



# Acetonitrile

## General Information

### Key Points

- colourless, highly flammable liquid
- acetonitrile is an industrial chemical used in the production of plastics and other industrial chemicals
- released into the environment from burning of wood, straw and other plants, vehicle exhausts, manufacturing and industrial facilities
- the general public may be exposed to acetonitrile from cigarette smoking
- exposure to acetonitrile is more likely to occur in the workplace where it is produced or used
- inhalation, ingestion or skin contact can cause headache, a feeling of sickness, dizziness, nervousness, confusion, drowsiness and palpitations
- eye contact with acetonitrile can cause irritation

## Public Health Questions

### What is acetonitrile?

Acetonitrile is a colourless, highly flammable liquid. Other names for acetonitrile are methyl cyanide and cyanomethane.

### What is acetonitrile used for?

It is used in industry extraction solvent, in the moulding of plastics, a laboratory solvent, in perfume production and as a starting material in the production of other industrial chemicals.

### How does acetonitrile get into the environment?

Acetonitrile is released into the environment during the burning of wood, straw and other plants. It may also enter the environment from vehicle exhausts and manufacturing and industrial facilities.

### How might I be exposed to acetonitrile?

The general public may be exposed to low levels of acetonitrile as a contaminant in air or by cigarette smoking. Exposure to acetonitrile is more likely to occur in an occupational setting. However, safe limits are enforced to protect the employees; such levels are below those that are thought to cause harmful effects.

### If I am exposed to acetonitrile how might it affect my health?

The presence of acetonitrile in the environment does not always lead to exposure. In order for it to cause any adverse health effects you must come into contact with it. You may be exposed to acetonitrile by breathing or drinking the substance, or by skin contact with it. Following exposure to any chemical, the adverse health effects you may encounter depend on several factors, including the amount to which you are exposed (dose), the way you are exposed, the duration of exposure, the form of the chemical and if you were exposed to any other chemicals.

Inhalation, ingestion or skin exposure to acetonitrile can cause headache, a feeling of sickness, dizziness, nervousness, confusion, drowsiness and palpitations. In cases of severe poisoning, fitting, heart problems, loss of consciousness and coma can occur. Eye exposure to acetonitrile can cause irritation and it can cause chemical burns.

### Can acetonitrile cause cancer?

The International Agency for Research on Cancer (IARC) has not assessed acetonitrile for its ability to cause cancer in humans.

## Does acetonitrile affect pregnancy or the unborn child?

There are limited data available on the effects of exposure to acetonitrile during pregnancy. Therefore, it is not possible to draw any definitive conclusions. Effects on the unborn child are more likely to occur at levels that harm the mother.

## How might acetonitrile affect children?

Children exposed to acetonitrile would be expected to display similar effects to those seen in exposed adults.

## What should I do if I am exposed to acetonitrile?

It is very unlikely that the general population will be exposed to a level of acetonitrile high enough to cause adverse health effects. However, if you have any health concerns regarding exposure to acetonitrile seek guidance from your GP or contact NHS 111

## Additional sources of information

NHS Choices – Poisoning: <http://www.nhs.uk/Conditions/Poisoning/Pages/Introduction.aspx>

UKTIS. Best Use of Medicines in Pregnancy <http://www.medicinesinpregnancy.org/>

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