

# Lead and you



This is a web-friendly version of leaflet INDG305(rev1), revised 11/09

## Working safely with lead

Working with lead can affect your health. This leaflet tells you about:

- health problems that can occur if you absorb too much lead;
- what your employer should do to protect your health;
- precautions you should take.

## When are you most at risk?

When the work you are doing produces lead dust, fume or vapour you are most at risk. This can include:

- blast removal and burning of old lead paint;
- stripping of old lead paint from doors, windows etc;
- hot cutting in demolition and dismantling operations;
- scrap-processing activities, including recovering lead from scrap and waste;
- lead-acid battery manufacture and breaking;
- some painting of buildings;
- some spray-painting of vehicles;
- working with metallic lead and alloys containing lead, eg soldering;
- lead smelting, refining, alloying and casting;
- manufacturing lead compounds;
- manufacturing leaded glass;
- manufacturing and using pigments, colours and ceramic glazes.

## How does lead get into your body?

When lead and items containing lead are processed, worked, or recovered from scrap or waste they can create lead dust, fume or vapour. Your body absorbs lead when you:

- breathe in lead dust, fume or vapour;
- swallow any lead, eg if you eat, drink, smoke, or bite your nails without washing your hands and face.

Lead is not absorbed through the skin – except in the form of lead alkyls (an additive to petrol) and lead naphthenate which are not covered in this leaflet. Any lead you absorb at work will circulate in your blood. Your body gets rid of a small amount of lead each time you go to the toilet, but some will stay in your body, stored mainly in your bones. It can stay there for many years without making you ill.

## How does lead affect your health?

If the level of lead in your body gets too high, it can cause:

- headaches;
- tiredness;
- irritability;
- constipation;
- nausea;
- stomach pains;
- anaemia;
- loss of weight.

Continued uncontrolled exposure could cause more serious symptoms such as:

- kidney damage;
- nerve and brain damage;
- infertility.

These symptoms can also have causes other than lead exposure so they do not necessarily mean that you have lead poisoning.

An unborn child is at particular risk from exposure to lead, especially in the early weeks before a pregnancy becomes known. If you are a woman capable of having children, you should make sure you follow good work practices and a high standard of personal hygiene.

## What must your employer do to protect your health at work?

If you could be exposed to lead, lead compounds, dust, fume or vapour at work your employer must:

- assess the risk to your health to decide whether or not your exposure is 'significant' (the law explains what this means), and what precautions are needed to protect your health;
- put in place systems of work and other controls, such as fume and dust extraction, to prevent or control your exposure to lead, and keep equipment in efficient working order;
- provide washing and changing facilities, and places free from lead contamination where you can eat and drink;
- tell you about the health risks from working with lead and the precautions you should take;
- train you to use any control measures and protective equipment correctly.

Your employer should tell you if your exposure to lead is 'significant' (the law explains what this means). If it is, your employer will also have to:

- provide you with protective clothing;
- measure the level of lead in the air you are exposed to, and tell you the results. If your exposure to lead cannot be kept below a certain level – known as the occupational exposure limit – your employer must also issue you with respiratory protective equipment;
- arrange to measure the level of lead in your body. This is done by a doctor at your place of work. You must be told the results of your tests.

## How is your health checked at work?

At your place of work, a doctor or nurse (under the supervision of a doctor) will take a small blood sample to measure the amount of lead it contains. This is measured as a number in micrograms of lead for each decilitre (or 100 millilitres) of blood.

The doctor may also want to test a sample of your urine for the effects of lead. You are legally required to provide blood or urine samples for this purpose.

Blood-lead levels are usually checked every three months, especially if you are under 18 or a woman capable of having children. It may be more often if you do the sort of work where you could rapidly absorb lead (eg work on lead-burning processes where exposure to lead fume could be high unless properly controlled).

The doctor may check your blood-lead level less often if your exposure and your blood-lead level do not usually change very much. This could be every 6 or even 12 months.

## What happens if your blood-lead level is too high?

If the amount of lead in your blood reaches 50 µg/dl – called the action level – your employer must investigate why this has happened and try to reduce it to below that level by:

- reviewing the control measures and checking that they are working properly;
- making sure that proper hygiene procedures are followed;
- consulting relevant health professionals such as a doctor or occupational hygienist about any additional protective measures.

