an equivalent level of control as that of the Basel Convention was hotly debated and many Parties weighed in at the time, as did international legal experts. See [NGO Shipbreaking Platform](#), the [Centre for International Environmental Law \(CIEL\)](#) as well as [Dr. Ludwig Kramer](#) in the most recent submissions to the European Commission, explaining in detail why the two Conventions are far from equivalent.

The issue came to a head in 2011 at COP10 in Cartagena, Colombia. As noted in Decision 10/17 of that meeting, the Parties could not agree and so acknowledged that the "Basel Convention should continue to assist countries to apply the Basel Convention as it relates to ships."



The Eide Carrier, arrested in Norway in 2017 to stop its illegal export to Pakistan for scrapping. The vessel changed name to Tide Carrier, then Harrier. Photo credit: NGO Shipbreaking Platform, 2017.

Several ship owners have since been held accountable for violating the Basel Convention after toxic ships were illegally exported from European ports to the infamous shipbreaking beaches in India, Pakistan and Bangladesh. While several criminal investigations remain ongoing, in Norway, a ship owner was

[sentenced to six month prison](#) for having attempted to export a ship to Pakistan for scrapping, and just two weeks ago, the Norwegian firm [Altera Infrastructure was fined](#) more than 700,000 US dollars for violating the Basel Convention. With more than one third of the end-of-life tonnage being owned by European shipping companies, enforcement officers across Europe have become increasingly aware of how the shipping sector seeks to circumvent obligations under the Basel Convention and are cracking down on the illegal trafficking of end-of-life ships.



Bangladesh shipbreaking yard. Photo credit: NGO Shipbreaking Platform, 2022.

## The Debate Returns as Hong Kong Convention Enters Force

Now, the Hong Kong Convention has fulfilled its requisite requirements for entry into force and will do so on 26 June 2025. As a consequence it is known that the shipping industry and countries supporting them are once again preparing to take another run at the Basel Convention's competency over end-of-life ships. A recent submission to the IMO MEPC 81 meeting requested the IMO to provide legal clarity to this regard stating the following:

*"[...] it should be recognised that the entry into force of the HKC will change the global legal framework for ship recycling and consequently should lead to a change in what will be legally compliant practices. Once a ship has received an International Ready for Recycling Certificate (IRRC) under the HKC, it may at the same time be considered a hazardous waste<sup>1</sup> under the provisions of the BC. During the entire validity period of the IRRC (up to three months), the ship could therefore be at risk of being arrested for being in breach of the BC requirements while still trading. Hence, it is of the utmost importance that complying with the HKC shall not result in sanctions under the BC."*

and further added the following:

*"When there is an overlap, such as with the HKC and BC, the HKC could take precedence."*

The idea that one must be compliant with multiple laws at the same time should not be controversial. We do this every day of our lives, and there can be no justification for having only one applicable law at a time be given precedence. We must be clear-eyed about why we are hearing such arguments.

Sadly, the reason the shipping industry wants Basel to stand down, does not appear to hinge on the notion that the Hong Kong does a better job of managing ships as waste or protecting the interests of vulnerable ecosystems, workers and communities in developing countries. Rather, their concern is that the Basel Convention does more than they would like. It restricts hazardous waste trade -- the externalisation of real costs and harm on weaker economies, putting human rights and global environmental justice at the heart of the Convention. As such, it is a direct threat to the profits garnered by the continued use of developing countries as cheap and dirty destinations for old ships laden with oily sludges, asbestos, PCBs and heavy metal wastes. Clearly, if the two treaties were in fact equivalent in terms of protecting developing countries from being disproportionately burdened by hazardous wastes from ships, it is doubtful any debate would exist at all.

### **Hong Kong Convention is Weaker than Basel in Principle and in Substance**

It is undisputable that end-of-life ships are hazardous waste, as Basel Decisions and recent legal precedents for criminal liability showcase. Significantly, the right to refuse or consent to import and export of hazardous waste via the prior informed consent procedure is a glaring lack of equivalency. But it has also become apparent that the Hong Kong Convention lacks equivalence in terms of ensuring the safe and environmentally sound management of end-of-life vessels. As witness to the weak standards set by the Hong Kong Convention, 100 beaching yards in Alang, India, have already obtained so-called Statements of Compliance with the Hong Kong Convention, when none have impermeable floors in the primary cutting zone, many not even in the secondary cutting zone, to prevent hazardous materials from leaking into the intertidal zone.

