Acetic acid

General information

Key Points

- Exposure by any route may be harmful
- Chemical classification: corrosive
- Inhalation can cause irritation of the eyes and nose with sore throat, cough, chest tightness, headache and confusion
- Ingestion of large amounts of acetic acid may cause burning of the mouth and throat, stomach pain and diarrhoea
- Contact with the skin can cause burns
- Contact with the eyes causes pain, watering eyes and increased sensitivity to light

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Background

Acetic acid, otherwise known as ethanoic acid, is a clear colourless liquid which has a pungent, vinegar-like odour. Large quantities of acetic acid are used to make products such as ink for textile printing, dyes, photographic chemicals, pesticides, pharmaceuticals, food preservatives, rubber and plastics. Acetic acid is the main component of vinegar albeit at very low concentrations that are harmless to humans.

Acetic acid can enter the environment from discharge and emissions from industries. The burning of plastics or rubber, and exhaust fumes from vehicles may also release acetic acid into the environment. When released into soil it evaporates into the air where it is broken down naturally by sunlight. As a result there are very low levels present in the environment that are not likely to cause harm to the general public or the environment. Exposure to acetic acid is more likely to occur in an occupational setting.

If exposed to acetic acid, the harmful effects that may occur largely depend on the way and the amount to which people are exposed. Breathing vapours with high levels of acetic acid can cause irritation of the eyes and nose, sore throat, cough, chest tightness, headache and confusion. Drinking large amounts may cause burning of the mouth and throat, stomach pain and diarrhoea. Spillages of high concentrations onto the skin can lead to burns and exposure to the eyes can cause pain, watering eyes and increased sensitivity to light.

Children exposed to high concentrations of acetic acid are expected to show similar effects to those seen in adults. There are few data regarding the effects of acetic acid on the unborn child during pregnancy although no effects on children or developing fetuses have been reported.

There are no data on whether acetic acid causes cancer in humans.

Frequently Asked Questions

What is acetic acid?

Acetic acid, otherwise known as ethanoic acid, is a clear colourless liquid which has a pungent, vinegar-like odour

What is acetic acid used for?

Large quantities of acetic acid are used to make products such as ink for textile printing, dyes, photographic chemicals, pesticides, pharmaceuticals, food preservatives, rubber and plastics. Acetic acid is the main component of vinegar albeit at very low concentrations.

How does acetic acid get into the environment?

Acetic acid can enter the environment from discharge and emissions from industries. The burning of plastics or rubber, and exhaust fumes from vehicles may also release acetic acid into the environment. Acetic acid released into water or soil evaporates into the air where it is broken down naturally by sunlight.

How will I be exposed to acetic acid?

There are very low levels of acetic acid present in the environment which are not likely to cause harm. Exposure to acetic acid is more likely to occur in an occupational setting.

If there is acetic acid in the environment will I have any adverse health effects?

The presence of acetic acid in the environment does not always lead to exposure. Clearly, in order for it to cause any adverse health effects you must come into contact with it. You may be exposed by breathing or drinking the substance, or by skin contact. 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.

Breathing vapours with high levels of acetic acid can cause irritation of the eyes and nose, sore throat, cough, chest tightness, headache and confusion. Drinking large amounts may cause burning of the mouth and throat, stomach pain and diarrhoea. Spillages of high concentrations onto the skin can lead to burns and exposure to the eyes can cause pain, watering eyes and increased sensitivity to light.

Can acetic acid cause cancer?

There are no data on whether acetic acid causes cancer in humans.

Does acetic acid affect children or damage the unborn child?

There are no reports of increased sensitivity to acetic acid in children hence it is assumed that they will show similar effects to adults. There are few data regarding the effects of acetic acid on the unborn child during pregnancy and no effects on children or developing fetuses have been reported.

What should I do if I am exposed to acetic acid?

You should remove yourself from the source of exposure.

If you have got acetic acid on your skin, remove soiled clothing, wash the affected area with lukewarm water and soap for at least 10-15 minutes and seek medical advice.

If you have got acetic acid in your eyes remove contact lenses if necessary, wash the affected area with lukewarm water for at least 10 – 15 minutes and seek medical advice.

If you have inhaled or ingested acetic acid seek medical advice.

This document will be reviewed not later than 3 years or sooner if substantive evidence becomes available.