

Silica Dust — Respirable Crystalline Silica:

Construction Client Silica
Awareness for Construction
Excellence (cSaFE) Toolkit



This Work is funded through Paul Dockerill Award of
The Chartered Institute of Building

Disclaimer

The content contained within this guide is the intellectual property of Dr Scott McGibbon and does not represent the views of the CIOB. While the information has been verified to the best of our ability, we cannot guarantee that there are no mistakes or errors. Should you have any questions regarding this report, please contact Dr Scott McGibbon.

Foreword

Clients play a pivotal role in driving best practice approaches to silica dust health and safety (H&S) in any construction project.

Being a construction client isn't just about creating the right building for the right price within the right time frame. It is also an opportunity to contribute to solving some of the inherent health risks associated with silica dust, especially during housing sector construction refurbishment works (i.e. repair, maintenance, retrofitting etc), within the social housing sector.

Regardless of the type of housing project, clients have ultimate responsibility for coordinating a complex web of silica dust exposure and control resources, in some cases relying on several specialist H&S silica dust consultants. With their projects potentially affecting thousands of householders, often involving a diverse supply chain, and with housing environments now functioning as both the environment we live and work in, silica dust has become a major determinant of our health and wellbeing. Climate change acts as a risk multiplier, exacerbating the health effects of environmental stressors and increasing the incidence of non-communicable diseases, such as cardiovascular diseases, cancers, chronic respiratory diseases, autoimmune diseases and renal diseases, particularly for vulnerable populations.

Successful silica dust exposure and control H&S depends on meticulous planning, rigorous management and good governance with, at its heart, an open, collaborative relationship between the client and their project team, including contractors and end users. The commitment to high-quality, rigorous H&S starts at the top. Sitting at the head of construction projects and with the most control over their direction and silica dust exposure and control resources, clients have a huge influence on not just their own projects but the H&S culture of the built environment in its entirety.

This Client Toolkit is primarily for construction clients running local authority housing refurbishment projects or programmes, but the principles apply equally to all clients regardless of project sector specificity (public and/or private).

You might work in the private or third sector – in utilities, in retail, in companies whose primary expertise is in the built environment, or in companies who exist for other purposes, but who nevertheless need to develop, maintain and repair built assets.

Either way, this toolkit is for you, especially if you are new to the process. It will help you to get the building blocks right from the start.

(Note that the guidance is not aimed at private domestic clients undertaking construction projects to adapt, repair, maintain or retrofit homes – a separate guide has been developed for these types of clients.)

The Client Toolkit has been developed by Dr Scott McGibbon, in consultation

with technical experts and input from the Chartered Institute of Building (CIOB). The aim is to help clients improve their understanding, awareness and management of the silica dust dangers, to support the reduction of the potential health risks and subsequent impacts and offer mitigation strategies.

Acknowledgements

Many people have been involved in the development and production of this Client Toolkit. This toolkit was funded by Chartered Institute of Building (CIOB) and supported by the convened CIOB Project Leadership team: Antonia Lanyiova and Rosalind Thorpe.

We would like to acknowledge the work of the CIOB Project Leadership and their invaluable contributions who, by recognising the risks posed to the housing sector's workforce (management and operatives), were responsible for facilitating access to key stakeholders (senior leadership and management) within the UK's Housing sector.

Finally, the author would like to thank everyone who contributed to this report and at the same time underline that any errors are that of the author.

Contents

3	Foreword
5	Acknowledgements
7	Purpose of the toolkit
8	Introduction
10	Health and Safety
18	Sustainability and ethical considerations
23	Bringing it all together
25	Additional reading
25	Images

