

WLO

COSHH essentials for
welding, hot work and
allied processes

Advice for managers

The Control of Substances Hazardous to Health Regulations 2002 (COSHH) require employers to ensure that exposure is prevented or, where this is not reasonably practicable, adequately controlled. This guidance gives practical advice on how this can be achieved by applying the principles of good practice for the control of exposure to substances hazardous to health, as required by COSHH.

It is aimed at people whose responsibilities include the management of substances hazardous to health at work (eg occupational health specialists, anyone undertaking COSHH assessments and supervisors). It is also useful for trade union and employee safety representatives). It will help you carry out COSHH assessments, review existing assessments, deliver training and supervise activities involving substances hazardous to health.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, 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.

See Essential information near the end of the sheet.

Introduction

HSE has produced these advice sheets to help employers assess and control risks from hazardous substances in the workplace. For some common welding and allied process tasks, the advice sheets take into account the health hazards (and exposure potential) of substances used or produced to identify an approach appropriate to control the risks.

The WL series of guidance sheets describes good practice for controlling exposure to welding fume and allied processes. It is likely that you will require more than one guidance sheet to provide you with information on the controls relevant to your specific task or process. By entering your process information in the COSHH essentials web tool, a list of guidance sheets and a list of additional relevant guidance sheets become available. The WL series is located on the web tool under the sub-headings: Direct Advice, Production Industries, Welding and Cutting.

What the WL sheets cover

The WL control guidance sheets (listed below) describe good practice for controlling exposure to hazardous substances in the welding industry.

WL0	Advice for managers
WL1	Withdrawn
WL2	Welding in confined/limited/restricted spaces
WL3	Welding fume control
WL4	Withdrawn
WL5	Withdrawn
WL6	Withdrawn
WL7	Withdrawn
WL8	Withdrawn
WL9	Withdrawn
WL10	Withdrawn
WL11	Withdrawn
WL12	Withdrawn
WL13	Withdrawn
WL14	Manual gas and oxy-gas cutting
WL15	Plasma arc cutting: fixed equipment
WL16	Arc-air gouging (air-carbon arc gouging)
WL17	Withdrawn
WL18	Surface preparation: pressure blasting (small items)
WL19	Surface preparation: pressure blasting (medium-sized items)
WL20	Surface preparation: pressure blasting (large items)
WL21	Weld cleaning with pickling paste

Hazards

Welding fume (which includes irritating gases such as oxides of nitrogen and ozone) may cause respiratory irritation and metal fume fever. It can also increase susceptibility to pneumonia. In the longer term, it can lead to serious lung diseases including: chronic obstructive pulmonary disease (COPD), which used to be called chronic bronchitis, and emphysema, occupational asthma and cancer.

Shielding gases (such as argon, helium and nitrogen, or argon-based mixtures containing carbon dioxide, oxygen or both) can cause asphyxiation (suffocation from lack of oxygen), usually resulting from accumulation of the gases in confined spaces.

Fume and dust from allied processes, eg flame and arc cutting, blasting and post-weld dressing, can cause lung disease. Abrasive blasting produces a great deal of dust that includes metals and metal oxides.

Each situation is different. The hazard varies and is dependent on the process, eg the welding consumable, the base metal, surface coatings or contaminants, and where the task is done.

Other COSHH requirements

You may need to undertake an exposure measurement survey, which will involve air sampling and, for some specific hazardous substances, biological monitoring would also be appropriate. Exposure measurements help to determine whether the current control measures are effectively protecting the health of the workers or if improvements to the control strategy are needed. See the General Control Guidance Sheet G409 Exposure Measurement: Air sampling, which has advice on selecting a competent person to conduct the measurement survey. It is important to note that there is a British Standard for sampling welding fume, which the competent person undertaking the sampling can follow: ISO10882 Health and Safety in Welding and Allied Processes – Sampling of airborne particles and gases in the operators' breathing zone Parts 1 and 2.

You may need to carry out health surveillance for workers. See the General Control Guidance Sheets on health surveillance for occupational asthma (G402) and health monitoring for COPD (G401).

Lead exposure from welding, cutting and blasting metal which is coated in a lead-based paint will need a separate assessment and health surveillance carried out in accordance with the Control of Lead at Work Regulations 2002, Approved Code of Practice (ACOP L132).

How to use the sheets

- ✓ Consider the processes/tasks and hazardous substances in your workplace.
- ✓ Consider using alternative joining, cutting or surface preparation methods that produce less fume or dust.
- ✓ Examine the advice sheets for each of the tasks.
- ✓ Examine the essential information sheets listed on each advice sheet.
- ✓ Compare operations in your workplace with recommendations in the advice sheets for all of the relevant tasks.
- ✓ Record significant findings (this forms part of your risk assessment).

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- ✓ Record any actions you need to take covering: issues identified, planned actions, target completion date, person responsible, status of any issues and a review of their effectiveness.
 - ✓ Keep a record of your actions to prevent or reduce exposure of workers to hazardous substances.
 - ✓ You may have to change old working practices or implement new controls. Decide how best to make any changes required 'across the board'. If you are in doubt, seek expert help. Ask your trade association, trade union or contact a consultant (see Further information).

Essential information

You can find the full COSHH essentials series at:
www.hse.gov.uk/coshh/index.htm

Health surveillance, monitoring and sampling sheets are available at:
www.hse.gov.uk/pubns/guidance/gseries.htm

Health surveillance for occupational asthma COSHH guidance sheet G402.

Further information

- ✓ HSG258 *Controlling airborne contaminants at work: A guide to local exhaust ventilation (LEV)*:
www.hse.gov.uk/pubns/books/hsg258.htm
- ✓ HSG53 *Respiratory protective equipment at work - A practical guide*: www.hse.gov.uk/pubns/books/hsg53.htm
- ✓ Occupational Safety and Health Consultants Register: www.oshcr.org/
- ✓ *The Control of Lead at Work Regulations 2002. (Third edition) ACOP and guidance*: www.hse.gov.uk/pubns/books/l132.htm

For information about health and safety, visit <https://books.hse.gov.uk> or <http://www.hse.gov.uk>

You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

To report inconsistencies or inaccuracies in this guidance email:
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