But a significant development that is going to make the industry's attempt to run away from Basel by using Article 11 even more legally impossible, is the December 2019 entry into force of the Basel Ban Amendment (Article 4a). With this new article in place, the long list of reasons why the Hong Kong Convention is not the equivalent of Basel has become even longer and certainly more irrefutable. As a case in point, prior to the Ban Amendment entering into force, the EU made the somewhat tortured argument that the Hong Kong system of permits and contracts could somehow project an equivalent control system, the newly recast EU Waste Shipment Regulation cited the Ban Amendment and reversed the previous exemption of ships flying the EU flag as being wastes subject to Basel control -- including the ban.

Nobody can make a serious legal argument that any form of national permitted facility can be the equivalent of a no-exceptions ban on the export of toxic waste ships from developed to developing countries. And that is also why, along with the many other less environmentally sound differences already outlined between the two Conventions, that the Basel Parties must not give credence to the idea recently insinuated in IMO documents, that the Hong Kong Convention can be considered a valid Article 11 Basel agreement.

## **Dual Competency is Not Redundancy -- it is the Way Forward**

We have already called out as false the notion that the Hong Kong Convention does a better job of protecting human health and the environment from ships as waste. Actually the two Conventions do very different things, with very different purposes and requirements. As such, they are not at all redundant, and further, fulfilling one Convention's requirements does not in fact contradict or violate fulfilling the other's. The notion that its either one or the other is not supported by a reading of each. In fact both can co-exist very well and together could provide the best level of international coherence, and environmentally sound management.

Indeed when looking at the life-cycle of a ship, Hong Kong could be amended to cover green ship design and build, as well as the operational life of a vessel. Basel is then best suited to manage ships from the moment they are declared as waste, including the implementation of the Ban Amendment (Article 4a), and the PIC procedure (Article 6), giving Parties their right to refuse to consent to importation, and exporting countries the right to not export if they fear there is no guarantee of environmentally sound management (ESM) all the way downstream. The actual operations of the recycling facility can be best done in accordance with both Conventions and the most rigorous aspects of their respective guidance documents, while Basel will then maintain its full competency over the offsite downstream management of residual waste (where Hong Kong currently has no obligations).

Finally, it is well known that ships can too easily be ordered to make legally convenient transboundary movements before they might be declared as waste as a way of circumventing the Basel Convention's obligations to obtain consent for export and import. Likewise flag states have little say in issues of human rights and sustainability. Decisions to scrap ships are not made by flag states or port states in most cases. They are taken in offices in Hamburg, Copenhagen, Tokyo and other shipping hubs. These Basel and Hong Kong shortcomings that are unique to the subject of ships, should be rectified and placed on the global agenda. It is logical protective and efficient for both Conventions to be amended to place export status on the state where the beneficial owner of the vessel is headquartered.

## **Conclusion**

- It is well established that the Hong Kong Convention does not represent an "equivalent level of control" as required by Article 11 in order for Basel Parties to recognize other agreements or arrangements.
- It does not meet the bar of a valid Basel Article 11 Agreement with "*provisions which are not less environmentally sound than those of the Convention in particular taking into account the interests of developing countries*".
- This has now become even more clear following entry into force of the Basel Convention's Ban Amendment (Article 4a).



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# LEAD Action NEWS

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Therefore,

- Basel Parties must continue to assert and live by obligations to control hazardous waste ships in the spirit and to the letter of the Basel Convention.
- That means that in accordance with Article 1 of the Convention, and in the absence of proof to the contrary, ships must be assumed to be hazardous as long as they contain Annex I substances or materials.
- Efforts by shipping industry interests, or countries representing such, to declare the Hong Kong Convention as a valid Article 11 Agreement must be immediately rebuffed.
- And, certainly no such declarations of using Article 11 in this way can be asserted without joint concurrence by the Parties of both UN Conventions.
- Off repeated arguments that the two Conventions are contradictory or redundant should be refuted as patently false.
- Rather, because each instrument is different and each Convention adds its own layer of protection to the issue of a ship's life-cycle management, dual competency is in fact the way forward.

Consideration should be given to creating a guidance between the two Conventions as to how such cooperation and competencies can be best accomplished nationally and internationally.

**For more information:** Please attend the [side event](#) taking place on Thursday 27th at 13:15 at Room C, featuring the NGO Shipbreaking Platform and the Center for International Environmental Law (CIEL).