Purpose of the toolkit

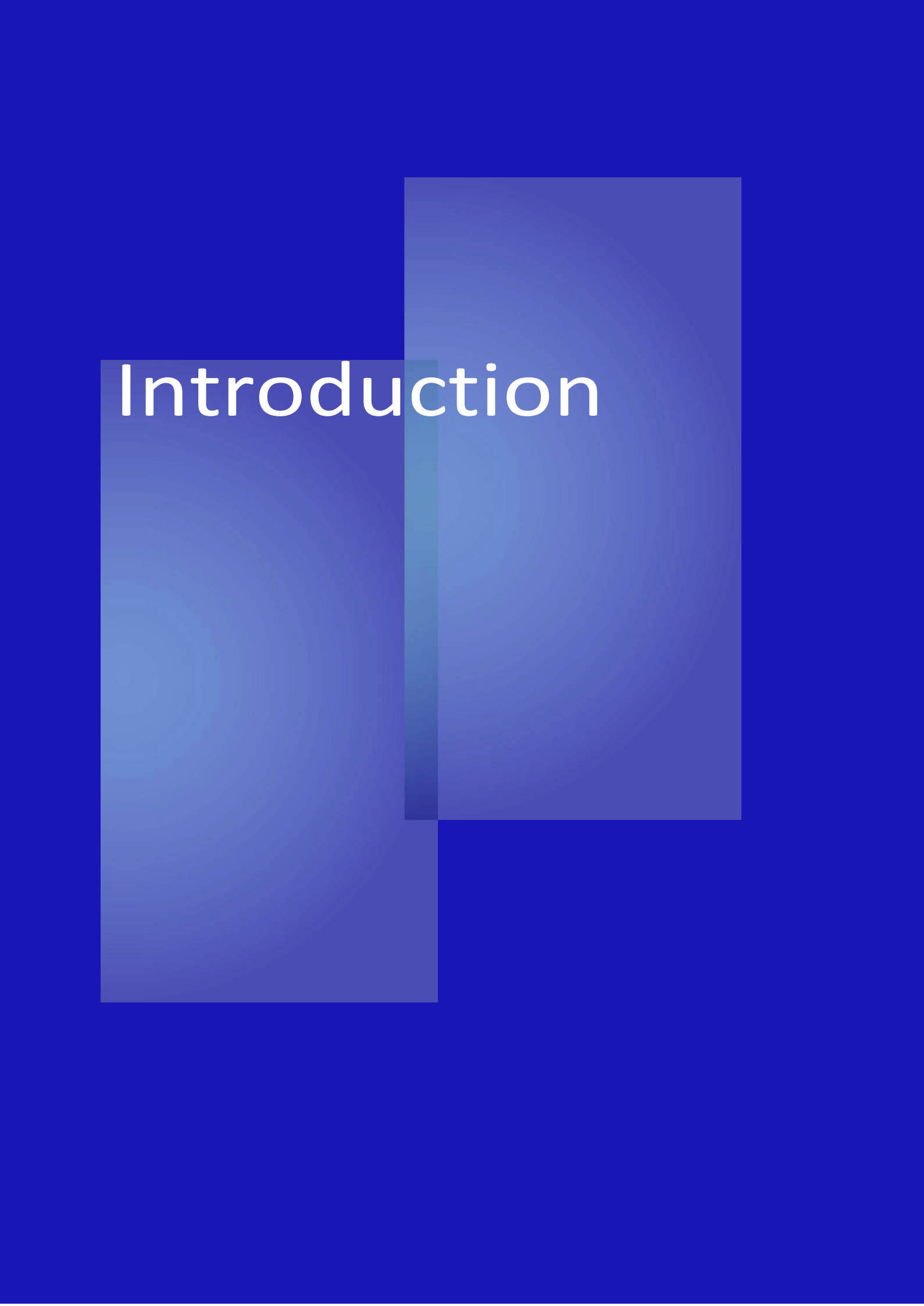
This toolkit is for you if you find yourself in the role of construction client. (Note, though, that it is not aimed at domestic construction clients who are building, altering, extending or renovating their homes.)

The toolkit explains how silica dust, in particular Respirable Crystalline Silica (RCS) control and exposure is generally mitigated and managed, and what to look out for along the way. The final section brings it all together in a handy stage-by-stage summary.

Drawing on CIOB members' experience, it highlights the things you can do to benefit your project. The focus is on best practice and guidance that can be applied within the commercial and regulatory context to improve H&S outcomes and create safer working environments.

The toolkit does not replace any legal or contractual health and safety obligations or documentation. It is strongly advised that you appoint H&S representatives when working in jurisdictions that are new to you and where relevant expertise cannot be provided from internal resources.

