

MNO

COSHH essentials in
manufacturing: Silica

Advice for managers

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 and supervisors) It 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 from respirable crystalline silica (RCS) present in dry mineral powders used in the manufacturing industry.

The MN series of sheets describes good practice for the control of exposure to RCS in dry mineral powders, including silica flour, used in the manufacturing 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).

What the MN sheets cover

MN1	Weighing mineral powders containing silica
MN2	Withdrawn
MN3	Mixing mineral powders containing silica
MN4	Packing mineral powders containing silica – small packing operations

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;
- ensure they are used properly by instructing, training and supervising workers;
- ensure they keep on working by maintaining the control measures;
- 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.

RCS is also known as alpha-quartz, cristobalite or 'free silica', and can be wrongly labelled as 'amorphous silica'. All RCS is hazardous by inhalation as the 'respirable' dust, which is very fine and invisible under normal lighting, can get deep into the lungs.

The workplace exposure limit for RCS is detailed in HSE publication EH40/2005 Workplace Exposure Limits: www.hse.gov.uk/pubns/priced/eh40.pdf.

RCS dust is also abrasive and drying when in contact with skin, and can lead to contact dermatitis.

Processes involving the transfer of dry mineral powders containing crystalline silica, including silica flour, can generate dusts containing RCS. Resuspension of dust containing RCS from surfaces, including clothing, is a significant source of exposure even after the task has been completed, so cleaning and housekeeping are important.

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

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 visit <https://books.hse.gov.uk>
or <http://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.

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