



Benzyl chloride

General Information

Key Points

- colourless liquid with a sharp irritating odour
- benzyl chloride is an industrial chemical used to produce dyes, pharmaceuticals and perfumes
- benzyl chloride may be released into the environment from industries that produce or use it or from the incineration of products that contain it
- exposure may occur by breathing in contaminated air or drinking water contaminated with benzyl chloride
- breathing in vapours of benzyl chloride can cause irritation the eyes, nose and throat
- ingestion of benzyl chloride can cause burns to the mouth and stomach upset
- skin or eye contact with benzyl chloride can cause irritation
- exposure is more likely to take place in the workplace

Public Health Questions

What is benzyl chloride?

Benzyl chloride is a colourless liquid with a sharp irritating odour.

What is benzyl chloride used for?

Benzyl chloride is used as a chemical intermediate in the production of dyes, perfumes, photographic chemicals and pharmaceutical products.

How does benzyl chloride get into the environment?

Benzyl chloride may be released in to the environment during its production and use and from the incineration of products that contain it.

How might I be exposed to benzyl chloride?

The general public may be exposed to very low levels of 1,2-dibromoethane as a contaminant in air or water.

Exposure to benzyl chloride is most likely to occur in an occupational setting.

If I am exposed to benzyl chloride how might it affect my health?

The presence of benzyl chloride 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 benzyl chloride by breathing or drinking it, or by skin or eye 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 in benzyl chloride vapours can cause irritation of the eyes and nose, sore throat, cough, chest tightness, headache, high temperature and confusion. In severe cases lung damage, accumulation of fluid and swelling of the lungs (known as pulmonary oedema), can occur.

Ingestion of benzyl chloride may cause mouth burns and corrosive damage to the digestive tract, stomach upset, stomach cramps and diarrhoea.

Skin exposure to benzyl chloride can cause pain, blistering, ulceration and burns. Eye contact with benzyl chloride can cause pain, tearing, inflammation and in severe cases burns.

Can benzyl chloride cause cancer?

Studies show that benzyl chloride alone causes cancer in experimental animals, but there is insufficient evidence in humans. However, studies in workers have shown that combined exposures to chlorinated toluenes (such as benzyl chloride) and another chemical called benzoyl chloride may cause cancer in humans. This mixture of chemicals is classified by the International Agency for Research on Cancer (IARC) as probably having the ability to cause cancer in humans. Exposure to these chemicals is most likely to occur in the workplace.

Does benzyl chloride affect pregnancy or the unborn child?

Due to lack of data it is not possible to assess the reproductive and developmental effects of benzyl chloride. It is unlikely that exposure to low concentrations of benzyl chloride which do not affect the mother would result in harm to the unborn child.

How might benzyl chloride affect children?

There is little information on the effects of benzyl chloride on children. It is likely that children exposed to benzyl chloride would experience similar symptoms to those seen in exposed adults.

What should I do if I am exposed to benzyl chloride?

It is very unlikely that the general population will be exposed to a level of benzyl chloride high enough to cause adverse health effects. However, if you have any health concerns regarding exposure to benzyl chloride 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>

NHS Choices – How do I deal with minor burns? <http://www.nhs.uk/chq/Pages/1047.aspx>

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

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