This toolkit is merely introductory. If you wish to learn more, consult the publications listed at the back of this toolkit, not least the raft of Health and Safety Executive (HSE) guidelines to ensure compliance with regulations and control workplace exposure to respirable crystalline silica dust (RCS).



Introduction

Introduction

This toolkit is for individuals in the pivotal role of construction client – you. You ensure that the construction project is set up so that it is carried out from start to finish in a way that adequately controls the risks to the health and safety of those who may be affected.

You play a pivotal role in ensuring health and safety throughout a construction project, as defined by the Construction, Design and Management Regulations 2015 (CDM 2015), the Health and Safety at Work etc. Act 1974, and the Management of Health and Safety at Work Regulations 1999. In addition, you need to consider The National Planning Policy Framework: Air Quality (revised 1 November 2019) (https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf).

As the person or organisation for whom the project is being carried out, you are responsible for setting the health and safety tone of the project and making critical decisions that ensure suitable arrangements are made for managing the H&S of the project, including appointing competent professionals such as the principal designer and principal contractor, particularly on projects involving more than one contractor. You must also ensure that sufficient time and resources are allocated at every stage to allow duty holders to carry out their responsibilities safely.

You are required to provide pre-construction information to designers and contractors, which include details about the site and existing structures, to enable the identification of hazards and risks. This information must be provided in good time to allow for proper planning and risk assessment. The client must also ensure that the project team is adequately resourced, and that health and safety advice is project specific.

The Health and Safety Executive (HSE) in the United Kingdom provides essential guidelines to ensure compliance with regulations and control workplace exposure to [Respirable Crystalline Silica Dust \(RCS\)](#). Complying with these guidelines is not just a legal requirement, it's a vital step in safeguarding workforce health and preventing silica dust related diseases.

With a potentially very large team assembled that may never have worked together before, maintaining focus on managing and mitigating exposure to silica dust requires good leadership and collaboration. Keeping on top of regulatory compliance, the programme, and the budget, all amid risk and socio-economic uncertainty, is challenging and demanding. Performing this responsibly and to best-practice standards is difficult. Yet, since you are its instigator and chief decision-maker, the management and mitigating success or failure depends to an important extent on you.



Health and Safety

Health and Safety

Clients are accountable for managing the project and making decisions about how health and safety matters will be managed.

Most of your decisions regarding health and safety require compliance with regulations and their accompanying guidance, including (in the UK) the Construction (Design and Management) Regulations 2015 (CDM 2015), the Health and Safety at Work etc. Act 1974, and the Management of Health and Safety at Work Regulations 1999.

This section focuses specifically on one key piece of legislation that impose duties and requirements on you for managing and mitigating exposure to silica dust in construction projects: [Control of Substances Hazardous to Health Regulations 2002 \(COSHH\)](#) which establishes what employers must do to protect workers from “hazardous substances” – a category which includes respirable crystalline silica dust (RCS). COSHH reinforces the duty to assess and manage RCS risks. It also sets the allowable silica dust exposure level, known as the Workplace Exposure Limit (WEL). Where the project is being undertaken in a jurisdiction outside of the UK, you should, of course, seek advice on how to comply locally.

3 vital elements for health and safety management involve:

- A Control of Substances Hazardous to Health Regulations (COSHH based) risk assessment which looks at what might cause harm and what is needed to avoid it and assesses the effectiveness of any control measures in place.
- A safe work method statement
- Employ the hierarchy of control

COSHH Regulations 2002

The main piece of legislation affecting the management of silica dust health and safety on construction projects is COSHH 2002. Regulated by the Health and Safety Executive (HSE), it aims to improve health and safety in the construction industry by helping you to combat the effects of dust inhalation. Under COSHH 2002, the law requires employers to either prevent, reduce, or, at the very least, control exposure to hazardous substances to prevent ill health in their workers or any other person(s). It is therefore an extremely broad yet detailed piece of legislation and will apply differently to every organisation and their projects.

