

# G404

COSHH Essentials:  
General guidance

## Health surveillance for those exposed to respirable crystalline silica (RCS)

### Control approach 4: Special

This information will help employers (including the self-employed) comply with the Control of Substances Hazardous to Health Regulations 2002 (COSHH), as amended, to control exposure and protect workers' health. It is also useful for trade union safety representatives.

The sheet describes specialist advice on health surveillance for silicosis and chronic obstructive pulmonary disease (COPD) resulting from respirable crystalline silica (RCS) exposure.

It sets out what you should expect from a health surveillance provider.

Health surveillance for RCS related disease involves the performance of appropriate tests and identifying if your workers have symptoms such as:

- Shortness of breath
- Persistent coughing with or without phlegm
- Frequent or prolonged chest infections
- Wheezing.

Workers should also understand the importance of reporting these symptoms if they occur. A clear system should be in place for who they report these symptoms to.

### Introduction

- Silica is a natural substance found in most rocks, stone, sand and clay and in products such as bricks, concrete and artificial stone worktops.
- Potentially harmful dust can be created when you work with these products.
- Some of the dust generated is known as respirable crystalline silica (RCS). This dust is invisibly fine and can reach deep inside the lung. It can cause permanent lung damage before symptoms develop.
- Dust generated by working on stone containing a high level of crystalline silica (eg engineered resin-based stone) will contain high levels of RCS; workers may then be at risk of high dose exposure to RCS.
- Information on the approximate content of crystalline silica in some common types of stone, and other materials, can be found in COSHH essentials sheet: ST0 COSHH essentials sheets for stone workers: Silica - Advice for managers (<https://www.hse.gov.uk>).
- Significant exposure to RCS can cause silicosis, which is irreversible and may continue to worsen even after exposure stops.
- Exposure can also cause other serious diseases such as chronic obstructive pulmonary disease (COPD) and lung cancer.

### Silicosis

- The scarring of the lung tissue caused by RCS causes a loss of lung function, usually over a period of years. In the early disease stages there are often no symptoms. However, shortness of breath can develop which can eventually impact ability to walk even short distances.
- Acute silicosis is a rare life-threatening complication of short-term exposure to very large amounts of RCS.
- Workers with silicosis are also at an increased risk of developing tuberculosis, kidney disease and arthritis.

### Chronic obstructive pulmonary disease

- COPD is a long-term illness that develops gradually over several years. The lungs are permanently damaged making it difficult to breathe.

### High risk occupations

- These include quarrying, slate works, foundries, potteries, stone working, construction (when cutting or breaking stone, concrete or brick), worktop manufacturers and installers, and industries using silica flour to manufacture goods.

### What is health surveillance?

- Health surveillance is a risk-based scheme of repeated health checks for the early identification of ill-health caused by work eg silicosis.
- You should not use health surveillance instead of doing a risk assessment and using effective exposure controls.

- You should feed results from health surveillance into your risk management system.
- Where work-related lung disease due to RCS exposure is identified in a worker, you must review your risk assessment and controls, taking into account any advice given, for example, by an occupational health professional.
- Health surveillance is not the same as health promotion or health screening.

### Planning and preparation

Plan what you are going to do if a worker reports symptoms which may be due to RCS exposure. This includes:

- referring workers for further assessment of their symptoms by a suitable health professional eg qualified in occupational health;
- how workers diagnosed with work-related lung disease due to RCS exposure will be managed at work, such as reducing RCS exposure or working in an alternative role;
- ensuring your workers are aware of your plans.

### When health surveillance is required

- Health surveillance for silicosis must be considered for workers who are involved in high-risk occupations, including construction, foundry work, brick and tile work, ceramics, slate, manufacturing, worktop manufacturers and installers, quarries and stonework.
- Where workers are regularly exposed to RCS dust and there is a reasonable likelihood that silicosis may develop, health surveillance must be provided.
- Further examples of where health surveillance for silicosis may be appropriate include:
  - where there have been previous cases of work-related ill-health in the workplace;
  - where there is a reliance on respiratory protective equipment (RPE) as an exposure control measure for RCS; or
  - where there is evidence of work-related ill-health in the industry.

### What a suitable health surveillance scheme should look like

- You will need to involve an occupational health professional (doctor or nurse) who has the relevant competence, skills and experience for the health risks in your business.
- You should assess workers' respiratory health before exposure, but if not, as soon as possible after exposure starts (eg within six weeks) to provide a baseline.
- You must have ongoing assessments at appropriate frequencies. Your occupational health professional can advise you on how frequently you should do this (see Essential information).
- Health surveillance should involve an appropriate questionnaire, the performance of lung function testing and chest x-rays. Occupational health professionals should then interpret the health surveillance results for both individuals and groups of similarly exposed workers. This allows you to identify any need to revise your risk assessment, review exposure controls and where necessary move workers to alternative roles.

- Occupational health professionals should consider whether additional health surveillance is necessary, for example chest x-rays, to identify ill-health. This could be, for example, if there is evidence of significant overexposure to RCS at any time.
- You should ensure that your risk management system allows workers to report any symptoms that occur between planned health surveillance assessments. This could be to either your responsible person or occupational health professional.
- You must keep a health record for each worker under health surveillance and also encourage them to keep a copy of their results in case they change jobs.
- Your risk management system should ensure that concerns raised by employees are investigated and that any relevant sick leave data are taken into account. This can help highlight cases of silica-related disease and any issues with working practices.
- Further guidance on the performance of health surveillance can be found in HSE document 'Health surveillance for those exposed to respirable crystalline silica (RCS).' See Essential information.

### Record keeping for Health Surveillance

- You must keep a health record for each worker under health surveillance which includes:
  - the worker's name and address;
  - national insurance number;
  - products or process(es) they work on;
  - date exposure started and its frequency and duration;
  - what personal protective equipment (PPE) is used; and
  - the results of any health surveillance.
- These health records should be kept securely for at least 40 years from the date of the last entry.

### Essential information

Health surveillance for those exposed to respirable crystalline silica (RCS) Supplementary guidance for occupational health professionals  
<https://www.hse.gov.uk/pubns/priced/healthsurveillance.pdf>

HSG201: Controlling exposure to stone dust - Publications - HSE  
<https://www.hse.gov.uk/pubns/books/hsg201.htm>

INDG463 Control of exposure to silica dust

Stoneworkers – COSHH e-tool (<https://www.hse.gov.uk>)

### Further information

For further information visit <https://www.hse.gov.uk/> and search for 'health surveillance', 'occupational health' and 'silicosis and coal workers pneumoconiosis statistics in Great Britain'.

For information about health and safety visit <https://books.hse.gov.uk> or <https://www.hse.gov.uk>

This document is available at: <https://www.hse.gov.uk/pubns/guidance/> and <https://www.hse.gov.uk/coshh/essentials/> HSE priced publications are also available from bookshops.

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