

SR9

COSHH Essentials for
service and retail

Using chemicals for water treatment

Control approach 1 General ventilation

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.

What this sheet covers

This sheet describes good control practice for the control of exposure when using chemicals and concentrates during water treatment.

It covers the key points you need to follow to reduce exposure to an adequate level. This is achieved by following good control practice, ie follow all the points described in this sheet or use equally effective measures and in so doing, reduce exposure to below the relevant workplace exposure limit (WEL).

Hazards

- ✓ Contact with many chemicals can irritate the skin or cause an allergic reaction (dermatitis). Some can also damage the eyes.
- ✓ Some products may cause asthma or cancer or may be flammable – check the Safety Data Sheet (SDS).
- ✓ If possible, avoid products that contain formaldehyde (skin sensitiser and carcinogen), glutaraldehyde (respiratory sensitiser) or hydrazine (carcinogen) as they can be absorbed through the skin. If their use is necessary, use them at the lowest possible concentration.
- ✓ Caustic soda (sodium hydroxide) can erupt when mixed with water and lead to splashes in the eye, which can cause blindness.
- ✓ Water treatment chemicals include corrosion and scale inhibitors, softeners and biofilm dispersants. Some concentrates are biocidal products, defined as any product or substance intended to destroy, control or prevent the effects of harmful organisms, or in any other way control harmful organisms. Authorised products are safe for use as long as you follow the instructions on the label.

Access to work area

- ✓ Designate a segregated area for pressure washing, or do the job outdoors.
- ✓ Erect barriers and notices.
- ✓ Only allow access to authorised and appropriately trained people.

Equipment and procedures

- ✓ Provide a good standard of general ventilation. This can be natural ventilation from doors, windows etc. or controlled, where air is supplied and/or removed by powered fans.
- ✓ Ensure that supplied or make-up air comes from an uncontaminated area.
- ✓ Discharge exhaust air away from doors, windows and other air inlets.
- ✓ Ensure, where possible, that air comes from a fresh source, flows past the worker and then past the work activity to the extraction point.
- ✓ Use automated dispensing systems (eg meters and dip-tubes – see Figure 1).

- ✓ Ensure any equipment used to dispense the product works properly and does not leak.
- ✓ Buy liquid chemicals in containers that are easy to pour from.
- ✓ Dispose of concentrate containers safely or return them to your supplier.
- ✓ Try to buy solid chemicals in tablet form or in a wide-necked container that allows the granules to be easily scooped out.
- ✓ Store products safely in a cool, dry, ventilated, dark place in such a way as to be capable of retaining any spills. Only store the amount you need.
- ✓ Read the instructions on labels carefully – follow the instructions for use.
- ✓ Put caps back on containers immediately after use and wipe the outside clean.
- ✓ Take special care when changing dip-tubes – wear appropriate PPE.
- ✓ Reduce skin contact. Workers should wash off any splashes immediately.

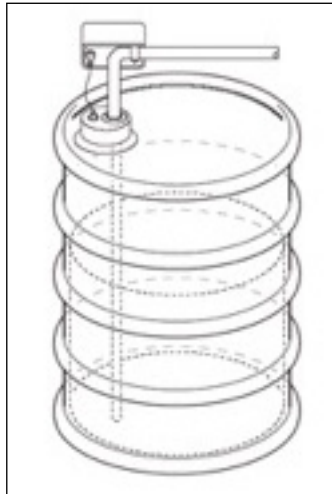


Figure 1 – Dip-tube for automatic dispensing

Respiratory protective equipment (RPE)

- ✓ RPE is not normally needed unless you are using formaldehyde, glutaraldehyde or hydrazine. In such cases, as a minimum, provide tight-fitting RPE with a filter cartridge capable of protecting against the chemical product. See the chemical supplier's SDS and sheet R3 in Essential information.
- ✓ Fit testing is required for RPE with a tight-fitting face seal (see INDG479 in Further information).
- ✓ Workers wearing tight-fitting RPE must be clean shaven.
- ✓ Ensure RPE is compatible with other PPE worn.
- ✓ Workers should be trained how to check RPE is working properly before every use, how to record this, how to fit it properly and how to look after it.
- ✓ Keep RPE clean and store it in a clean place.
- ✓ For reusable RPE, a thorough maintenance, examination and test should be carried out at least once a month. However, if the RPE is used only occasionally, an examination and test should be carried out before use and, in any event, the interval should not exceed three months.
- ✓ Change the filters on respirators in accordance with manufacturers' recommendations and if:
 - the shelf-life expiry date has passed;
 - they are damaged or visibly contaminated;
 - they become harder to breathe through;
 - they have reached their break-through time for vapours or gases.