Whereby, construction dust control regulations direct a three-pronged approach: assess, control and review, based on the following:

- Assessing the risks of dust exposure in the workplace
- Implementing effective control measures to mitigate these risks
- Regularly reviewing and updating strategies to ensure continued effectiveness
- Sensibly plan the work so the risks involved are managed from start to finish

- Cooperate and coordinate your work with others
- Have the right information about the risks and how they are being managed
- Communicate this information effectively to those who need to know
- Consult and engage with workers about the risks and how they are being managed

This model helps identify hazards, implement control measures, and ensure ongoing effectiveness of these controls.



Figure 1: Assess, Control, Review (ACR) model (source – Author)

Accountability

COSHH 2002 rules mandate that an employer must manage these hazardous materials and ensure that all precautions are adhered to and implemented. This is to prevent anyone from facing health risks from exposure to these substances, whether through their work or other means. It is a legal responsibility to keep employees safe from harm while they are working by following the advice laid out in the COSHH 2002. Failure to adhere to these responsibilities can put employees at risk and carries with it legal repercussions. Both individuals and organisations can be held to account by the Health and Safety Executive.

The Control of Substances Hazardous to Health Regulations 2002 (COSHH) and the Construction (Design and Management) Regulations 2015 (CDM 2015) are distinct pieces of legislation, but they are related in practice, particularly on construction sites. COSHH is not a subset of CDM 2015; rather, CDM 2015 requires that hazardous substances be included in the health and safety arrangements within the construction phase plan, meaning that the requirements of COSHH apply to workplaces covered by CDM 2015.

Construction sites must comply with both sets of regulations, with CDM 2015 mandating

that hazardous substances are managed as part of the overall health and safety plan. Therefore, while COSHH 2002 does not come under CDM 2015, it is a key component that must be addressed within the framework of CDM 2015 for construction projects.

Hence, people in the client role (e.g. you) have regulated duties, in terms of silica dust exposure and control management. Although you can engage a competent professional to carry out the day-to-day tasks associated with your duties, ultimate responsibility for carrying them out remains yours. You must ensure that a health and safety file (HSF) has been prepared by the CDM principal designer. HSF is only required for projects where a CDM principal designer has been appointed (i.e. on projects with more than one contractor).

The extent to which you delegate authority for compliance must be specified in the contracts between you and the people you appoint to help, such as a delivery partner, project manager or CDM advisor. It is also helpful to record these arrangements in a CDM Plan or Project Plan – as part of the PEP, perhaps – for assurance purposes.

External appointments

You must take reasonable steps to satisfy yourself that the CDM principal duty-holders on your project have the required silica dust management competences (i.e. skills, knowledge, experience and behaviours). In instances where they are an organisation, you must ensure the organisation has the capability to carry out the work in a way that secures health and safety. You must also check that your CDM principal duty-holders have enough experience and a good track record of managing silica dust risks involved in projects. ‘Organisational capability’ means having the policies and systems in place to set acceptable silica dust health and safety standards which comply with the law, and the resources and people in place to ensure the standards are delivered.

The Principles of COSHH

COSHH 2002 health and safety legislation requires employers to follow all procedures relating to silica dust that is hazardous to the health of anyone who comes to your premises.

Control measures must be implemented and monitored by a competent person with appropriate training.

Each construction site is different and will need its own processes. However, to ensure some standardisation that protects employees, there are some essential COSHH responsibilities. COSHH legislation outlines responsibilities for employers to ensure a safe working environment for everyone.

COSHH Regulations 2002 (as amended) provide the legal framework for managing exposure to silica dust in the UK, classifying respirable crystalline silica (RCS) as a hazardous substance and a carcinogen.

Employers are legally required to assess the risks associated with RCS exposure, implement control measures to prevent or adequately control exposure, and ensure that exposure levels remain below the Workplace Exposure Limit (WEL).

The WEL for RCS is set at $0.1\text{mg}/\text{m}^3$, averaged over an 8-hour workday, which is the maximum concentration considered safe. This limit is a legal requirement and exceeding it can result in liability for employers.

