



## Control approach 1



This guidance sheet is for employers including the self-employed and franchisees

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.

The isocyanate in two-pack products can cause asthma and dermatitis. Consider using isocyanate-free products.

Exposure to substances with the potential to cause occupational asthma should be prevented, or if that is not reasonably practicable, control exposure to prevent exposed workers from developing asthma. This applies to short-term high exposures as well as long-term exposures. If an individual develops occupational asthma, exposure must be controlled to prevent triggering further attacks. Suitable levels are likely to be well below any exposure limit.

Control approach 1 (general ventilation) is recommended to control isocyanate in mixing products.

Two-pack products may contain flammable solvent.

For environmental advice see Further information on back page.

# Isocyanate from mixing two-pack paint, etc

## General ventilation

# MR01

### Access

- ✓ Restrict access to trained staff who are under health surveillance.
- ✓ Keep members of the public away from all work with two-pack products.

### Design and equipment

- ✓ Designate a room for paint mixing. This may be the paint store. Wire in the room ventilation with the lighting circuit. You may need flameproof electrical fittings.
- ✓ Provide good general ventilation with a through draught (eg 10 air changes per hour).
- ✓ For cleaning up spills, fit a compressed air supply for respiratory protective equipment (RPE).
- ✓ Discharge cleaned, extracted air to a safe place outside the building, away from doors, windows and air inlets.
- ✓ Open cans and fill spray guns only inside the room.
- ✗ Don't store more than 50 litres of flammable liquid indoors. Use a flammables store.

### Maintenance

- ✓ Follow instructions in maintenance manuals.
- ✓ Keep equipment in effective and efficient working order.
- ✓ Repair faulty extraction systems immediately. Meanwhile, wear respiratory protective equipment (RPE).
- ✓ Keep airline oil and water traps empty, and filters clean.

### Examination and testing

- ✓ Noisy or vibrating fans can indicate a problem. Repair damage immediately.
- ✓ You need to know the manufacturer's performance specification to know if extraction is working properly.
- ✓ If this information isn't available, hire a competent ventilation engineer to determine its performance.
- ✓ Keep this information in your testing logbook.
- ✓ Keep records of all examinations and tests for at least five years.
- If everything is working properly, regular exposure measurement should not be needed. Use air monitoring to check the effectiveness of controls and biological monitoring to detect personal exposure for workers. Seek advice (see Further information).

### Cleaning and housekeeping

- ✓ Clean mixing equipment as soon as possible after use.
- ✓ Clean general workrooms once a week.
- ✓ Deal with spills immediately - absorb liquid spills with granules and decontaminate. This needs coveralls, a respirator and single-use gloves.

- ✓ Decontaminate contaminated wipes before disposal.
- ✓ Dispose of empty containers safely.
- ✓ Dispose of wastes safely.
- Decontamination: ask your product supplier or read the safety data sheet. For two-pack isocyanate paints, you can use a solution of sodium carbonate (washing soda) in water, 50g per litre. Leave the mixture to stand for several days.

## Personal protective equipment (PPE)

- ✓ Respiratory protective equipment (RPE) should not be needed if the extraction is designed correctly and working properly.
- ✓ RPE is needed for clearing up spills - use the same equipment as used for spraying.
- ✓ Keep RPE clean and store it in a clean place - not in the mixing area or booth.
- ✓ Chemical protective gloves are needed. Use nitrile gloves. Single-use gloves are suitable.
- ✓ Throw away single-use gloves every time you take them off.
- ✓ 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.

