



# Benzene

## 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 into 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.

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

Benzene can be found in items that we use every day, such as glue and cleaning products. It is a dangerous, poisonous substance, and research shows that it can be harmful to us as well as to animals, plants, and the environment.

## Where does benzene come from?

### What about industry?

Oil and gas extraction is the largest industrial source of benzene in Australia. The industries in which benzene may be used include: rubber, oil, chemicals, footwear and petrol. These industries all produce, use and handle benzene.

Did you know that cigarette smoke can also emit benzene into our environment?

### What about the natural environment?

Benzene can occur naturally in the environment. It is emitted into the atmosphere by volcanoes as they erupt, from the smoke of forest fires and, interestingly, is also found in some plants and animals.

Benzene can quickly evaporate into the air and be carried over long distances. If it is released into soil it can break down quickly and may contaminate groundwater.

### What about transport?

Because benzene is found in petrol and oil, it can be released into the atmosphere by vehicles such as buses, cars, motorbikes, trains and aeroplanes. It can be emitted in exhaust fumes and by evaporation of fuels from machinery, motors and petrol tanks.

### What about in the products we buy?

Common products containing benzene include glues, cigarettes, cleaning products, paint strippers and some art supplies such as ink and paint. Small amounts can also be found in foods such as canned beef and even in our drinking water if it has been contaminated. Benzene is also used as a solvent for grease and oil.



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## What are some of the other sources?

Benzene is used in the manufacture of a large number of chemicals needed for the manufacture of plastics such as polystyrene for packaging, synthetic fibres, such as rayon and nylon used for making clothes, and the detergents we use to clean our homes. Medicines and pesticides that we use in the garden can also be sources of benzene.

Therefore, when we empty water from our sink after washing the dishes, or use chemicals to kill insects and weeds in the garden we could be releasing benzene into the environment.

## What effect does benzene have on the environment?

In the atmosphere, benzene can react with other chemicals to create smog. This could break down naturally but it might also attach to rain and snow and be carried to the ground to contaminate water and soil.

When aquatic life (*the fish, shellfish and other creatures in our rivers, lakes and oceans*) is exposed to benzene it makes them sick and can stop them from having babies. It can alter their behaviour, change their appearance and shorten their lives.

When plants are exposed to benzene in the soil their growth can be slowed and they may even die.

## How might people be exposed to benzene?

People can be exposed to benzene in the following ways:

- breathing air that contains benzene - in exhaust fumes, by smoking, or even by breathing someone else's cigarette smoke.
- drinking water or eating foods that have been contaminated (*may only be small amounts*).
- coming into contact with products such as petrol (*this can enter the body if it touches the skin directly*).
- living near industries that produce or use benzene, or living near freeways and busy roads.
- working in an industry in which benzene is produced or used, such as in an oil refinery or footwear manufacturer.

## 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](http://www.npi.gov.au/about/reduce.html)

## Where can I find out more about NPI substances?

For more information about benzene see Australia's benzene emission report on the main NPI web site.

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



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