



Control approach R



This guidance sheet is for **employers** to help them comply with the requirements of the Control of Substances Hazardous to Health Regulations 2002 (COSHH) by controlling exposure to chemicals and protecting workers' health.

The sheet is part of HSE guidance *COSHH essentials: easy steps to control chemicals*. It describes the key points you need to follow to help reduce exposure to an adequate level. It is important to follow **all** the points, or use equally effective measures.

Baghouse and scrubber residues can contain silica, metal dusts and oxides, condensed fumes (PAH, oil etc) and low-activity radioactive dust. These are all hazardous to health. Some dusts can absorb oxygen, or emit poisonous gases when wet.

Control approach R (respiratory protective equipment) with systems of work and control approach 1 (general ventilation) is recommended.

For environmental advice see Further information on the back page.

Dust and sludge when cleaning dust collectors

Respiratory protective equipment

FD13

Access

- ✓ Permit access only to those staff that need to be there.
- ✓ Lock off the extraction equipment. Place warning signs until cleaning has finished.
- ✓ Nominate a trained person to act as lookout, posted outside the collector.
- ✓ Provide good access to enable the safe removal of hazardous wet or dry wastes.

Design and equipment

- ✓ Prepare a written method statement, including a specification of the respiratory protective equipment (RPE) and personal protective equipment (PPE) to use.
- ✓ Foundry dusts are abrasive - baghouse filters need regular maintenance and repair.
- ✓ Wet collectors and scrubbers require scraping free of sludge and scale.
- ✓ Find out the hazardous properties of your baghouse and/or scrubber residues. Seek expert advice.
- ✓ Workers should shovel the residues carefully - dry residues may catch fire.
- ✓ Use Type H vacuum cleaners fitted with HEPA filters to remove dust. Never use dry brushing or compressed air.
- ✓ Consult a qualified ventilation engineer to design new control systems (see Control guidance sheet FD14).

Maintenance

- ✓ Follow instructions in maintenance manuals.
- ✓ Use a written system of work for maintenance and define the PPE necessary.
- ✓ Keep equipment in effective and efficient working order.
- ✓ It is vitally important to maintain RPE in effective and efficient working order.
- ✓ Keep airline oil and water traps empty, and filters clean.

Examination and testing

- ✓ Check water levels in the wet scrubber reservoir.
- ✓ Review records to see if there are failure patterns that make planning maintenance easier.
- ✓ Visually check compressed airlines for signs of damage before use.
- ✓ Check the airflow and air quality (according to BS4275) to air-fed RPE at least once every three months. For mobile compressors, also make these checks every time you move the compressor.
- ✓ Ensure that users examine their RPE thoroughly and test it works properly every time they use it.

Cleaning and housekeeping

- ✓ Provide good welfare facilities - showers, washrooms, clothes storage and refreshment areas. Clean these areas every day.
- ✓ Ensure your workers shower and change after a work session.

Personal protective equipment (PPE)

- ✓ Dusts and sludges can damage the skin and eyes. Ask your safety clothing supplier to help you get the right PPE.
- ✓ Respiratory protective equipment (RPE) with an Assigned Protection Factor of at least 40 is always needed. If there is a risk of the baghouse becoming a confined space through lack of oxygen, you must select air-fed RPE. Workers must check it works properly before use.
- ✓ Keep RPE clean and store it away from dust.
- ✓ Workers also need:
 - waterproof chemical protective clothing;
 - eye and face protection;
 - protective gloves; and
 - footwear.
- ✓ Coated gloves with a knitted liner can be faulty, and leak. Try to avoid this type of glove with chemicals.
- ✓ Skin creams are important for skin protection and help in washing contamination from the skin. These are **not** 'barrier creams'. After work creams help to replace skin oils.
- ✗ Never allow compressed air use for removing dust from clothing.