If, despite all the control measures, your blood-lead level reaches 60 µg/dl – called the suspension level – the doctor will repeat the test. (Lower action and suspension levels apply for some employees – see the table on page 4.) If this confirms the result of the first test, the doctor will usually decide that you should not carry on working with lead. There are some exceptions to this rule which the doctor will explain.

Your employer must act on the doctor's decision, and you will not be able to work with lead again, or be exposed to it, until the doctor considers it safe for you to do so.

If your employer cannot offer you suitable alternative work, where you will not be exposed to lead, you may be suspended from work. If this happens, you have the right to be paid by your employer for up to 26 weeks.

If your employer refuses, ask for advice from a supervisor or safety or trade union representative. You can apply to an Employment Tribunal to enforce your entitlement to suspension pay. You can find out more at the Directgov website ([www.direct.gov.uk](http://www.direct.gov.uk)) or contact the Advisory, Conciliation and Arbitration Service (Acas) helpline (08457 47 47 47) for advice.

## What are the levels for different employees?

This table shows the current action and suspension levels. There are lower action and suspension levels for women capable of having children and for young people under 18 as follows:

Category	Action level	Suspension level
(a) General employees	50 µg/dl	60 µg/dl
(b) Women capable of having children	25 µg/dl	30 µg/dl
(c) Young people under 18 (other than at (a))	40 µg/dl	50 µg/dl

If a woman is pregnant, the lead in her blood can pass into the blood of the baby she is carrying which could affect its development. If you are pregnant, it is important to keep the amount of lead in your blood as low as possible.

If you become pregnant, the doctor will automatically certify that you should not do work where your exposure to lead is significant. In the interests of your baby you should tell your employer as soon as your pregnancy is confirmed.

The law also gives greater protection to young people under 18 because they generally have less experience working with a substance as hazardous as lead. It is against the law for women capable of having children, and for young people under 18, to work in lead smelting and refining and in most jobs in the manufacture of lead-acid batteries.

## What should you do to protect your own health?

- Make sure you have all the information and training you need to work safely with lead, including what to do in an emergency, such as a sudden uncontrolled release of lead dust or fume.
- Use all the equipment provided by your employer and follow instructions for use.
- Make sure that equipment provided for your health and safety fits correctly and is in good condition.
- Follow good and well-tested work practices, and especially:
  - keep your immediate work area as clean and tidy as possible;
  - clear up and get rid of any lead waste at the end of each day or shift, as directed by your employer;
  - do not take home any protective clothing or protective footwear for washing or cleaning.
- Wear any necessary protective clothing and respiratory protective equipment and return it at the end of the shift/day to the proper place provided by your employer.
- Report any damaged or defective equipment to your employer.
- Only eat and drink in designated areas that are free from lead contamination.
- Practise a high standard of personal hygiene, and especially:
  - wash your hands and face and scrub your nails before eating, drinking or smoking;
  - wash and/or shower and change if necessary before you go home.
- Keep your medical appointments with the doctor where you work.

Make sure your workmates know and understand the dangers of exposure to lead.

## How is medical information about you protected?

The Data Protection Act 1998 protects information held on medical surveillance records. Your employer or the doctor where you work must tell you if a record is being kept on you, and why. You have the right to see your record and to have any inaccurate information corrected. Your employer (or the doctor) should not reveal any information from your record except for the purposes for which it is kept.

## Where else can you get information?

If you have any questions or worries about working with lead, ask your supervisor, safety officer or union representative.

If you are suspended from work you may seek advice and help on your rights to suspension by contacting Acas.

## Further information

HSE priced and free publications can be viewed online or ordered from [www.hse.gov.uk](http://www.hse.gov.uk) or contact HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995. HSE priced publications are also available from bookshops.

For information about health and safety ring HSE's Infoline  
Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577  
e-mail: [hse.infoline@natbrit.com](mailto:hse.infoline@natbrit.com) or write to HSE Information Services,  
Caerphilly Business Park, Caerphilly CF83 3GG.

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

This leaflet is available in priced packs of 15 from HSE Books, ISBN 978 0 7176 6387 3. Single copies are free and a web version can be found at: [www.hse.gov.uk/pubns/indg305.pdf](http://www.hse.gov.uk/pubns/indg305.pdf).

© *Crown copyright* This publication may be freely reproduced, except for advertising, endorsement or commercial purposes.  
First published 11/09. Please acknowledge the source as HSE.