



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.

Get safety data sheets from your product supplier. Use these to identify the more dangerous chemicals, and less dangerous substitutes. Also check for flammability.

Fumes and mists can cause irritation to eyes, nose and breathing. Dry-ice fogs are heavier than air and can cause sunken areas (eg in orchestra pits) to become 'confined spaces'. Nitrogen is an asphyxiant gas (ie it can cause unconsciousness or suffocation).

Seek expert advice if you plan to use pyrotechnic devices (eg fireworks or thunderflashes).

General ventilation is the recommended approach.

Smokes and fogs in nightclubs and small venues

General ventilation

SR25

Workplace and access

- ✓ Ensure that only trained workers have access to chemical products in store. Keep the storage container locked.

Design and equipment

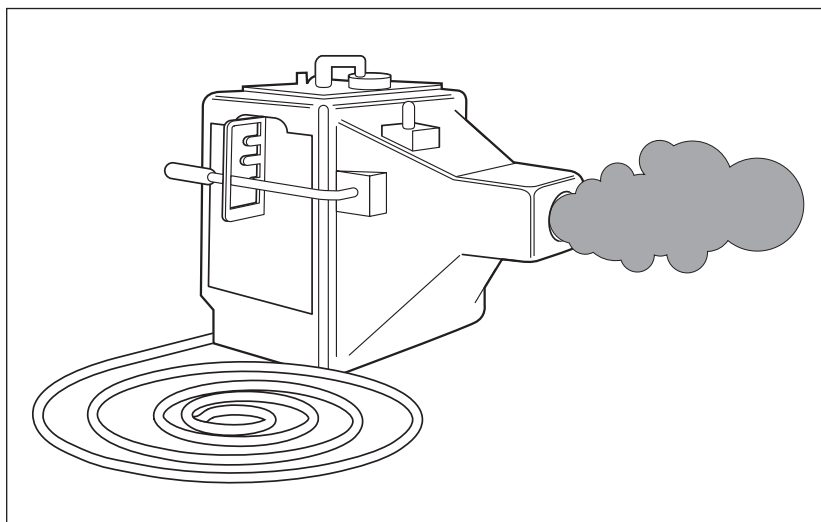
- ✓ Make provision to ventilate the fogged area swiftly when this becomes necessary.
- ✓ Use only branded, purpose-built machines for fog and mist effects.
- ✗ Never add anything to fog and mist fluids, or use contaminated fluids.
- ✓ Use fans to direct the effect into the desired area.
- ✗ Never re-use a concentrate container. Dispose of it safely or return it to your supplier.
- ✓ You need washing facilities for decontamination after handling products.

Procedures

- ✓ Check that dry-ice fog will not accumulate below stage or in escape routes.
- ✓ Use the minimum amount of smoke or mist, or dry ice, to create the desired effect.
- ✗ Don't allow anyone to lie down in dry ice fog. They are at risk of asphyxiation.
- ✓ Take care to avoid slippery residues building up from smoke and mist machines.

Special care

- Dry ice (solid carbon dioxide) and liquid nitrogen cause severe burns on skin contact. Carbon dioxide can cause headaches, dizziness and nausea. Either gas can, in high concentration, cause death by asphyxia.
- Mineral oil and glycol mists can cause skin irritation and, in high concentration, glycols can cause nosebleeds and mineral oils can irritate breathing.



Maintenance

- ✓ Follow instructions in maintenance manuals.

Personal protective equipment (PPE)

- ✓ Wear well-insulated impervious gloves for handling dry ice. Wear long insulated gauntlets and a face visor for handling liquid nitrogen.
- ✓ Wear single-use vinyl or nitrile protective gloves when using mineral oils or glycols. If you must use latex gloves, use only 'low-protein, powder-free' gloves.
- ✓ 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 advice

- ✓ Ask your workers to check their skin for dryness or soreness every six months. If these effects appear, check the proper use of skin creams and PPE.

Training

- ✓ Show your workers this sheet and check that they understand it.
- ✓ Tell them about the risks of using the product - see product labels or Section 15 of the safety data sheet from your product supplier.
- ✓ Ensure training includes how to keep exposures low, how to use and look after PPE and RPE, and what to do if something goes wrong.

Further information

- *Smoke and vapour effects used in entertainment* Entertainment Information Sheet ETIS3 HSE Books 1996
- 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/

Employee checklist

- Look for signs of leaks, wear and damage.
- If you find any problems, tell your supervisor. Don't just carry on working.
- Never clean your hands with concentrated cleaning products or solvents.
- Throw away single-use gloves every time you take them off.
- Check your skin regularly for dryness or soreness - tell your supervisor if these symptoms appear.
- Use skin creams provided as instructed.



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