Health surveillance

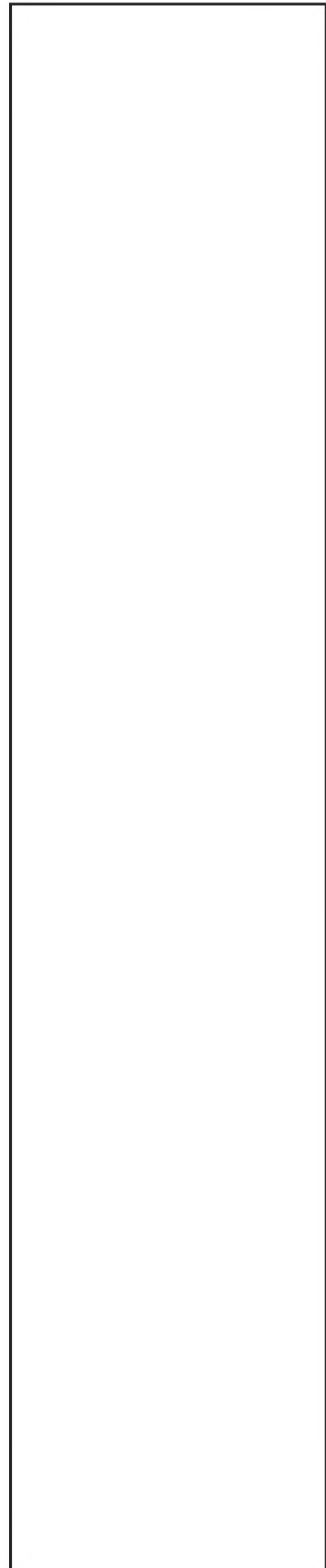
- ✓ Consider health surveillance for lung function and other health effects.
- ✓ Use skin surveillance.
- ✓ Consult an occupational health professional (see Further information).

Training

- ✓ Tell your workers that baghouse dusts are hazardous by skin contact and breathing in.
- ✓ Train workers in the right procedures for entry to confined spaces, cleaning and recommissioning.
- ✓ Provide health and safety training. Include supervisors and managers.
- ✓ Ensure training includes how to keep exposures low; how to check that the extraction system is working; how to use and look after PPE and RPE; and what to do if something goes wrong.
- ✓ Thermal stress is an additional risk.

Supervision

- ✓ Check that the equipment is correctly locked-off; PPE is being used properly; and the rules on personal hygiene are being followed.
- ✓ Check that the appointed lookout knows how to get help quickly.
- ✓ Ensure the health surveillance programme is being carried out for everyone that needs it.





Further information

- *Maintenance, examination and testing of local exhaust ventilation* HSG54 (Second edition) HSE Books 1998 **ISBN 0 7176 1485 9**
- *The selection, use and maintenance of respiratory protective equipment: A practical guide* HSG53 (Second edition) HSE Books 1998 **ISBN 0 7176 1537 5**
- *Assessing and managing risks at work from skin exposure to chemical agents: Guidance for employers and health and safety specialists* HSG205 HSE Books 2001 **ISBN 0 7176 1826 9**
- Health and safety consultants: the BOHS Faculty of Occupational Hygiene keeps lists of qualified hygienists who can help you. Contact BOHS on 0133 229 8087 or at www.bohs.org/
- Occupational health professionals: details of doctors and nurses can be found in the Yellow Pages under 'Health and safety consultants' and 'Health authorities and services'. Also visit the NHS website at www.nhsplus.nhs.uk

Depending on the scale of work, releases into the atmosphere may be regulated within the pollution prevention and control (PPC) framework. You should consult your local authority or the Environment Agency. In Scotland, consult the Scottish Environment Protection Agency (SEPA). They will advise you if PPC legislation applies to your company, and about air cleaning and discharging emissions into the air. Otherwise, minimise emissions into the air.

Employee checklist

- ☐ Always follow the standard operating procedures.
- ☐ Follow the method of work strictly. Is the equipment locked off before starting cleaning? Is a lookout posted outside?
- ☐ Check that your RPE works properly every time you put it on.
- ☐ If you find any problems, tell your supervisor. Don't just carry on working.
- ☐ Co-operate with health surveillance schemes.
- ☐ Use, maintain and store your PPE in accordance with instructions.
- ☐ Throw away single-use gloves every time you take them off.
- ☐ Wash your hands before and after eating, drinking, smoking and using the lavatory.
- ☐ Never use solvents to clean your skin.
- ☐ Use skin creams provided as instructed.



*COSHH essentials:
easy steps to control chemicals*
October 2003

Printed and published by
the Health and Safety Executive