

FD12

COSHH essentials for foundries



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 to chemicals and protect workers' health.

It is also useful for trade union safety representatives.

This sheet describes good practice using respiratory protective equipment (RPE).

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.

This sheet applies only where you cannot use an extracted or enclosed spray booth.

Coating products can cause lung and skin diseases.

Get safety data sheets from your chemical suppliers. Use these to identify the more dangerous chemicals, and less dangerous substitutes.

Main points

- Spraying produces vapour and mist that is invisible using normal lighting.
- Keep exposures as low as possible, using all the controls in this sheet.
- Make sure the controls work.
- You may need health surveillance for asthma and dermatitis.

Spray coating a large casting (open workshop)

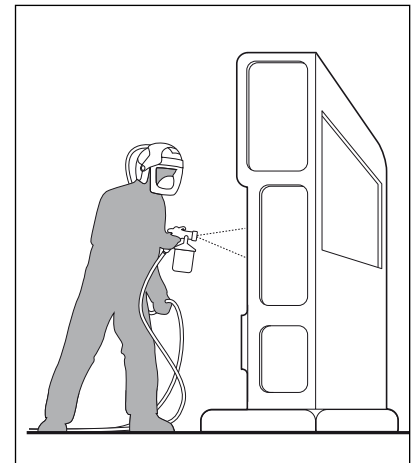
Control approach R RPE

Access and premises

- ✓ Provide good facilities - showers, washrooms, clothes storage and refreshment areas. Clean these areas every day.
- ✓ Identify all areas at risk of contamination by spray.
- ✓ Exclude all staff except the sprayers and a supervisor. Make sure everyone understands the rules.
- ✓ Place warning signs until spraying, curing and cleaning up has finished.

Equipment

- ✓ Decide if you can substitute a less harmful coating - discuss this with your suppliers and customers.
- ✓ Consider painting, spraying outdoors or spraying at the end of a work day.
- ✓ Segregate the job to minimise overspray into other work areas.
- ✓ Provide spray equipment that minimises the amount of mist.
- ✓ Prepare a written method statement. This should specify what respiratory protective equipment (RPE) and personal protective equipment (PPE) to use. You will normally need airline RPE.
- ✓ Specify the controls for mixing paint, loading the spray gun, for gun washing, and for decontamination.
- ✓ Ensure that users check their RPE works properly every time they use it.
- ✓ Forbid the removal of RPE for any reason (eg to check spray quality or colour match) within the spray area.
- ✓ Vacate the area after spraying and keep RPE on until outside the area.
- ✓ Keep unprotected staff out of the spray area until at least 30 minutes after spraying, to allow spray mist to disperse and coatings to cure.
- ✓ Open doors and windows after this period has elapsed, to help solvent fumes to disperse.



Special care

- ✓ Spraying two-pack isocyanate paints can cause asthma. Spraying chromate primers and coatings can cause cancer.
- ✓ Skin contact with chromate, isocyanate or epoxy coatings can cause dermatitis (itching, rashes and blistering).

Maintenance, examination and testing

- ✓ Follow instructions in maintenance manuals - keep equipment in effective and efficient working order.
- ✓ Visually check compressed airlines for signs of damage before use.
- ✓ Keep airline oil and water traps empty, and filters clean.
- ✓ Examine and test RPE thoroughly at least once every three months.
- ✓ Check the airflow and air quality to air-fed RPE at least once every three months.
- ✓ Keep records of these tests.
- ✓ If using isocyanate use biological monitoring to detect personal exposure for workers - see sheet G408.

Personal protective equipment (PPE)

- ✓ Ask your supplier to help you select the right PPE.

Respiratory protective equipment (RPE)

- ✓ Select RPE that suits the wearer, the job and the work environment.
- ✓ Air-fed RPE with an assigned protection factor (APF) of at least 40 is normally needed during and up to 30 minutes after spraying. See sheet R5. Consider using a clear film over the visor to help remove paint overspray.
- ✓ Make sure all RPE is properly fit-tested - get advice from your supplier.
- ✓ Keep RPE clean and store it away from dust.
- ✓ At the end of the job, the RPE should be the last item of PPE taken off.

