

# OCE3

## Offshore COSHH essentials



This information will help offshore dutyholders (owners, operators and contractors) to comply with the Control of Substances Hazardous to Health Regulations 2002 (COSHH), as amended, to protect workers' health.

This guidance consolidates good control practice and reinforces existing knowledge with additional information.

It will help you carry out COSHH assessments, review existing assessments, deliver training and in supervising activities involving substances hazardous to health.

It is aimed at staff whose responsibilities include the management of substances hazardous to health on offshore installations (eg occupational health specialists, COSHH assessors, supervisors etc). It is also useful for trade union and employee safety representatives.

Following this guidance is not compulsory and you are free to take other action. But if you do follow this 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.

Also see essential information on the back of the sheet.

# Painting by spraying

## Control approach R

### Respiratory protective equipment

#### What this sheet covers

This sheet describes good practice for mixing and spraying solvent-based paint but does not apply to water-based paint. It covers the key points you need to follow to help reduce exposure to an acceptable level, as part of your COSHH assessment.

#### Hazards

- ✓ Exposure to solvent vapours may result in a number of health effects, eg the central nervous system, irritation of eye, skin and respiratory system.
- ✓ Reactive products (eg epoxy and isocyanate-containing paints) may cause asthma by breathing in paint mist. They can also cause dermatitis by skin contact.



#### Access

- ✓ Make a specific assessment where rope work or over-side work is required.
- ✓ Where possible, erect an enclosure or habitat.
- ✓ Otherwise, erect barriers and notices.
- ✓ Restrict access to authorised personnel.
- ✓ Where necessary post a stand-by or sentry to raise the alarm in an emergency.
- ✓ Where possible have a ventilated enclosure/habitat.

#### Storage

- ✓ Provide a well-ventilated, flameproof store with spill containment and spill clean-up kits.
- ✓ Segregate incompatible materials, and segregate waste.
- ✓ Minimise the amount of product stored.
- ✓ Keep lid on containers when not in use.
- ✓ Provide eyewash equipment close to the work site.
- ✓ Provide appropriate firefighting equipment.
- ✓ Label and segregate waste.

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## Equipment and procedures

### *Mixing and cleaning*

- ✓ Designate a room for paint mixing. This may be the paint store.
- ✓ Wire in the room ventilation with lighting circuit to provide good standards of general ventilation.
- ✓ Discharge extracted air outside the building, away from walkways and air inlets.
- ✓ Always open cans and mix paints inside the room.
- ✓ Clean mixing equipment as soon as possible after use.
- ✓ Spray guns contain paint residues. Clean them only in dedicated enclosed and extracted gun washing equipment.
- ✓ If this is not possible, use air-fed breathing apparatus for spraying washings in extracted booth or room with the extraction turned on.

### *Spray painting.*

- ✓ Provide 'compliant' spray guns that minimise paint mist.
- ✓ Measure the clearance time for the habitat (if provided).
- ✓ Set the habitat extraction running before spraying begins. Keep it running for at least the clearance time after spraying.
- ✓ Ensure that air-fed breathing apparatus is worn for spraying and that the users check it works properly every time they use it.
- ✓ Workers must keep their breathing apparatus in until they have left the habitat.

### *Respiratory protective equipment (RPE) – see OCM4*

- ✓ Provide air-fed CE-marked RPE with an assigned protection factor of at least 20. Use either an air-fed half-mask with a visor (LDM2) or an air-fed visor (LDH3). Provide dedicated connectors to prevent accidental connection to non-breathing lines, eg nitrogen.
- ✓ Provide a disposable cover to protect the visor from spray.

### *Other protective equipment*

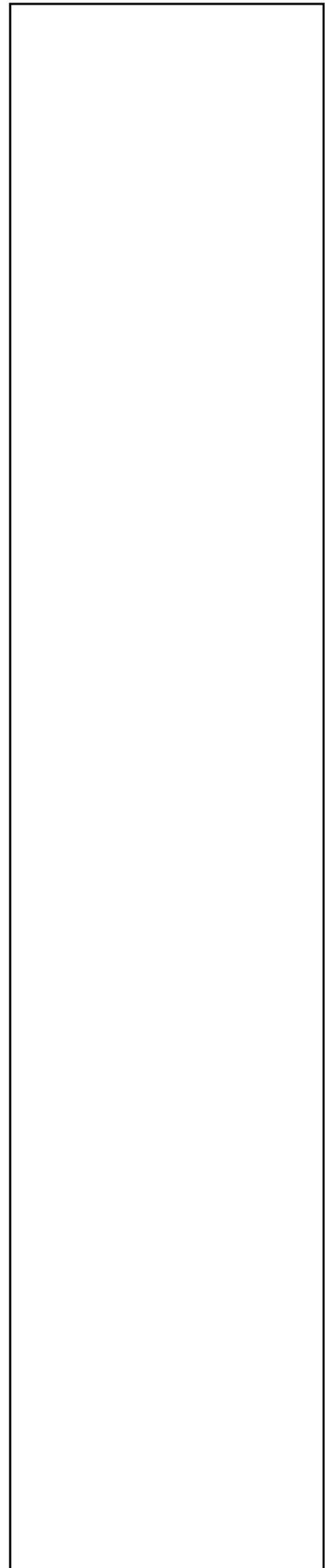
- ✓ Provide disposable coveralls. Discard these at the end of the shift.
- ✓ Provide chemical resistant gloves, eg nitrile. Single-use gloves are preferred.
- ✓ Tell workers to discard single-use gloves every time they take them off.

