

G309

Tanker filling and emptying (solids)

COSHH essentials



The Control of Substances Hazardous to Health Regulations 2002 (COSHH) require employers to ensure that exposure is prevented or, where this is not reasonably practicable, adequately controlled. This guidance gives practical advice on how this can be achieved by applying the principles of good practice for the control of exposure to substances hazardous to health, as required by COSHH.

It is aimed at people whose responsibilities include the management of substances hazardous to health at work (eg occupational health specialists, anyone undertaking COSHH assessments, supervisors and is also useful for trade union and employee safety representatives). It will help you carry out COSHH assessments, review existing assessments, deliver training and supervise activities involving substances hazardous to health.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the 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.

See Essential information near the end of the sheet.

Control approach 3 Containment

What this sheet covers

This sheet describes good control practice when filling and emptying tankers carrying solids.

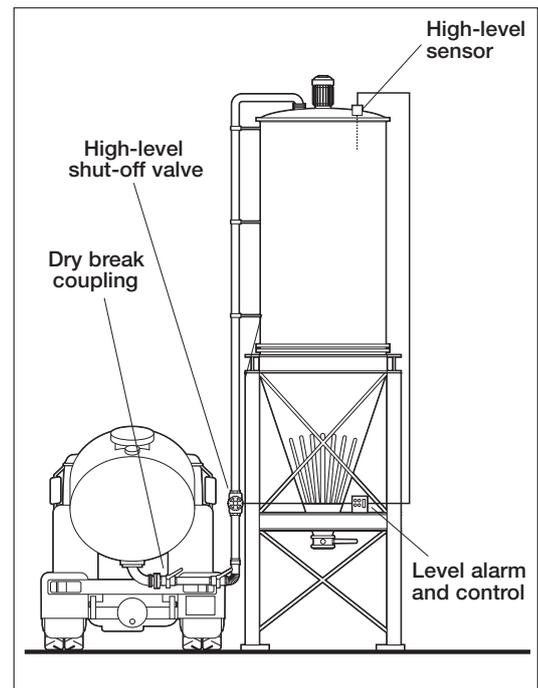
It covers the key points you need to follow to reduce exposure to an adequate level. Follow all the points, or use equally effective measures.

Access to work area

- ✓ Allow access to authorised and appropriately trained people only.

Equipment and procedures

- ✓ Clearly label the work area and equipment.
- ✓ Ensure the silo is designed and constructed for the material it will contain.
- ✓ Provide arrangements to allow clean, preferably dry, air to enter the silo as material is drawn off.
- ✓ Provide seals on access hatches.
- ✓ Provide a valve to control the rate of discharge from the base of the silo.
- ✓ Ensure the valve connection to the transfer pipe is dust tight.
- ✓ Consider means of dealing with blockages and bridging within the silo. Whenever possible, these should be cleared from outside the silo.
- ✓ Take precautions to avoid overfilling of the silo, eg high-level indicator, load cells.
- ✓ Provide dust filtration for air displaced from the silo during filling, and discharge extracted air to a safe place away from doors, windows and air inlets.
- ✓ Consider the need for explosion relief for combustible solids, and ensure that equipment is appropriately earthed.
- ✓ Design the silo to prevent over-pressurisation.
- ✓ Design the closed system to allow easy maintenance.
- ✓ A drive off procedure is required.



Respiratory protective equipment (RPE)

- ✓ RPE shouldn't be needed for routine operations.
- ✓ RPE may be needed for some cleaning and maintenance activities, eg cleaning up spills.

Personal protective equipment (PPE)

- ✓ Ask your supplier to advise on suitable protective equipment.
- ✓ Chemicals identified by COSHH Essentials as **hazard group S** can damage the skin and eyes, or enter the body through the skin and cause harm. Check the safety data sheets to see what PPE is needed.
- ✓ Provide separate storage for clean and contaminated PPE.

Personal decontamination

- ✓ Provide warm water, mild skin cleansers, and soft paper or fabric towels for drying. Avoid abrasive cleansers.
- ✓ Provide pre-work skin creams, which will make it easier to wash dirt from the skin.
- ✓ Provide after-work creams to replenish skin oils.

Caution: 'Barrier creams' are not 'liquid gloves' and they do not provide a full barrier.

