



Total nitrogen

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 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.

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

When you mix together nitrate, nitrite, organic nitrogen and ammonia you get total nitrogen, which can be found in both natural and man-made substances. Would you like to find out more? Read on and you will discover some fascinating information about total nitrogen in our atmosphere.

Where does total nitrogen come from?

What about industry?

Industries that are involved in processing food, treating sewage, garbage tips and intensive livestock industries (*such as poultry farms*) are all industrial sources of emissions of total nitrogen. Emissions from these industries can end up in surface water and groundwater.

What about the natural environment?

The organic nitrogen (*a nitrogen compound found in living material*) content of total nitrogen is found in soil, and in plant and animal material such as manure, sewage waste, compost and decomposing roots and leaves.

What about transport?

Oxides of nitrogen are contained in the exhaust fumes emitted into the atmosphere by cars, aeroplanes, trains and boats. These emissions are dissolved by rain and then enter streams, lakes and other water bodies.

What about in the products we buy?

Common products containing total nitrogen in various forms include many foods, such as spinach, beetroot, lettuce, radishes and rhubarb. Meat, fish, and dairy products can contain low levels of nitrate and nitrite. Cured meat (*such as ham and salami*) and sausages also contain nitrate and nitrite. Lawn and garden fertilisers contain nitrates, while furniture, floor polish and household cleaners may contain nitrites.



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What are some of the other sources?

Water catchment (*an area of land from which a creek or river receives its water*) runoff also contains total nitrogen. This runoff can come from agricultural land uses such as farming animals or growing crops; and from urban runoff when fertiliser is used on the lawn at home.

What effect does total nitrogen have on the environment?

Total nitrogen can have damaging effects on the environment and particularly on aquatic life (*the fish, shellfish and other creatures in our rivers, lakes and oceans*) because most nitrogen is leaked into waterways.

Total nitrogen can also lead to toxic blue-green algal blooms. Blue-green algae can harm humans and can make both humans and animals very sick. Do you see how important it is to help keep our waterways clean?

How might people be exposed to total nitrogen?

People can be exposed to total nitrogen in the following ways:

- eating food and drinking water that contains nitrates and/or nitrites.
- eating cured meats which contain nitrates/nitrites such as ham and salami.
- breathing polluted air (*a minor source*).
- swimming in, or coming into contact with, water that has blue-green algal blooms.
- working in an area where total nitrogen is produced or used, such as in a sewage treatment plant or a fertiliser factory.

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 harmful effects 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 total nitrogen see Australia's total nitrogen 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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