



Occupational hygiene and health surveillance at industrial treatment plants

Woodworking Sheet No 29 (revised)

Introduction

This information sheet has been produced by HSE's Woodworking National Interest Group in agreement with the British Wood Preserving and Damp-proofing Association (BWPDA). It gives guidance on good occupational hygiene practice and health surveillance in the industrial treatment of timber and is relevant to operators of timber treatment plants. Other general guidance is given in the BWPDA *Code of Best Practice for the safe design and operation of timber treatment installations*.¹

The hazards

The industrial treatment of timber involves the use of wood preservatives that come under the scope of the Control of Pesticides Regulations (COPR) and the Biocidal Products Regulations (BPR).² Only use products approved under these regulations. Timber treatment plant operators may be exposed to the wood preservative through inhalation of dusts, aerosols and vapours, ingestion and contact with the skin.

There is a wide range of chemicals used in wood preservative formulations, some of which have hazardous properties. Differing mixtures of chemicals can have different hazardous properties. The safety data sheet for the product identifies the hazards of that particular product formulation. Possible ill-health effects include skin disorders and respiratory irritation, and sensitisation (resulting in occupational asthma); some compounds are classified as human carcinogens.

Legal requirements

The Control of Substances Hazardous to Health Regulations (COSHH) require employers to ensure that the exposure of employees to substances hazardous to health is either prevented or, where this is not reasonably practicable, adequately controlled.³ The Carcinogens Approved Code of Practice may also apply and sets out more stringent requirements concerning the use of carcinogens in the workplace.³

The COSHH Regulations require employers to carry out a risk assessment covering the use of the wood preservative product. It should:

- identify those who may be exposed;
- examine what could happen if there were no adequate controls in place;

- identify how adequate control can be achieved and sustained;
- identify what arrangements are needed to ensure the proper use and maintenance of exposure control measures.⁴

Always consider whether a selected product can be replaced by one that is less hazardous. If this is not feasible, then always control exposure through engineering and operational means, only using personal protective equipment as a last resort.

Examples of engineering control measures include the automation of mixing and the handling of the wood preservative, the venting of treatment vessels before opening the door and mechanical handling of treated timber.

Operational measures include using stickering and the sloping of the packs of timber in the treatment vessel. Accelerated drying and fixation techniques to eliminate dripping may also be an option.

The BWPDA Code of Practice gives further guidance and identifies good practice including the management and operational control of timber treatment plants, all reducing the potential for operator exposure.

Personal protective equipment

If a risk of contact with wood preservatives still exists, despite other control measures, the law requires the use of personal protective equipment (PPE) during handling and use of the preservative. Any specific requirements for PPE will be set out on the relevant product label and safety data sheet and must be followed.

PPE has limitations so employers should check with the PPE supplier that it is fit for purpose. The supplier should also be able to provide information on storage, cleaning and maintenance of the PPE.

Protective and other clothing worn at work by the operator will become contaminated and overalls (and other work clothing) should be changed once a week and laundered separately from personal clothing worn to and from work. Additionally, for chromated copper arsenate (CCA) wood preservatives, one condition of approval is that protective clothing should be changed at least twice a week and gloves at least once a week (see product label).

Reducing exposure through other measures

To reduce exposure as far as is reasonably practicable employers should:

- encourage good personal hygiene by providing washing and changing facilities within or very close to the treatment plant area (these should be designed to prevent the spread of contamination from workwear to personal clothing);
- provide a deluge shower unit where whole-body contamination is foreseeable;
- prohibit eating, drinking and smoking in the treatment plant area.

