



1,2-dibromoethane

General Information

Key Points

- also known as ethylene dibromide and EDB
- non-flammable, colourless liquid with a sweet odour
- used in the production of other industrial chemical and pharmaceuticals
- previously used as an additive in leaded petrol and as a pesticide
- the general public may be exposed to very low levels of 1,2-dibromoethane in air or drinking water
- inhalation can cause irritation to the eyes, nose, throat and lungs
- ingestion may cause stomach upset and ulceration of the mouth, throat and stomach
- skin contact causes blistering, redness and ulceration
- inhalation, ingestion or skin contact can also cause dizziness, drowsiness, headache, heart, kidney and liver problems and coma
- eye contact with 1,2-dibromoethane may cause irritation and eye damage
- 1,2-dibromoethane may have the ability to cause cancer in humans

Public Health Questions

What is 1,2-dibromoethane?

1,2-Dibromoethane is a non-flammable, colourless liquid with a sweet odour. Other names for 1,2-dibromoethane are ethylene dibromide and EDB.

What is 1,2-dibromoethane used for?

1,2-dibromoethane is used in the production of resins, gums, waxes, dyes and pharmaceuticals. It is also used to produce other industrial chemicals. In the past, 1,2-dibromoethane was used as an additive in leaded petrol and as a pesticide.

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

It is released into the environment during its production and use.

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

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

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

The presence of 1,2-dibromoethane 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-dibromoethane by breathing or ingesting the substance, or by skin or eye 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.

Breathing in vapours of 1,2-dibromoethane can cause irritation to the eyes, nose, throat and lungs. In severe cases an accumulation of fluid in the lungs may occur. Ingestion of 1,2-dibromoethane can cause stomach upset and ulceration of the mouth, throat and stomach. Skin contact with 1,2-dibromoethane may cause blistering, redness and ulceration. Prolonged skin contact can cause chemical burns.

1,2-dibromoethane can also be absorbed into the body following inhalation, ingestion or prolonged skin exposure causing dizziness, drowsiness, headache and heart, kidney and liver problems.

Eye exposure to 1,2-dibromoethane can cause irritation and in severe cases eye damage.

Can 1,2-dibromoethane cause cancer?

The International Agency for Research on Cancer (IARC) has classified 1,2-dibromoethane as probably having the ability to cause cancer in humans.

Does 1,2-dibromoethane 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-dibromoethane. It is unlikely that exposure to low concentrations of 1,2-dibromoethane which do not affect the mother would result in harm to the unborn child.

How might 1,2-dibromoethane affect children?

Children exposed to 1,2-dibromoethane are likely to experience similar health effects as adults.

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

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

This information contained in this document from the PHE Centre for Radiation, Chemical and Environmental Hazards is correct at the time of its publication.

First published: May 2017

For queries relating to this document, please contact: generaltox@phe.gov.uk

© Crown copyright 2017, www.gov.uk/phe

Re-use of Crown copyright material (excluding logos) is allowed under the terms of the Open Government Licence, visit www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ for terms and conditions.