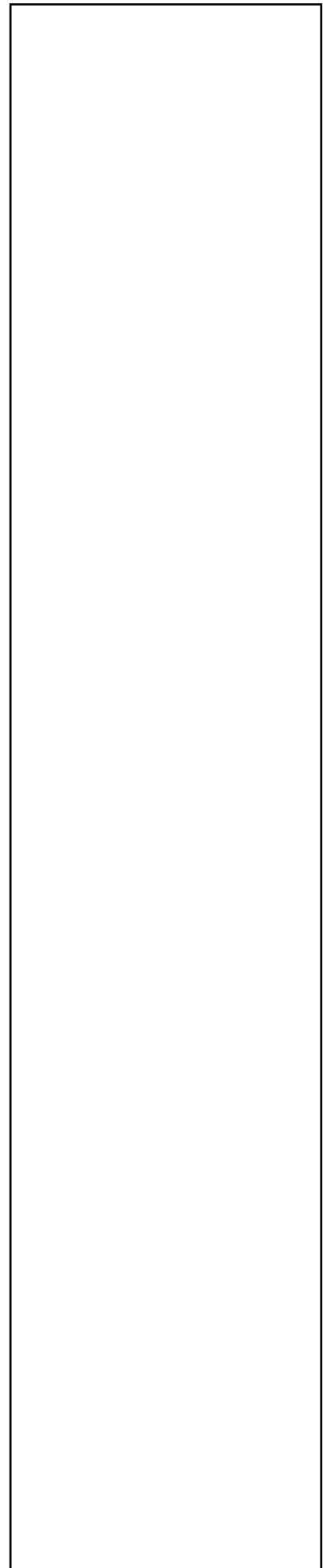
Other protective equipment

- ✓ Provide disposable hooded coveralls and chemical protective gloves or single-use nitrile gloves.
- ✓ Coated gloves with a knitted liner can be faulty and leak. Try to avoid this type of glove.
- ✓ Throw away single-use gloves every time they are taken off.
- ✓ Skin creams are important for skin condition. They also help in washing contamination from the skin. After work creams help to replace skin oils.

Caution: 'Barrier creams' do not create a full barrier.

Health surveillance

- ✓ You need health surveillance for asthma if a product is labelled R42 (may cause sensitisation by inhalation). There is a chance of asthma developing even with good controls in place. See sheet G402.
- ✓ You need health surveillance for dermatitis if a product is labelled R43 (may cause sensitisation by skin contact). See sheet G403.
- ✓ Consult an occupational health professional. See 'Useful links'.



Cleaning and housekeeping

- ✓ Deal with spills immediately. Absorb liquid spills with granules and decontaminate according to the method in the safety data sheet.
- ✓ Decontaminate wipes before disposal.
- ✓ Keep lids on containers when they are not being filled or emptied.
- ✓ Dispose of wastes safely.

Training and supervision

- ✓ Tell your workers about the product hazards - these are listed in the safety data sheet.
- ✓ Working in the right way and using the controls correctly is important for exposure control. Train and supervise workers. See sheet FDO.

Further information

- *Respiratory protective equipment at work: A practical guide* HSG53 (Third edition) HSE Books 2005 ISBN 0 7176 2904 X
- *Preventing asthma at work. How to control respiratory sensitisers* L55 HSE Books 1994 ISBN 0 7176 0661 9
- *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
- *Permit-to-work systems* Leaflet INDG98(rev3) HSE Books 1997 (single copy free or priced packs of 15 ISBN 0 7176 1331 3)
- For environmental guidelines see sheet FDO

Useful links

- 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

- Has the area been vacated and warning signs put up?
- Check that your RPE works properly every time you use it.
- Look for signs of leaks, wear and damage.
- If you find any problems, tell your supervisor. Don't just carry on working.
- Never remove your RPE or lift a ventilated visor for any reason, until you are well away from the work area.
- Co-operate with health surveillance.
- Use, maintain and store your PPE in accordance with instructions.
- Clear up and decontaminate spills as soon as possible and dispose of safely.
- Throw away single-use gloves every time you take them off.
- Never use solvents to clean your skin.
- 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.