Personal protective equipment (PPE)

- ✓ Provide, and ensure that workers use, protective gloves. Single-use nitrile gloves are acceptable.
- ✓ If single-use gloves are selected then dispose of them safely every time you take them off.
- ✓ Provide waterproof, slip-resistant boots and protective goggles.
- ✓ Consult workers to ensure PPE will be suitable for them.
- ✓ Ensure that all items of PPE are compatible.
- ✓ Make suitable arrangements for maintenance, storage and replacement of PPE.

Personal decontamination and skin care

- ✓ Keep chemicals off your skin – wash off any splashes immediately.
- ✓ Provide warm water, mild skin cleansers, and soft paper or fabric towels for drying. Avoid abrasive cleansers.
- ✓ Provide pre-work skin creams, which make it easier to wash contaminants from the skin.
- ✓ Moisturisers should then be used after hand washing.
- ✓ Provide after-work creams to replenish skin oils.

Caution: These creams are not a substitute for gloves and do not provide a full barrier.

Maintenance, examination and testing

- ✓ Keep all equipment used for the task in effective working order. Maintain it as advised by the supplier or installer.

Cleaning and housekeeping

- ✓ Clean work equipment and the work area after use. Clean other equipment and the workroom regularly – once a week is recommended.
- ✓ Special care is needed to decontaminate dispensing systems. Seek advice or use a specialist contractor.
- ✓ Deal with spills immediately – absorb liquid spills with granules and decontaminate the area (ask your product supplier or follow the instructions provided on the SDS). Practise how to do this.
- ✓ Dispose of hazardous waste safely in a labelled, lidded bin and follow local authority waste management guidance.
- ✓ Provide good clean welfare facilities.
- ✓ Use a contract laundry or a suitable equivalent to wash work clothing. Don't allow workers to do this at home.

Health surveillance

- ✓ Employers are required to carry out health surveillance if workers use a product labelled 'May cause sensitisation by skin contact' or 'May cause sensitisation by inhalation', and in such cases should consult an occupational health professional.
- ✓ Provide health surveillance for asthma where there is a reasonable likelihood that this may occur in your workplace. See sheet G402 in Essential information.
- ✓ Provide health surveillance for dermatitis where there is a reasonable likelihood that this may occur in your workplace. See sheet G403 in Essential Information.

- ✓ It may be helpful to consult an occupational health professional on what the health surveillance should cover.

Training and supervision

- ✓ Tell workers about the hazards associated with their work and how to recognise early signs of asthma and dermatitis.
- ✓ Provide supervision – ensure that safe work procedures are followed.
- ✓ Involve managers and supervisors in health and safety training.

Essential information

S100 – General advice on chemicals causing harm via skin or eye contact

S102 – Selecting personal protective equipment

G402 – Health surveillance for occupational asthma

G403 – Health surveillance for occupational dermatitis

R3 – UK Standard Assigned Protection Factor 20 (APF 20)

Further information

Posters on protective gloves and skin care
www.hse.gov.uk/skin/information.htm

Occupational Safety and Health Consultants Register www.oshcr.org/

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

Control of substances hazardous to health: The Control of Substances Hazardous to Health Regulations 2002. Approved Code of Practice and guidance L5 (sixth edition) HSE 2013.
<https://www.hse.gov.uk/pubns/books/l5.htm>

Respiratory protective equipment at work: A practical guide HSG53 (fourth edition), HSE Books 2013. <https://www.hse.gov.uk/pubns/books/hsg53.htm>

Guidance on respiratory protective equipment (RPE) fit testing INDG479(rev1), HSE Books 2019. <https://www.hse.gov.uk/pubns/indg479.htm>

Legionnaires' disease: A brief guide for dutyholders INDG458, HSE Books 2012 (single copy free to download or priced packs of 10 ISBN 9780717665006).

Legionella webpage www.hse.gov.uk/legionnaires/

Managing skin exposure risks at work HSG262 (second edition), HSE Books 2015. <https://books.hse.gov.uk/gempdf/hsg262.pdf>

Preventing contact dermatitis and urticaria at work INDG233(rev2), HSE Books 2015. <https://www.hse.gov.uk/pubns/indg233.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: commissioning@tso.co.uk

Employee checklist

- Look for signs of leaks, wear and damage.
- 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.
- Use, maintain and store your PPE in accordance with instructions.
- Wash hands before eating and drinking, after smoking and using the lavatory, and after work.
- Never clean your hands with concentrated cleaning products or solvents.
- Check your skin regularly for dryness or soreness – make sure you know the procedure on reporting if such symptoms occur. Early intervention means it will be less likely that you develop permanent symptoms.
- Use skin creams provided as instructed.
- Co-operate with health surveillance.