

WL11

COSHH essentials for welding, hot work and allied processes



This information will help employers (including the self-employed) comply with the Control of Substances Hazardous to Health

Regulations 2002 (COSHH), as amended, to control exposure and protect workers' health.

It is also useful for trade union safety representatives.

Welding fume can cause lung disease, with an increased risk of asthma and cancer.

This sheet describes good practice using general ventilation.

It covers the points you need to follow to reduce exposure to an adequate level.

It is important to follow all the points, or use equally effective measures.

The advice does not apply to high-alloy and stainless steels; alloys containing chromium, nickel, manganese, barium, lead, or cobalt; painted or coated metal, alloys containing cadmium or beryllium, or to work in confined spaces.

Main points

- Dust and fume can cause serious lung diseases.
- Keep exposure as low as possible using all the controls in this sheet.
- Health monitoring is usually needed. See sheet G401.
- See manufacturers' safety data sheets - select safer consumables.

Tungsten inert gas (TIG) welding

Control approach 1 General ventilation

Access and premises

- ✓ Only allow access to authorised staff.

Equipment

- ✓ Provide a good standard of general ventilation; 5-10 air changes per hour, with a through draught.
- ✓ Use dust extraction on abrasive wheels for sharpening thoriated electrode tips (radioactive hazard).
- ✓ Can you use alternative electrodes, eg based on zirconium, lanthanum or cerium?
- ✓ Use an air blower to get fresh air into restricted working places.
- ✓ Induced draughts must not interfere with shielding gas.

Procedures

- ✓ Remove grease and all surface coatings first, unless they are meant to be welded or cut through.
- ✓ Arrange work so that the worker's head is out of the fume.
- ✓ Confirm that any ventilation fans are turned on and working.
- ✓ Check for gas leaks.

Maintenance, examination and testing

- ✓ Follow the instructions in the manual - keep equipment in effective and efficient working order.
- ✓ If any equipment is faulty, repair it straight away.
- ✓ Daily, look for signs of damage.

Personal protective equipment (PPE)

- ✓ Ask your safety equipment supplier to help you get the right PPE.
- ✓ Provide storage for clean and contaminated PPE.

Respiratory protective equipment (RPE)

- ✓ RPE should not be needed.

Other protective equipment

- ✓ Provide and ensure that workers use a welding helmet, flame-resistant overalls and protective gloves.
- ✓ Use a properly equipped contract laundry or a suitable equivalent to wash work clothing.
- ✓ Skin creams help in washing contamination from the skin. After-work creams help to replace skin oils.

Caution: Never allow use of compressed air for removing dust from clothing.

Health monitoring

- ✓ You should consider health monitoring. See sheet G401.
- ✓ Consult an occupational health professional - see 'Useful links'.

Cleaning and housekeeping

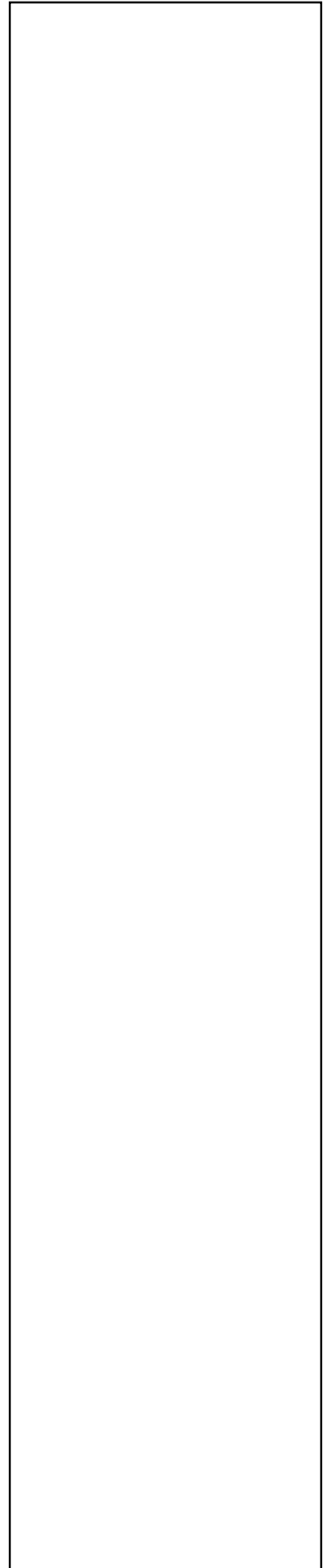
- ✓ Keep the work area clean and free of combustible materials.
- ✓ Clean the general workroom once a week.

Training and supervision

- ✓ Tell workers that fume from welding and cutting can cause serious lung diseases.
- ✓ Working in the right way and using the controls correctly is important for exposure control. Train and supervise workers. See sheet WLO.

Further information

- *General ventilation in the workplace: Guidance for employers* HSG202 HSE Books 2000 ISBN 0 7176 1793 9
- *The safe use of compressed gases in welding, flame cutting and allied processes* HSG139 HSE Books 1997 ISBN 0 7176 0680 5
- *Health and safety in arc welding* HSG204 HSE Books 2000 ISBN 0 7176 1813 7
- *Thoriated tungsten electrodes* Information document OC 564/6(rev) HSE 1995 Web only version available at www.hse.gov.uk/foi/internalops/fod/oc/500-599/564_6r.pdf
- For environmental guidelines see sheet WLO



Useful links

- Your trade association may advise on health and safety consultants and training providers.
- HSE priced and free publications are available from HSE Books
Tel: 01787 881165 Website: www.hsebooks.co.uk.
- HSE free leaflets can be downloaded from HSE's website:
www.hse.gov.uk/pubns.
- For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com.
- Contact the British Occupational Hygiene Society (BOHS) on 01332 298101 or at www.bohs.org for lists of qualified hygienists who can help you.
- Look in the Yellow Pages under 'Health and safety consultants' and 'Health authorities and services' for 'occupational health'.
- Also see www.nhsplus.nhs.uk.

Employee checklist

- Do you know how to use the controls properly?
- Use, maintain and store your protective equipment in accordance with instructions.
- Look for signs of leaks, wear and damage.
- If you find any problems, tell your supervisor. Don't just carry on working.
- Co-operate with health monitoring.
- Wash your hands before eating, drinking, or using the lavatory.
- Never clean your hands with solvents or concentrated cleaning products.
- Use skin creams provided as instructed.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.