Isocyanate from cleaning two-pack-paint spray guns

**Containment**

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

**Design and equipment**
- ✓ Use spray equipment that minimises the amount of paint mist.
- ✓ Reduce exposure to isocyanate vapour as far as possible. Spray guns contain isocyanate residues. Clean guns etc only in dedicated enclosed gun washing equipment.
- ✗ Never spray solvent washings (to dry the gun) in the open workshop or the mixing room. Respiratory protective equipment (RPE) is needed for spraying washings into the extracted booth.

**Maintenance**
- ✓ Follow instructions in maintenance manuals.
- ✓ Keep equipment in effective and efficient working order.
- ✓ If the equipment is faulty, stop work until it is repaired.

**Examination and testing**
- ✓ At least once a week, check the seals for signs of damage.
- ✓ You need to know the manufacturer's performance specification to know if extraction is working properly.
- ✓ Keep this information in your testing logbook.
- ✓ Keep records of all examinations and tests for at least five years.
- ✓ Review records to see if there are failure patterns that make planning maintenance easier.
- ○ 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**
- ✓ Keep the washer and surrounding areas clean.
- ✓ 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.
- ✓ Dispose of solvent wastes through a chemical waste disposal contractor.
- ○ 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) may be needed for loading the gun washer if the gun contains isocyanate residues.
✓ 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
  ■ it is often the mist that you can’t see that gets breathed in.
Tell them the signs to watch out for.
✓ 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 equipment 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.
✓ 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

- 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
- 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)

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 any 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.
☐ Never spray gun washings in the mixing room or the open workshop, and use RPE.
☐ 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.