Public Health England

Protecting and improving the nation's health

n-Hexane

General Information

Key Points

- also known as hexane and hexyl hydride
- highly flammable, colourless liquid
- it is released into the environment from vehicle emissions; n-hexane may also enter the environment from industries in which it is used
- exposure for the general public may occur via inhalation of very low levels of n-hexane in air
- inhalation may cause headache, dizziness, drowsiness, incoordination and euphoria
- ingestion can cause stomach upset
- severe lung damage can occur if liquid n-hexane is inhaled directly into the lungs
- skin contact with n-hexane may cause irritation, redness, blistering and superficial burns
- eye exposure may cause pain, tearing and sensitivity to light

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Public Health Questions

What is n-hexane?

n-Hexane is a highly flammable, colourless liquid. Other common names for n-hexane are hexane and hexyl hydride. n-Hexane is naturally present in crude oil and natural gas and is a constituent of heating and motor fuels refined from petroleum.

What is n-hexane used for?

n-Hexane is mainly used in the food processing industry to extract vegetable oil from various seed crops such as soybeans, peanuts and flaxseed. It is also used as a laboratory solvent, in the production of pharmaceuticals, as a cleaning agent and in rubber production. n-Hexane is also used in other products such as adhesives and lacquers.

How does n-hexane get into the environment?

n-Hexane may enter the environment from industries in which it is used. It may also be released in to the environment from the use, storage and transport petroleum products.

How might I be exposed to n-hexane?

Exposure for the general public may occur via inhalation of very low levels of n-hexane in air.

Exposure to n-hexane is more likely to occur in an occupational setting. Safe levels are enforced to protect the health of workers.

If I am exposed to n-hexane how might it affect my health?

The presence of n-hexane 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 n-hexane 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.

Breathing in vapours of n-hexane can cause headache, dizziness, drowsiness, incoordination and euphoria. Ingestion may cause stomach upset.

Severe lung damage called pneumonitis can occur if liquid n-hexane is inhaled directly into the lungs, whilst manually siphoning a tank or from inhaling vomit after swallowing n-hexane.

Skin contact may cause irritation, redness, blistering and superficial burns. Prolonged skin contact can cause drying and cracking. Eye exposure can cause pain, tearing and sensitivity to light.

Can n-hexane cause cancer?

n-Hexane has not been assessed by the International Agency for Research on Cancer for the ability to cause cancer in humans. It is not thought to be a cancer causing chemical.

Does n-hexane affect pregnancy or the unborn child?

There is no evidence to suggest that exposure to n-hexane during pregnancy may cause harm to the unborn child at doses where the mother appears unaffected.

How might n-hexane affect children?

Children exposed to n-hexane are expected to show the same symptoms as adults.

What should I do if I am exposed to n-hexane?

You should remove yourself from the source of exposure.

If you have ingested hexane seek medical advice. Do **not** make yourself sick.

If you have inhaled hexane you should seek medical advice.

If you have got hexane on your skin, remove soiled clothing (not above the head), wash the affected area with lukewarm water and soap for at least 10 – 15 minutes and seek medical advice.

If you have got hexane in your eyes, remove contact lenses, irrigate the affected eye with lukewarm water for at least 10 – 15 minutes and seek medical advice.

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.

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