

ARSENIC IS POISONOUS ARE YOU AT RISK?

Exposure to the dust and fumes from arsenic and its compounds can affect your health. This leaflet does not deal with the inhalation of arsine gas which has a different effect on the body.

WHERE MAY DUST AND FUME CONTAINING ARSENIC BE FOUND?

- In the chemical industry, eg in the manufacture of wood preservatives, pesticides and fireworks;
- in dust and fume arising from the refining and smelting of metals and ores such as copper, lead and tin;
- in the production and use of alloys, eg some lead, copper and bronze alloys;
- in the manufacture of coatings for photocopier drums;
- in the electronics industry in the production of gallium arsenide;
- in the glass industry during the manufacture of crystal and optical glass.

HOW DOES IT GET INTO YOUR BODY?

- By breathing in dust or fumes;
- by absorption through the skin;
- by eating foods contaminated with arsenic dust.

WHAT ARE THE HEALTH HAZARDS?

Short-term effects include:

- stomach upsets;
- irritation of the eyes and nose;
- skin damage and inflammation;
- internal bleeding from the stomach and intestines leading, in extreme cases, to death.

Long-term effects include:

- damage to the inside of the nose;
- skin colour changes, dermatitis and skin cancer;
- irritation of the lungs;
- stomach disturbances.

Lung cancer may be associated with prolonged exposure to high levels of airborne dust and fumes.

WHAT SHOULD YOU DO?

- Use the extraction equipment or other control measures correctly.
- Use the protective clothing and equipment provided.
- Always use the washing facilities provided, which should be adequate and suitable for your needs;
- If you have to wear a respirator make sure:
 - it fits properly;
 - it is clean;
 - the filter is changed regularly.
- Report defects in enclosures, extraction equipment or other control measures to your employers.
- Do not eat, drink or smoke in arsenic work areas.

WHAT ABOUT HEALTH CHECKS?

The health of people exposed to dust or fumes from arsenic or its compounds should be monitored by a doctor.

- The doctor will normally carry out a pre-employment examination and will see you at regular intervals during your employment. You will be asked to provide a urine sample for measurement of its arsenic content.
- You should examine your skin regularly, looking for colour changes and skin damage. The doctor will give you advice.
- If additional examination or tests are needed, the doctor will explain.

WHAT ARE THE LEGAL REQUIREMENTS?

- The Control of Substances Hazardous to Health Regulations (COSHH) apply to the use of arsenic and its compounds. Therefore, exposure to these substances should either be prevented or, where this is not reasonably practicable, adequately controlled.
- Arsenic and its compounds (except arsine and lead arsenate) have been assigned a maximum exposure limit under the COSHH Regulations. The limit is 0.1 milligrams per cubic metre of air averaged over an 8-hour period. You should not be exposed to airborne arsenic concentrations exceeding this limit. Also, your employer should reduce the airborne arsenic concentrations below this limit, if it is reasonably practicable to do so.

- The COSHH Approved Code of Practice *Control of Carcinogenic Substances* applies to the use of arsenic and its organic compounds and gives supplementary practical guidance with respect to the COSHH Regulations. However, there is not necessarily a risk of getting cancer in every situation involving the use of arsenic and its compounds. It all depends on what form the substance is in and how you use it. For example, many people who use compounds containing arsenic are not exposed to any significant dust or fume hazard because of the form of the material, such as wood preservatives in a paste or cold liquid. In such circumstances, no additional precautions are likely to be necessary when using these substances.

WHAT INFORMATION CAN I GET?

- The doctor should give you a written record of the results of any medical tests you have had and explain them.
- The results of air monitoring and other checks should be made available to you or your representatives.
- Group results of medical tests should be provided for you or your representatives in a form which keeps individual results confidential.
- If you have any worries or problems about working with arsenic, ask your supervisor or your safety representative to discuss them with your employer, or discuss them with the doctor.
- The Health and Safety Executive has published Guidance Note EH73 *Arsenic and its compounds: Health hazards and precautionary measures* 1997 ISBN 0 7176 1340 2.
- Your employer should be able to provide further information on the requirements of the COSHH Regulations. The Health and Safety Executive has also published a number of free leaflets which are available from HSE Books.

FURTHER INFORMATION

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops.)

For information about health and safety ring HSE's InfoLine Tel: 08701 545500 Fax: 02920 859260 e-mail: hseinformationservices@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG. You can also visit HSE's website: www.hse.gov.uk

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ARSENIC and YOU



This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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