



1,2-dichloroethane

General Information

Key Points

- also known as ethylene dichloride and EDC
- highly flammable colourless liquid with a chloroform-like odour
- May be released into the environment during its production or use
- it is mainly used in the production of PVC
- general public may be exposed to very low levels of 1,2-dichloroethane as a contaminant in air or water
- breathing in 1,2-dichloroethane vapours cause irritation to the nose, throat and lungs
- ingestion may also cause burning of the mouth and throat
- irritating to the eyes and skin
- inhalation, ingestion or skin exposure can cause initial excitement, headache, dizziness, drowsiness, heart problems, liver and kidney damage and coma
- 1,2-dichloroethane may be able to cause cancer in humans

Public Health Questions

What is 1,2-dichloroethane?

1,2-dichloroethane is a highly flammable colourless liquid with a chloroform-like odour. Other common names for 1,2-dichloroethane are dichloroethane, ethylene chloride, ethylene dichloride, EDC and Dutch liquid.

What is 1,2-dichloroethane used for?

1,2-dichloroethane is mainly used in the production of vinyl chloride monomer which is used to make PVC. It is also used as a raw material in the production of other chemicals. In the past, it was used as a thinner in paints, coatings and adhesives, a fumigant and as an additive in leaded fuels.

How does 1,2-dichloroethane get into the environment?

1,2-dichloroethane can enter the environment from industrial locations that manufacture or use it and during the use of products that contain it.

How might I be exposed to 1,2-dichloroethane?

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

Exposure to 1,2-dichloroethane 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 1,2-dichloroethane how might it affect my health?

The presence of 1,2-dichloroethane 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 1,2-dichloroethane 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.

Ingestion of 1,2-dichloroethane may cause burning in the mouth and throat and stomach upset. Inhalation of 1,2-dichloroethane vapours may result in irritation of the nose throat and lungs. 1,2-dichloroethane is irritating to the eyes and skin.

1,2-dichloroethane can be absorbed into the body following inhalation, ingestion or skin exposure causing initial excitement, headache, dizziness, drowsiness and coma. Heart problems and liver and kidney damage may also occur.

Can 1,2-dichloroethane cause cancer?

The International Agency for Research on Cancer (IARC) has concluded that there is enough evidence in experimental animals, but not in humans that 1,2-dichloroethane can cause cancer. Therefore it has classified 1,2-dichloroethane as possibly having the ability to cause cancer in humans.

Does 1,2-dichloroethane affect pregnancy or the unborn child?

Due to lack of data it is not possible to assess the reproductive and developmental effects of 1,2-dichloroethane. It is unlikely that exposure to low concentrations of 1,2-dichloroethane which do not affect the mother would result in harm to the unborn child.

How might 1,2-dichloroethane affect children?

There is little information on the effects of 1,2-dichloroethane on children. It is likely that children exposed to 1,2-dichloroethane would experience similar symptoms to those seen in exposed adults.

What should I do if I am exposed to 1,2-dichloroethane?

It is very unlikely that the general population will be exposed to a level of 1,2-dichloroethane high enough to cause adverse health effects. However, if you have any health concerns regarding exposure to 1,2-dichloroethane 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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