Arsenic 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 about 93 different toxic substances emitted to the environment. The NPI can show you the source and location of these substance emissions.

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

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

You may have heard about arsenic being a dangerous, poisonous substance, and research shows that it can be harmful, but did you know that arsenic is also found naturally in the environment?

Where does arsenic come from?

What about industry?

Mining and metal manufacturing are the largest sources of arsenic in Australia. The manufacturing industries in which arsenic may be used include: food, paper and paper products, glass and glass products, petroleum and coal products, and chemicals.

Our electricity, water, sewage and drainage systems can also emit arsenic into our environment.

What about the natural environment?

Arsenic and its compounds occur naturally in the earth's crust in ores and minerals. These are generally found in the environment in small amounts. Arsenic is released into the atmosphere by volcanoes as they erupt, and when rocks and minerals containing arsenic are broken down by rain and wind.

What about transport?

Arsenic may be present in the exhaust emitted into the atmosphere by cars and aeroplanes. It may also be released into the environment by trains and boats.

What about in the products we buy?

Common products containing arsenic include timber treatments such as those used to protect timber from white ants; timber that has been preserved, such as the wooden logs used in our gardens; copper and other metal products that have been hardened using arsenic; pesticides; and some chemicals used by veterinary surgeons.

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What are some of the other sources?

These include tarmac surfaces, such as roads and airport runways; dirt roads; dust blown around by the wind; bushfires; and burning solid, liquid and gas fuels. Here are some surprising ones: mowing the lawn, weekend boating activities, burning rubbish in our backyards, and even having a great Aussie barbeque. These are all capable of emitting arsenic into the environment.

What effect does arsenic 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 arsenic, it makes them very sick, and may even kill them. Arsenic is even more toxic to aquatic life than to birds and animals.

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

How might people be exposed to arsenic?

People can be exposed to arsenic in the following ways:

- drinking water or eating foods that contain traces of arsenic. Did you know that in Australia there should not be any more than 0.007 milligrams of arsenic in a litre of water? *(That's tiny isn't it!)*
- breathing in sawdust or smoke from wood that has been treated with arsenic.
- living in areas that have unusually high levels of arsenic in the surrounding rocks or soil.
- working in a job where arsenic is produced or used, such as working in a copper or lead smelter, treating wood or spraying pesticides.

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 arsenic and compounds see Australia's arsenic and compounds emission report on the main NPI web site.

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

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