END

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2016 Volcano Art Prize (VAP) Entry.

Title: Dolphins and seaweed.

Lead-Safety Message: Our oceans and beaches need to be clean - not polluted by lead-painted scuttled ships or lost lead fishing sinkers.

Artist: Lola Hue

Age: 6

School: Creative Einstein.

Materials: Colouring pencils on paper.

<https://volcanoartprize.com/portfolio-item/dolphins-and-seaweed/>

Submit your entries into Volcano Art Prize – the only global lead-safety art/photo/film competition, at

<https://volcanoartprize.com/submitentry/>

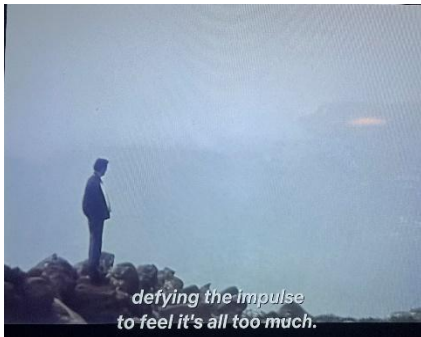


# LEAD Action NEWS

## Quotable Quotes – The Giants doco re Bob Brown

*This edition, our Quotable Quotes come from The Giants documentary about Australian Environmentalist Bob Brown.*

The documentary is currently available to watch on Netflix in Australia, as of June 2024.



Bob Brown, founder of the Australian Greens party:

"Defiance is defying the impulse to feel it's all too much. Don't get depressed. Get active."





# LEAD Action NEWS

"As soon as I left the Senate, I set up the Bob Brown Foundation to take action for the Tarkine. For Australia's forests. For its oceans. The Tarkine is the biggest temperate rainforest in Australia, which has been marauded and targeted by both loggers and by mining enterprise."



Theresa Sainty, Pakana Woman, Aboriginal Linguist, Lutruwita/Tasmania:

"...it rips your heart out to see our country being torn apart in that way. It's up to the Aboriginal community now who have survived to protect our country from atrocities like the building of mines, the cutting down of our family members, the trees. We can't do all of it on our own."



Theresa Sainty, Pakana Woman, Aboriginal Linguist, Lutruwita/Tasmania:

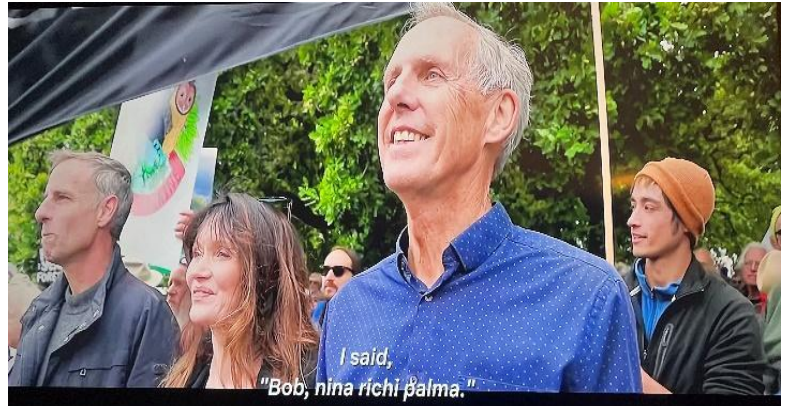
"And you see our people standing there with these other fellas that go out there and stand in the front line and you see our flag fly, and that makes my heart big. I said, "Bob, nina richi palma. You are number one white man." We have managed this continent for millennia. That's old, old knowledge deeply connected to country. We had the answers and we've still got the answers. Ask us and we might take you on that journey with us and we might share that knowledge with you. Takayna is stolen Aboriginal land. Return Tayayna. Return Takayna to Tasmanian Aboriginal people."



# LEAD Action NEWS

Bob Brown:

"In just my single lifetime, 70% of the world's wildlife has been lost due to human destruction..... My great-grandchildren come to me in dreams. "What did you do when the planet was plundered? What did you do when earth was unravelling? Surely you did something when the seasons were failing. When the mammals, the reptiles, the birds were dying. When democracy was stolen? What did you do once you knew?" "



Melbourne Indie Choir *The Seed* chorus lyrics:

"You cannot eat money, oh no

You cannot eat money, oh no

When the last tree has fallen and the rivers are poisoned you cannot eat money."

Take action to save our forests: [www.thegiantsfilm.com](http://www.thegiantsfilm.com)