Employers' responsibilities

Employers have the responsibility to educate and inform staff on silica dust procedures, how to complete tasks safely and supply the correct equipment. Employers' responsibilities include the following:

- Keep regular observations for tasks that involve silica dust.
- Provide the right health surveillance, care and checks for staff, whilst in contact with silica dust.
- Supply RPE (Respiratory Protective Equipment) and PPE (Personal Protective Equipment), such as respiratory, eye and noise protection equipment. (Also check if the fit is appropriate for workers and whether any RPE/PPE needs replacement).
- Check employees are carrying out tasks safely and according to procedure. For example, are they wearing the correct RPE? Are they handling the substances correctly?
- Prevent and control employees' exposure to silica dust.
- Supplying adequate and relevant COSHH (silica dust) training to staff.
- Provide accident plans for when accidents happen.
- Provide COSHH risk assessments.

COSHH Risk Assessment

Just as with all potential hazards in the workplace, a core component of COSHH is carrying out a risk assessment to determine exactly what hazards are present. A COSHH risk assessment is a type of risk assessment that focuses on the hazards and risks from substances in your workplace. You conduct a risk assessment to minimise the risk to your staff.

Through this thorough look at your workplace, you can identify all situations, products, and processes that may cause harm. After you have identified these, it is time to evaluate how likely and severe the risk is and then decide what measures should be in place to ensure safe processes and prevent harm.

Performing COSHH risk assessments fall under the legal duties of an employer and is part of their '[Duty of Care](#)'.

As a client, you should be aware of the need for these assessments to be reviewed by your appointed CDM representatives:

1. Whenever you introduce a new silica dust-based substance to the workplace.
2. Whenever you change a silica dust-based substance.

In short, it involves assessing your place of work, noting down all the potentially hazardous silica dust-based substances contained within it, and where they might be encountered by employees ([see COSHH essentials in construction: Silica for managers](#)).

Five steps to a risk assessment

These are the steps for making a silica dust COSHH assessment and questions needed when assessing risks in your workplace

Step 1 - Identify Hazards

The first step of your COSHH risk assessment should be identifying where the different silica dust hazards are present in your construction project/site. You will find the information on the product labels or on the safety data sheet. At this stage, you should also consider the harmful silica dust substances that are a byproduct of your processes. For example, when cutting or grinding materials you will be producing dust.

Step 2 - Who might be harmed and how

At this stage, you should investigate all aspects of how your employees will be exposed. Are they breathing in the substances? Is it encountering their lungs, skin or eyes? Can it be swallowed?

You should be looking at how often and how long your employees are working with the substances. Consider how the hazards are affecting other people, and who else outside your construction project/site may be exposed (these might be accidental or if they are working with them for prolonged periods of time).

Step 3 - Evaluate the risks and decide on control measures

After completing the COSHH assessment you should evaluate the risks present and assess what control measures should be in place to better protect your employees.

There are a few questions you can ask to mitigate risks.

Do you need to use hazardous silica dust-based substances, or can you use a safer alternative?

Can you change your process to eliminate the substance or avoid using it?

Step 4 - Record findings

As you are completing the COSHH assessment process you should record the silica dust hazards you find, and what measures you put in place to limit exposure.

Step 5 - Monitor

You should ensure you monitor the results of your evaluation and your COSHH assessment, this will help you identify areas that still need to be improved or highlight new silica dust risks. This will help you ensure that your employees remain safe while they are working with potentially harmful chemicals and substances.

Identifying Hazard Control Options: The Hierarchy of Controls

The hierarchy of control is a structured framework used to prioritize and implement risk control measures in the workplace, aiming to eliminate or minimize hazards to protect workers from injury or illness.

It is typically represented as an inverted pyramid, with the most effective control measures at the top and the least effective at the bottom, guiding organisations to apply controls in order of decreasing effectiveness (Figure 1). Often, you'll need to combine control methods to best protect workers. For example, a local exhaust system (an engineering control) requires training, periodic inspections, and preventive maintenance (administrative controls). You will also need to consider feasibility.

