HSE
Health and Safety Executive

CN0 Advice for managers

COSHH essentials in construction: Silica

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.

Introduction

HSE have produced these advice sheets to help employers assess and control risks from hazardous substances in the workplace. For some common tasks the sheets take into account the health hazards (and exposure potential) of substances used or produced to identify an approach appropriate to control the risks.

The CN series describes good practice for controlling exposure to silica dust in the construction industry. The sheets cover the key points you need to follow to reduce exposure to an adequate level. Follow all the points, or use equally effective measures to comply with workplace exposure limits (WELs).

CN1	Scabbling or grinding
CN2	Chasing with hand-held power tools
CN3	Drilling with hand-held rotary power tools
CN4	Crushing and screening demolition material
CN5	Small scale clearing of rubble, dust and debris
CN6	Cutting blocks, paving and kerbstones with a cut-off saw
CN7	Abrasive blasting
CN8	Diamond coring/hole cutting
CN9	Breaking in enclosed spaces

What the sheets cover

Reducing exposure to an adequate level always involves a mixture of equipment and ways of working. This means employers should:

- choose the most effective and reliable control measures;
- make sure they are used properly by instructing, training and supervising workers;
- use regular maintenance to make sure control measures keep on working;
- check and review all elements of control measures regularly for their continued effectiveness.

Each sheet gives advice on how to achieve this for a particular task.

Hazards

Silica dust is a hazardous substance. The dust can be very fine and if it gets deep into the lungs, it can cause serious lung diseases like:

- lung cancer;
- silicosis;
- chronic obstructive pulmonary disease (COPD).

These diseases cause permanent disability and early death. The risk is often from exposure over many years. You may not notice symptoms for a long time. Each exposure to dust during this time adds up with lungs and airways getting progressively more and more damaged. Unfortunately, by the time you do notice, the damage is often done. These diseases can be made worse by smoking.

Silica is only a risk once it forms fine respirable dust. The greater the level of dust in air, the higher the risk. High dust levels are caused by one or more of the following:

- Task – high energy tools, such as cut-off saws, grinders, wall chasers and grit blasters can produce a lot of dust in a very short time. Dry sweeping can make a lot of dust when compared to vacuuming or wet brushing.
- Location – the more enclosed a space, the more the dust will build up. However, do not assume that levels will be low when working outside with high energy tools.
- Time – the longer the time dust is created the more dust there will be.
- Frequency – regularly doing the same work day-after-day increases the risks.

The table below gives typical amounts of silica in common construction materials.

sandstone, gritstone, quartzite, flint	more than 70%
concrete, mortar	25% to 70%
tile	30 to 45%
slate	up to 40%
granite	up to 30%
brick	up to 30%
basalt, dolerite	up to 5%
limestone, chalk, marble	up to 2%

How to use the sheets

- Consider the processes/tasks and hazardous substances in your workplace.
- Look for opportunities to substitute with less hazardous materials.
- Examine the advice sheets for each of the tasks.
- Examine the essential information sheets listed on each advice sheet.
- Compare operations in your workplace with recommendations in the advice sheets for all of the relevant tasks.
- Record your findings (this forms part of your risk assessment).
- Record any actions you need to take covering: issues identified, planned actions, target completion date, person responsible, status of any issues, and a review of effectiveness.

- Keep a record of your actions to prevent exposure of workers to hazardous materials.

You may have to change old working practices or spend money on new controls. Decide how best to make any changes required 'across the board'. If you are in doubt, seek expert help, don't give up! Ask your trade association, trade union or contact a consultant (see Further information).

Essential information

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

Health surveillance, monitoring and sampling sheets are available at www.hse.gov.uk/pubns/guidance/gseries.htm

Further information

For more information on construction dust risks and controls see www.hse.gov.uk/construction/healthrisks/

Construction dust Construction information sheet CIS36(rev2) HSE 2013 www.hse.gov.uk/pubns/cis36.htm

Controlling construction dust with on-tool extraction Construction information sheet CIS69 HSE 2013 www.hse.gov.uk/pubns/cis69.htm

Respiratory protective equipment at work: A practical guide HSG53 (Fourth edition) HSE Books 2013 www.hse.gov.uk/pubns/books/HSG53.htm

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

This document is available at: www.hse.gov.uk/pubns/guidance/cn0.pdf

This document contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

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