## Health surveillance

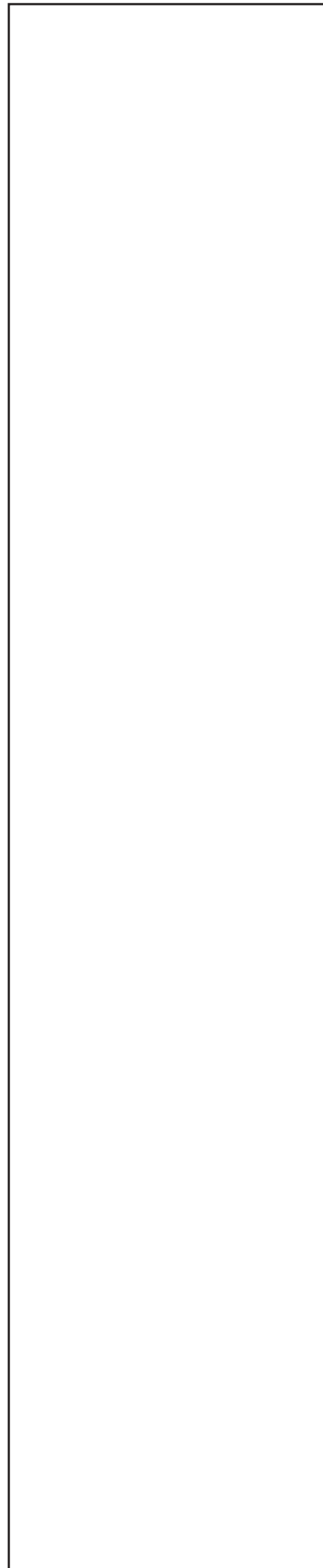
- ✓ Use health surveillance (see Control guidance sheet 402). There is a chance of asthma developing when using isocyanates, even with good controls in place.
- ✓ Use skin surveillance.
- ✓ Consult an occupational health professional (see Further information).

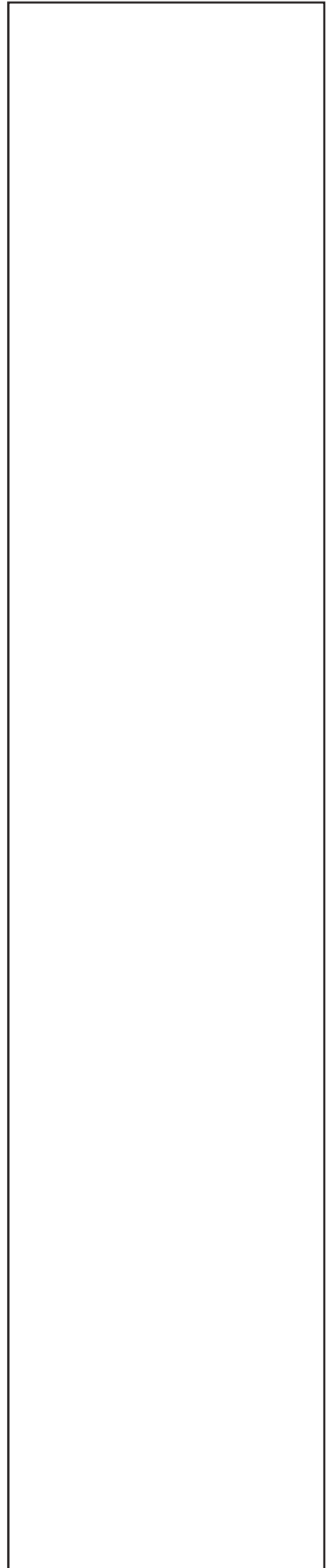
## Training

- ✓ Tell your workers:
  - if two-pack paints and products contain isocyanates;
  - that isocyanates can cause asthma and dermatitis; and
  - to avoid breathing in vapours when opening cans and mixing.
- ✓ Provide health and safety training. Include supervisors and managers. Ask your local Association of Colleges or your paint supplier for advice on training providers.
- ✓ 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 dealing with spills etc.
- ✓ Where you have to use strong hand cleaners, train workers to wash off residues with soap and water.

## Supervision

- ✓ Ensure that everyone using two-pack products is properly trained.
- ✓ Check that the extraction is working properly; PPE is being used properly; and the rules on personal hygiene are being followed.
- ✓ Ensure the health surveillance programme is being carried out for everyone that needs it.
- ✓ Check the proper procedures for decontamination are being followed.





## Further information

- *The selection, use and maintenance of respiratory protective equipment: A practical guide* HSG53 (Second edition) HSE Books 1998 ISBN 0 7176 1537 5
- *Safety in motor vehicle repair: Working with 2-pack isocyanate paints* INDG388 HSE Books 2003 (single copy free or priced packs of 10 ISBN 0 7176 2756 X)
- 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/](http://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](http://www.nhsplus.nhs.uk)
- Biological monitoring for isocyanates: contact the Health and Safety Laboratory, Broad Lane, Sheffield, S3 7HQ (tel: 0114 2892000 or e-mail [hslinfo@hsl.gov.uk](mailto:hslinfo@hsl.gov.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.
- Keep unprotected people away from the work area while you are using two-pack products.
- Is the extraction switched on and working properly?
- Look for signs of leaks, wear and damage.
- 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.
- Clear up and decontaminate spills immediately. Clear them up as soon as possible and dispose of safely.
- 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.



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