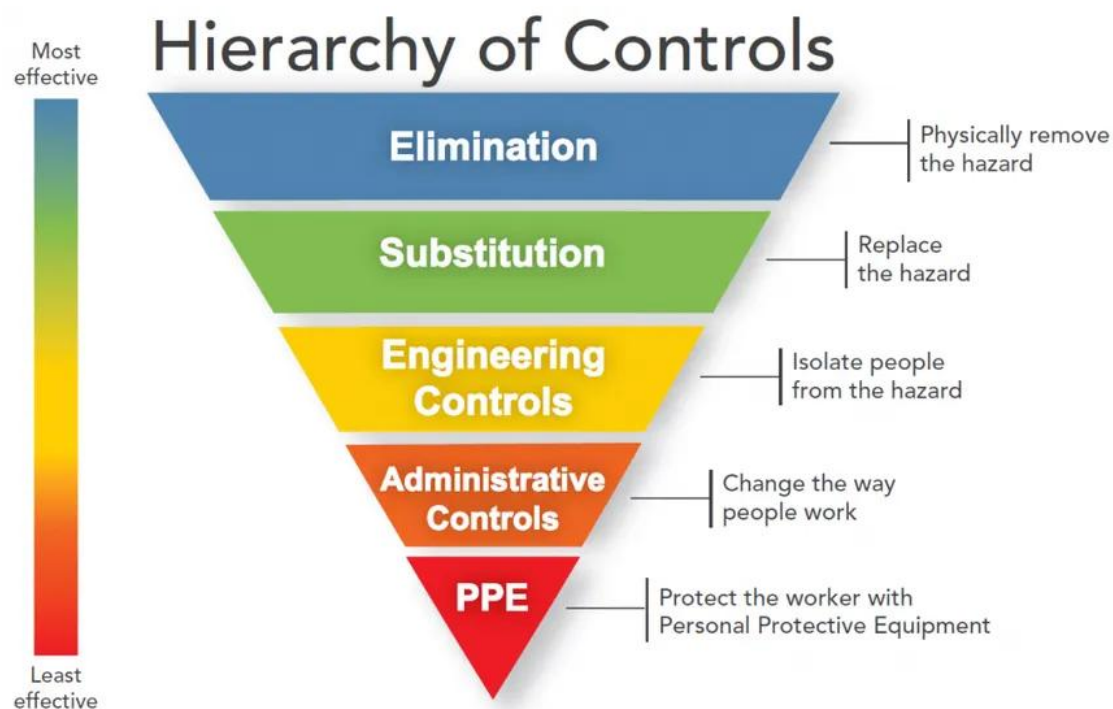


Figure 2: Hierarchy of Controls (source - National Institute for Occupational Safety and Health (NIOSH))

The five levels of the hierarchy are: elimination, substitution, engineering controls, administrative controls, and personal protective equipment (PPE).

- Elimination, which involves removing the hazard entirely from the workplace, is considered the most effective method because it completely removes the risk of exposure.
- Substitution follows, involving replacing a hazardous substance or process with a safer alternative, such as using water-based paint instead of lead-based paint.
- Engineering controls, such as machine guards or local exhaust ventilation, are designed to isolate workers from hazards through physical modifications to equipment or the work environment.
- Administrative controls, like training, job rotation, and safety procedures, aim to reduce exposure by changing work practices.
- PPE, such as gloves or respirators, is considered the least effective because it relies on individual compliance and does not eliminate the hazard.

The hierarchy emphasises that controls requiring less reliance on human behaviour are

preferred, and that elimination and substitution are most effective when applied during the design or development stage of processes or equipment. For example, COSHH mandates a hierarchy of controls to manage the risk, starting with the elimination of silica-containing materials where possible, followed by substitution with safer alternatives, engineering controls such as local exhaust ventilation (LEV) and water suppression systems, administrative controls, and the use of appropriate personal protective equipment (PPE), including respiratory protective equipment (RPE) when necessary. Employers must also conduct thorough risk assessments, monitor dust levels, provide training, and ensure health surveillance for workers exposed to RCS.

Feasible Controls

To decide if a control is feasible, you need to know how well it can protect workers and whether it can be implemented successfully. Consider whether it is:

- Right for the hazard
- Appropriate, given how likely injuries/illnesses are
- Consistent with employer policies, laws, and regulations
- Not too burdensome to workers
- Recognized as an appropriate practice in the industry
- Effective, reliable, and durable
- Readily available
- Cost-effective, short- and long-term

In summary, The Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended) provide the legal framework for managing exposure to silica dust in the UK, classifying respirable crystalline silica (RCS) as a hazardous substance and a carcinogen. Employers are legally required to assess the risks associated with RCS exposure, implement control measures to prevent or adequately control exposure, and ensure that exposure levels remain below the Workplace Exposure Limit (WEL). Schedule 1 of COSHH Regulations 2002 sets the WEL for RCS at 0.1mg/m^3 , averaged over an 8-hour workday, which is the maximum concentration considered safe ([EH40/2005 Workplace exposure limits \(hse.gov.uk\)](https://www.hse.gov.uk/e40/2005/Workplace-exposure-limits)).

