

OCE7

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.

Pigging operations

Control approach R

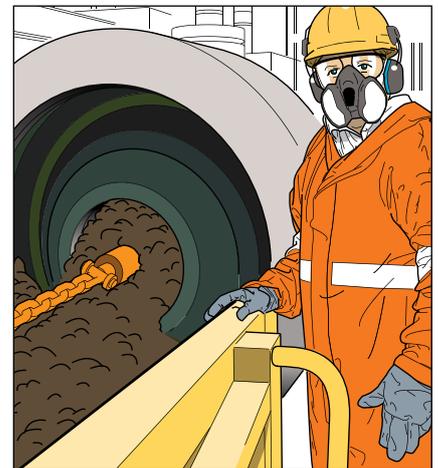
Respiratory protective equipment

What this sheet covers

This sheet describes good practice for control of exposure in pigging operations. It covers the key points you need to follow to help reduce exposure to an acceptable level, as part of your COSHH assessment.

Hazards

- ✓ Residues from pigging operations can contain solid waxes, condensates and gases. These can include hazardous substances such as:
 - BTEX (benzene, toluene, ethyl benzene and xylenes);
 - hydrogen sulphide (see OCE6);
 - NORM (naturally occurring radioactive material).
- ✓ The workplace exposure limit (WEL) for benzene is 1 ppm (8-hour time-weighted average (TWA)).
- ✓ The WELs for H₂S are 5 ppm (8-hour TWA) and 10 ppm (15-minute TWA).



Access

- ✓ Restrict access to authorised personnel.
- ✓ Prevent entry by any worker into the receiver.
- ✓ Provide eyewash equipment and an emergency shower close to the work site.
- ✓ Erect barrier and notices.

Equipment and procedures

Control equipment

- ✓ Provide fixed and portable hydrocarbon detectors in the area.
- ✓ Provide H₂S specific detectors.
- ✓ Provide a benzene-specific monitor.
- ✓ Provide a fully enclosed receiver (trap) to isolate the pig or sphere in a well-ventilated area.
- ✓ Ensure that displaced vapours vent to a safe place or to a vapour recovery system.
- ✓ Ensure that drains are sloped to prevent residues building up, and covered to minimise vapour releases.

- ✓ See 'Cleaning and housekeeping' section below if this is done on site.

Control procedures

- ✓ Fully depressurise and vent the receiver before opening the door.
- ✓ Allow five minutes for gases and mists to clear after opening: keep clear.
- ✓ Monitor the air for benzene and H₂S after venting.

Personal protective equipment (PPE) – see OCM3

- ✓ Ensure portable/personal alarms are worn.
- ✓ Ensure that all items of PPE are compatible

Respiratory protective equipment (RPE) – see OCM4

- ✓ Where necessary for pig or sphere removal and cleaning, provide CE-marked RPE with an assigned protection factor of at least 10 for vapour.

Other protective equipment

- ✓ Provide disposable coveralls (type 3) with a hood.
- ✓ Provide clean chemical-resistant gloves, eg nitrile, and new gloves when these are damaged.

Maintenance, examination and testing

Checking and maintenance

- ✓ Make and follow schedules for preventative maintenance of plant and monitoring equipment.
- ✓ Before each use, check that portable/personal gas monitors are fully charged and working properly.

Examination and testing – RPE

- ✓ Examine and test RPE thoroughly at least monthly and infrequently used RPE at least three monthly. Replace worn parts.

Records

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

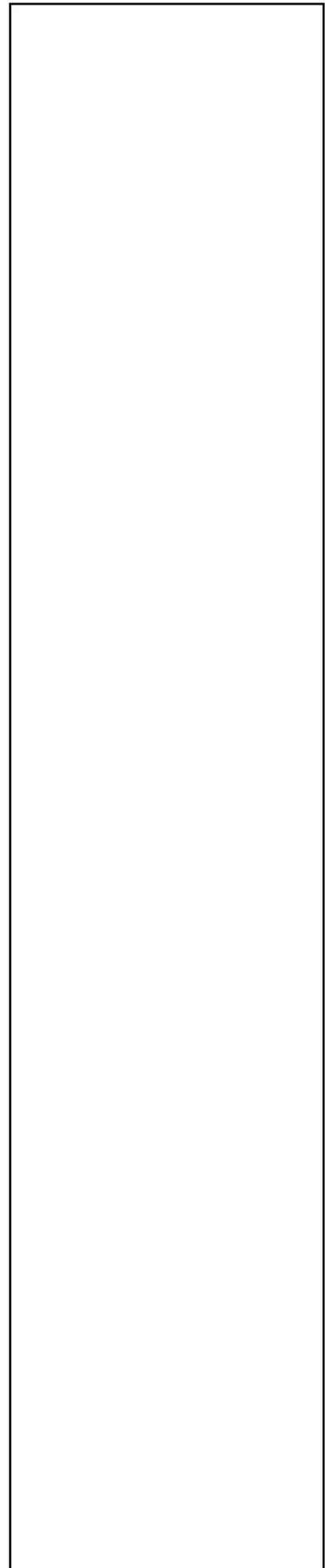
Exposure monitoring

- ✓ Prove that you are using the right level and type of RPE – use monitoring records or carry out personal air monitoring.
- ✓ Use personal monitoring results to decide if you need to carry out biological monitoring for benzene.
- ✓ Test wax for NORM, for safe disposal.

Cleaning and housekeeping

Areas

- ✓ Provide a dedicated, bunded, well-ventilated and drained cleaning bay for pig or sphere cleaning.
- ✓ Keep receiver bays clean of residual oils and waxes by low-pressure washing.



- ✓ Provide a full set of PPE for low-pressure washing: RPE, slicker suit, gloves, boots, visor and goggles.

Waste

- ✓ Residues are 'hazardous waste'. Label containers clearly – include a UN number where appropriate. Store and dispose of waste safely.

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.

Health surveillance

- ✓ Conduct low-level health surveillance for dermatitis involving skin checks by suitably trained responsible person.

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 dermatitis.
- ✓ Training includes toolbox talks on:
 - how to use equipment properly;
 - how to use the benzene monitor;
 - how to use the right safe working procedures;
 - how to react to alarms and evacuate safely; and
 - what to do if something goes wrong.
- ✓ Involve managers and supervisors in health and safety training.

Essential information

OCE0 *Advice for managers*

OCM3 *Personal protective equipment (PPE)*

OCM4 *Respiratory protective equipment (RPE)*

OCM6 *Exposure monitoring*

OCM7 *Health surveillance*

ORE1 *Breaking containment (NORM)*

Employee checklist

- Is your portable/personal alarm fully charged and working properly?
- Look for signs of leaks, wear and damage before every job.
- If you find any problem, get it fixed. Don't just carry on working.
- Co-operate with health surveillance.
- Wash hands before eating, drinking or using the lavatory.

Other hazards

- Hydrogen sulphide (H₂S)
- NORM (naturally occurring radioactive material)
- Musculoskeletal disorders – manual handling awkward heavy items in restricted places
- Flammability
- 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

Workplace exposure limits EH40
www.hse.gov.uk/coshh/table1.pdf

You can find the full Offshore COSHH essentials series at
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.