



Lead and compounds

What does the National Pollutant Inventory do?

Pollution in Australia comes from many different sources. Some is a result of industrial activity but there are also sources of pollution that are not industrial, like cars, woodheaters and even lawn mowers.

The National Pollutant Inventory (*NPI*) is tracking pollution right across Australia by collecting data on about 93 different toxic substances emitted into the environment. The NPI can show you the source and location of these emissions.

The substances that are studied and reported on were chosen because of the problems they can potentially cause for our health and the health of the environment.

Lead is one of the substances that the NPI tracks across Australia. Here are some fascinating facts about lead and some hints on how you can help minimise its harmful effects on our health and on the environment.

You may have heard about lead being a dangerous, poisonous substance. Research shows that it can be harmful, but did you know that lead is also found naturally in the environment? Read on to discover more about lead. It's fascinating!

Where does lead come from?

What about industry?

Mining and metal manufacturing are the largest sources of lead emissions in Australia. However, there are many other sources, including: the manufacture of cement, plaster and concrete; ceramic products such as garden pots; iron and steel; petroleum and coal products; paper; glass; metal products; motor vehicles and their parts; wood products and yarn and fabric for making clothes and curtains. The mining and extraction (*removal from the ground or sea*) of oil, gas and coal are also sources of lead.

Supplying electricity and water to our homes can also cause lead to be emitted into our environment. That's quite a long list isn't it?

What about the natural environment?

Lead and its compounds occur naturally in rocks and soil in the earth's crust. Lead does not break down but its compounds can be changed when exposed to sunlight, air and water.

What about transport?

Lead emissions may be present in the exhaust emitted into the atmosphere by cars, aeroplanes and trains, and may also be released into the environment by boats and ships.

What about in the products we buy?

Common products containing lead include car batteries, fishing weights, electronics, plastics, rubbers, matches, metals and metallic products such as pipes and the devices used to shield people from X-rays.

In years gone by, lead was an ingredient of petroleum, paint and ceramics but



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this is no longer allowed by law due to its known effects on the health of people, animals and the environment.

What are some of the other sources?

Lead can be found in old water pipes, soil and stained glass windows. It is also released into the atmosphere from paved roads and airport runways, by windblown dust, forest fires, solid and liquid fuel combustion (*burning - when fuel reacts with oxygen in the air to produce heat*). Other sources of lead include factories that burn fossil fuels or waste products.

Even mowing your lawn and having the great Aussie barbeque can cause lead emissions!

What effect does lead have on the environment?

When birds, land animals and aquatic life (*the fish, shellfish and other creatures in our rivers, lakes and oceans*) are exposed to lead, it makes them very sick, and may even kill them. Lead can stop these animals from breeding and it can also change their behaviour and appearance.

If the level of lead in the soil is high, plants may not grow as quickly, so farmers will have a poorer harvest.

If lead is released into the air, water and soil it can attach to other particles and remain there for many years.

How might people be exposed to lead?

People can be exposed to lead in the following ways:

- drinking water or breathing air that contains lead.
- eating fish or shellfish from polluted waters as lead builds up in their tissues.
- swallowing or inhaling house dust or playing in soil that contains lead – another good reason to always wash your hands!
- engaging in hobbies, such as stained glass, in which lead is used.
- coming into contact with older ‘lead-based’ paint.
- working in a job where lead is produced or used, such as in a lead smelter or mine.
- living near industrial areas where fossil fuels are burnt.

Who is taking action?

There are all sorts of things that we can do at home, school, and in our local community to help minimise the harmful effects of pollution on our environment.

Why not investigate ways in which you can take action every day to reduce the problems that polluting substances can cause people, animals and the environment?

Visit: www.npi.gov.au/about/reduce.html

Where can I find out more about NPI substances?

For more information about lead and compounds see Australia’s lead and compounds emission report on the main NPI web site.

You will also find detailed information about the remaining 92 substances that the NPI tracks across Australia in the fact sheets on the main NPI web site.



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