All employees who work at the treatment plant site should be adequately trained. Training should include suitable information about the hazardous nature of the substances in use and relevant precautions which should be adopted. Anyone working with wood preservatives must be competent for the duties they are called upon to perform, including the operation of the timber treatment plant.⁵

Health surveillance

Health surveillance is used to protect employees' health by the early detection of adverse effects caused by exposure to hazardous substances. It is not a substitute for preventing or adequately controlling exposure, but it ensures that any adverse effect is detected at the earliest stage, and it can also help in evaluating the effectiveness of the control measures detailed in the COSHH assessment.^{6,7}

Recording sick leave and monitoring these records can identify where there is a general problem affecting workers' health. Individual sickness records, particularly when examined with exposure records, might indicate whether work is affecting an individual's health.

Where there is significant exposure to wood preservative products, employers will need to carry out health surveillance. This will involve keeping records that must show:

- the employee's name, address, date of birth, sex and National Insurance number;
- a historical record of jobs involving exposure to substances requiring health surveillance, including the conclusions of any health surveillance procedures, and the date on which they were carried out;
- the date work started with each wood preservative product;
- a record of time spent working with each product;

- the results of any biological monitoring tests, skin examinations or other health surveillance procedures and the dates they were done.

Health surveillance is only of value if appropriate action is taken in response to the results. Where it shows that a worker's health is being affected by their work, take steps such as preventing or reducing further exposure to the hazard, re-examining risk assessments and improving control measures. Checks are required to ensure that the action taken has worked.

Skin examination

The main route of potential exposure is via the skin (dermal pickup). Employees should be trained to look out for any unusual signs on their hands and face that might indicate exposure and report any concerns to a responsible person. The responsible person will need to be trained in what to look for, what to do if evidence of exposure is found, and what to record in the employee's health records.⁸

Biological monitoring

Where biological monitoring techniques are available for a particular chemical substance, they can be used to determine whether employees are being occupationally exposed to that substance. This is the case for arsenic of inorganic origin in urine (as a function of the creatinine excreted) and this should be used in a monitoring regime for CCA wood preservatives.^{9,10} The suppliers of these products can provide further information.

References

- 1 *Code of Best Practice for the safe design and operation of timber treatment installations* COP2 BWPDA 1998 (Second edition to be published later in 2002)
- 2 *A guide to the Biocidal Products Regulations for users of biocidal products* HSG215 HSE Books 2001 ISBN 0 7176 1821 8
- 3 *General COSHH ACOP (Control of substances hazardous to health) and Carcinogens ACOP (Control of carcinogenic substances) and Biological agents ACOP (Control of biological agents). Control of Substances Hazardous to Health Regulations 1999. Approved Codes of Practice L5 (Third edition) HSE Books 1999 ISBN 0 7176 1670 3 (Fourth edition to be published in autumn 2002)*
- 4 *The safe use of pesticides for non-agricultural purposes. Control of Substances Hazardous to Health Regulations 1994. Approved Code of Practice L9 (Second edition) HSE Books 1995 ISBN 0 7176 0542 6*
- 5 *Recommendations for training users of non-agricultural pesticides* HSE Books 1990 ISBN 0 11 885848 4

6 *Health surveillance under COSHH: Guidance for employers* HSE Books 1990 ISBN 0 7176 0491 8

7 *Health surveillance at work* HSG61 (Second edition) HSE Books 1999 ISBN 0 7176 1705 X

8 *Medical aspects of occupational skin disease* Guidance Note MS24 HSE Books 1998 ISBN 0 7176 1545 6

9 *Chromium and its inorganic compounds: Health and safety precautions* Guidance Note EH2 HSE Books 1998 ISBN 0 7176 1502 2

10 *Arsenic and its compounds: Health hazards and precautionary measures* Guidance Note EH73 HSE Books 1997 ISBN 0 7176 1340 2

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.)

British Wood Preserving and Damp-proofing Association publications are available from BWPDA, 1 Gleneagles House, Vernon Gate, Derby DE1 1UP Tel: 01332 225100 Fax: 01332 225101 e-mail: info@bwpda.co.uk (website: www.bwpda.co.uk)

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

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 publication may be freely reproduced, except for advertising, endorsement or commercial purposes. First published 08/02. Please acknowledge the source as HSE.