**Caution:** 'Barrier creams' or 'liquid gloves' do not provide a full barrier and should not be used as an alternative to properly selected protective gloves.

## Maintenance, examination and testing

### *Checking and maintenance*

- ✓ Keep all equipment in effective working order – follow instructions in user manuals.
- ✓ Before use, check the air lines for supplied-air breathing apparatus.
- ✓ At least once a week, check that airflow indicators work properly.
- ✓ At least once a month, check that the gun cleaning equipment is working properly.
- ✓ Keep this information in your testing logbook.



### Examination and testing

- ✓ Extraction systems require statutory ‘thorough examination and testing’ (TEXT).
- ✓ Get a competent ventilation engineer to perform the TEXT at least once every 14 months (see HSE publication HSG258).
- ✓ Carry out all actions arising from the TEXT.

### RPE

- ✓ Examine and test RPE thoroughly at least monthly and infrequently used RPE at least three monthly. Replace worn parts.
- ✓ Check the airflow and air quality to air-fed RPE at least once every three months, or before use. Check in-line filters.
- ✓ Ensure that breathable air compressors take in clean air.

### Records

- ✓ Keep records of all examinations and tests for at least five years.

### Exposure monitoring

- ✓ Prove that you are using the right level and type of RPE – use monitoring records or carry out personal air monitoring.
- ✓ Biological monitoring is needed to monitor RPE effectiveness when spraying isocyanate-based products.

### Cleaning and housekeeping

- ✓ Clean the mixing and spraying equipment with any extraction turned on.
- ✓ Clean the area after the task, or as specified in working procedures.
- ✓ Keep a small spill clean-up kit nearby during painting.
- ✓ Deal with spills immediately – use air-fed RPE for large spills of hardener.

### Waste

- ✓ Decontaminate all epoxy and isocyanate residues, including empty hardener containers. The safety data sheet should give a decontaminant recipe.
- ✓ Dispose of waste paint and thinner as ‘hazardous waste’

### Personal decontamination and skin care

- ✓ Provide warm water, mild skin cleansers, nailbrushes, and soft paper, fabric towels or hot air for drying. Avoid abrasive cleansers.
- ✓ Instruct workers in how to clean their skin effectively.
- ✓ Tell workers to wash hands before every break.
- ✓ Provide pre-work skin creams, which will make it easier to wash dirt from the skin, and after-work creams to replace skin oils.

**Caution:** Never use thinners to clean skin.

### Health surveillance

- ✓ Conduct high-level health surveillance for asthma where products are classified with a ‘respiratory sensitiser’ hazard.
- ✓ Conduct low level health surveillance for dermatitis involving skin checks by suitably trained responsible person.

## Employee checklist

- Are you sure about safe work procedures?
- Is the stand-by person in place?
- Is the equipment in good condition and working properly?
- Is the extraction working?
- Is your respirator working properly? Check it every time.
- Do you have a spill clean-up kit handy?
- Look for signs of wear and damage to equipment.
- If you find any problem, get it fixed. Don't just carry on working.
- Co-operate with health surveillance.
- Discard single-use gloves every time you take them off. Discard other gloves at the end of the shift.
- Wash hands before eating, drinking or using the lavatory.

### Training and supervision

- ✓ Provide supervision – ensure that safe work procedures are followed.
- ✓ Tell workers, including maintenance workers, what the hazards and risks are.
- ✓ Explain the early signs of asthma and dermatitis.
- ✓ Training includes toolbox talks on:
  - following safe working procedures;
  - how to use equipment properly;
  - how to check that extraction is working properly;
  - how to use RPE and check that it is working;
  - how to clean up spills correctly; and
  - what to do if something goes wrong.
- ✓ Involve managers and supervisors in health and safety training.

### Essential information

OCE0 *Advice for managers*

OCM2 *Local exhaust ventilation (LEV)*

OCM3 *Personal protective equipment (PPE)*

OCM4 *Respiratory protective equipment (RPE)*

OCM5 *Emergency planning*

OCM7 *Health surveillance*

### Other hazards

- Substances harmful to the marine environment

### Further information

*Respiratory protective equipment at work: A practical guide* HSG53 (Third edition)  
HSE Books 2005  
ISBN 978 0 7176 2904 6  
[www.hse.gov.uk/pubns/books/hsg53.htm](http://www.hse.gov.uk/pubns/books/hsg53.htm)

*Controlling airborne contaminants at work: A guide to local exhaust ventilation (LEV)*  
HSG258 HSE Books 2008  
ISBN 978 0 7176 6298 2  
[www.hse.gov.uk/pubns/books/hsg258.htm](http://www.hse.gov.uk/pubns/books/hsg258.htm)

*Urine sampling for isocyanate exposure measurement*  
G408 [www.hse.gov.uk/pubns/guidance/g408.pdf](http://www.hse.gov.uk/pubns/guidance/g408.pdf)

*Workplace exposure limits EH40*  
[www.hse.gov.uk/coshh/table1.pdf](http://www.hse.gov.uk/coshh/table1.pdf)

You can find the full Offshore COSHH essentials series at [www.hse.gov.uk/coshh/index.htm](http://www.hse.gov.uk/coshh/index.htm)

**This guidance was developed by representatives from the UK offshore oil and gas industry and trade unions, with HSE.**