Maintenance, examination and testing

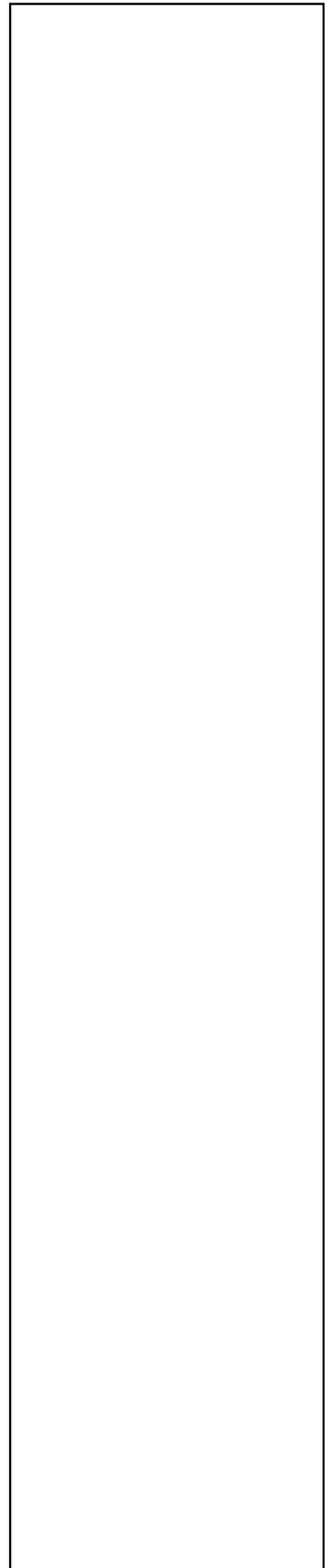
- ✓ Keep all equipment used for the task in effective working order. Maintain it as advised by the supplier or installer.
- ✓ Follow any special procedures before any systems are opened or entered, eg purging or cleaning. Don't forget you may need PPE for some maintenance tasks.
- ✓ Visually check all equipment at least once a week for signs of damage or faults.
- ✓ For local exhaust ventilation (LEV) systems, a user manual or log book is helpful in setting out the frequency of checking, maintenance or parts replacement.
- ✓ For LEV systems with no user manual or log book, you may need the help of a competent person. They can determine the performance needed for adequate control.
- ✓ Keep records of all examinations for at least 5 years.

Caution: You may need to use permit-to-work procedures.

- ✓ LEV systems require a statutory 'thorough examination and test' (TExT).
- ✓ Get a competent person to perform the TExT at least every 14 months.
- ✓ HSG258 provides more detailed information on LEV systems and legal and competence requirements.

Cleaning and housekeeping

- ✓ Clean work equipment and the work area daily. Clean other equipment and the workroom regularly – at least once a week.
- ✓ Deal with spills immediately (ask your product supplier or follow the safety data sheet instructions).
- ✓ Dispose of hazardous wastes safely.



Caution: Never allow the use of brushes or compressed air for removing dust from skin and clothing. Avoid the use of brushes or compressed air for removing dust from surfaces or from inside machinery.

Training and supervision

- ✓ Provide supervision – ensure that safe work procedures are followed.
- ✓ Tell workers about the hazards associated with their work.
- ✓ Involve managers and supervisors in health and safety training.

Essential information

General storage of solids and liquids COSHH Guidance Sheet G101
HSE Books 2015 www.coshh-essentials.org.uk/assets/live/g101.pdf

General advice on chemicals causing harm via skin or eye contact
COSHH Guidance Sheet S100 HSE Books 2015
www.hse.gov.uk/pubns/guidance/s100.pdf

Selection of personal protective equipment COSHH Guidance Sheet S101
HSE Books 2015 www.hse.gov.uk/pubns/guidance/s101.pdf

Further information

Controlling airborne contaminants at work: A guide to local exhaust ventilation (LEV) HSG258 HSE Books 2011
www.hse.gov.uk/pubns/books/hsg258.htm

You can find the full COSHH essentials series at
www.hse.gov.uk/coshh/essentials/index.htm

Occupational Safety and Health Consultants Register www.oshcr.org/

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

Employee checklist

- Make sure any ventilation system is switched on and working.
- Clear bridges/blockages from outside the silo. A 'permit to work' system will be required for entry into the silo.
- Ensure barriers and warning signs are in position.
- Look for signs of leaks, wear and damage before every job.
- If you find any problems, tell your supervisor. Don't just carry on working.
- Wash your hands before eating, drinking, smoking, using the lavatory and after work.
- Clear up spills immediately. For liquids, contain or absorb spills with granules or mats. For solids, use vacuum or wet cleaning.
- Use, maintain and store any PPE provided in accordance with instructions.
- Don't use solvents to clean your skin.

© Crown copyright If you wish to reuse this information visit www.hse.gov.uk/copyright.htm for details. First published 10/03