Sodium chlorate

General information

Key Points

- Toxic by ingestion
- Chemicals classification: Harmful
- Irritating following inhalation, eye or skin exposure
- Ingestion causes stomach upset, dizziness, breathlessness, blue discolouration of the skin, heart problems, fitting and coma. Symptoms of poisoning may take up to 12 hours to develop.
- Inhalation causes irritation
- Contact with skin and eyes causes irritation
Background

Sodium chlorate is a colourless, odourless solid. It is used as a herbicide to control all types of weeds. It is used in products used by the general public and also in industrial products for agricultural use. It was also used to produce other industrial chemicals, as a refrigerant and in fire extinguishers. In 2005, the use of sodium chlorate as a pesticide/fumigant was banned under the Montreal Protocol on Substances that Deplete the Ozone Layer, apart from quarantine and shipping uses. However in March, 2010 these uses were also banned because of its adverse effects.

Sodium chlorate is also used in the production of bleaching agents, dyes explosives and matches and in leather tanning and finishing.

Exposure to sodium chlorate will mainly occur in an occupational setting, during its production and use. For the general public, exposure to sodium chlorate may occur during the use of weedkillers in the garden.

If exposed to sodium chlorate, the potential adverse health effects that may occur depend on the way people are exposed and the amount to which they are exposed.

Ingestion of sodium chlorate can cause stomach upset, dizziness, breathlessness, blue discolouration of the skin, heart problems, fits and coma. It may also cause kidney and liver damage. Symptoms may be delayed for up to 12 hours after the exposure.

Breathing in sodium chlorate may cause irritation to the nose, throat and lungs. A large or prolonged inhalation exposure may cause symptoms similar to those seen following ingestion of sodium chlorate.

If sodium chlorate comes into contact with the skin and eyes it can cause irritation.

Children exposed to sodium chlorate are expected to show similar effects to those seen in adults. There are very little data available on the effects of sodium chlorate on the unborn child.

There are no data on whether sodium chlorate causes cancer in humans.
Frequently Asked Questions

What is sodium chlorate?

Sodium chlorate is a colourless solid that is used as a herbicide in both household weedkillers and professional agricultural products. In 2005, the use of sodium chlorate as a pesticide/fumigant was banned under the Montreal Protocol on Substances that Deplete the Ozone Layer, apart from quarantine and shipping uses. However in March, 2010 these uses were also banned because of its adverse effects. Sodium chlorate is also used to produce bleaching agents, dyes, explosives and matches and is used in leather tanning and finishing.

How does sodium chlorate get into the environment?

Sodium chlorate may be release into the environment during its production and use.

How will I be exposed to sodium chlorate?

The general population may be exposed to sodium chlorate due to its use in some household weedkillers. Exposure to sodium chlorate may also occur in an occupational setting.

If there is sodium chlorate in the environment will I have any adverse health effects?

The presence of sodium chlorate 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, eating, 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.

Ingestion of sodium chlorate can cause stomach upset, dizziness, breathlessness, blue discolouration of the skin, heart problems, fitting and coma. Symptoms of poisoning may take up to 12 hours to develop. Inhalation of sodium chlorate causes irritation to the nose, throat and lungs. Sodium chlorate is also irritating to the skin and eyes.

Can sodium chlorate cause cancer?

There are no data available to assess the carcinogenicity of sodium chlorate.

Does sodium chlorate affect children or damage the unborn child?

There is very few data available to assess the reproductive and developmental effects of sodium chlorate. Exposure to sodium chlorate during pregnancy should be avoided because of its general toxic effects.

What should I do if I am exposed to sodium chlorate?

If you have got sodium chlorate 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 sodium chlorate in your eyes remove contact lenses, wash the affected area with lukewarm water for at least 10 – 15 minutes and seek medical advice.
If you have inhaled or ingested sodium chlorate seek medical advice.

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