This limit is a legal requirement and exceeding it can result in liability for employers. There are two main periods used – Long term exposure limit (LTE) and short-term exposure limit (STEL).

Despite the WEL, several studies, argue that the limit should be lower—specifically 0.05mg/m^3 —due to the significant health risks, including silicosis, lung cancer, and chronic obstructive pulmonary disease (COPD), which are linked to long-term exposure. The latency of these diseases means that risks may not be immediately apparent, making proactive risk management essential.



Sustainability
and ethical
considerations

Sustainability and ethical considerations

Silica Dust – A Global Construction Issue

Air pollution is a major global health issue, contributing to between 7–9 million deaths annually (4.2 million from outdoor air pollution, whilst 3.8 million dies from indoor air pollution), including over 700,000 children under five (Manisalidis *et al.*, 2020); making it the leading environmental risk to human health worldwide. Yet, clean air is a basic human right and fundamental to public health. The Construction industry contributes significantly to air pollution (both indoor and outdoor), particularly in urban areas. The World Green Building Council (WGBC), working in partnership with the [Climate and Clean Air Coalition \(CCAC\)](#) in conjunction with the [BreatheLife2030](#) campaign, aims to increase awareness, develop understanding and kickstart actions from a global audience to mobilise businesses and organisations to capture and share real-time data on air pollution inside and outside of buildings. Furthermore, over the past decade, Chronic Respiratory Diseases (CRDs) have silently claimed millions of lives, placing an immense strain on health systems worldwide. As the third leading cause of death globally, conditions like COPD and silicosis continue to escalate significantly, driven by the evolving landscape of construction dust generation, resulting in a lack of quality air consumption (occupationally and non-occupationally).

Yet despite such initiatives, while other major sources of air pollution – like the transport sector – have rapidly decreased their polluting emissions, according to the Centre for Low Emission Construction (CLEC), the industry has increased its overall share of polluting emissions in recent decades (Figure 3).

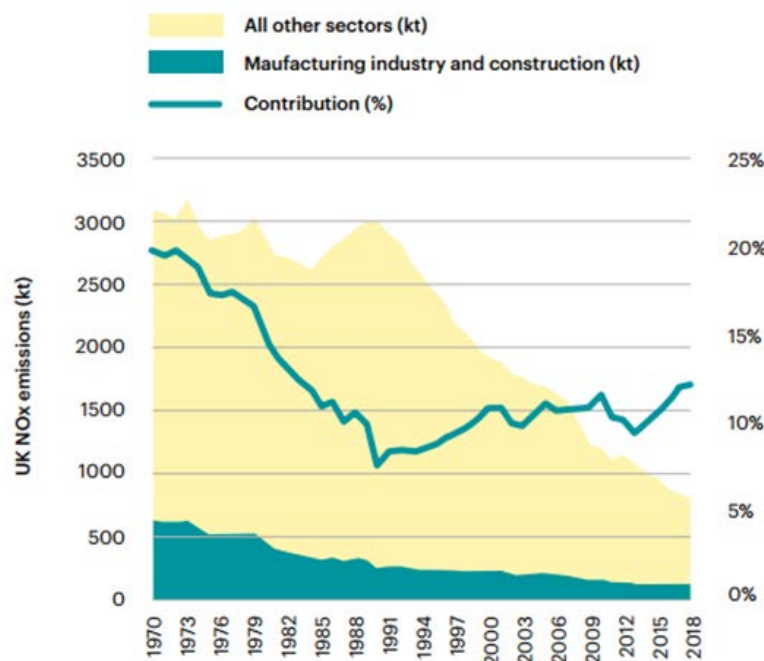


Figure 3: Overview of construction share of polluting emissions ([Centre for Low Emission Construction \(CLEC\), 2020](#)).

For example, the construction industry is estimated to contribute 30% of particulate matter (PM10) emissions along with 8% of fine particulate matter (PM2.5) compromising air quality ([London Atmospheric Emissions Inventory \(LAEI\), 2019](#)). Any particulate matter below PM10 (10µm (microns – 1/1000mm)) is classified as respirable fraction (i.e. the portion of inhaled airborne particles that penetrate beyond the larynx and reach the unciliated airways (no hairs on the surface)). PM2.5 is equivalent to about 1/30th the width of a human hair. These particles are small enough to penetrate deep into the lungs and even enter the bloodstream, posing significant health risks (Figure 4). Exposure to PM2.5 has been linked to a range of chronic respiratory issues, and cardiovascular diseases with long-term exposure increasing the risk of heart disease and reduced life expectancy.

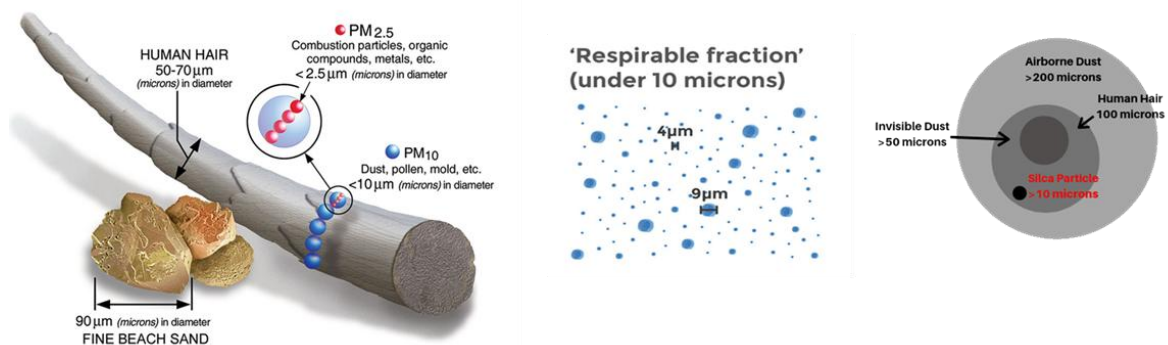


Figure 4: RCS PM2.5 Comparison

As the CIOB's Client Guide to Leading Projects in the Built Environment notes "Because environmental sustainability is a pressing issue for the construction industry, it must respond to these challenges and address its impact on the environment. As a construction client, you are critical to this transition. By acknowledging and wielding your influence from the earliest stage of a project, you can play a crucial role in setting and achieving low-carbon targets, improving the entire supply chain's performance for the benefit of society...The wide-ranging concept of sustainability has over the years been increasingly regulated and so parts of it are now a matter of compliance. However, there is still a gap between what is required in legislation and what is expected of you by your funders, your end users, your markets and even your project team."

Building construction can be responsible for the release of toxic dusts such as silica or hardwood, which are recognised as having carcinogenic properties. There are several types of harmful construction dust, each posing distinct health risks occupationally and non-occupationally. The three main categories include: Silica Dust, Wood Dust and Non-silica dust (materials that contain very little or no silica). However, the focus of this research is on Silica Dust, particularly Respirable Crystalline Silica (RCS), as many common construction materials contain high amounts of silica within common construction materials, such as plaster, brick, cement, concrete, plasterboard, grout, mortar, natural and engineered stone, sand, asphalt and tile (Table 1). This indicates that there is a very high risk to all stakeholders

exposed to RCS of developing respiratory issues, cancers and debilitating autoimmune diseases.

Types of common construction mineral-based materials	Crystalline silica content (% w/w)
Silica containing composites, e.g. manufactured stone	Up to 95%
Sandstone, gritstone, quartzite	70% - 90%
Aggregates, Mortar, concrete	25 - 70%
Engineered stone	45 - 95%
Autoclaved aerated concrete	20 - 40%
Brick	Typically less than 20%
Slate	20-40%
Ceramic/Porcelain tiles:	5% - 45%
Joint compounds	5% - 10%
Fibre cement	20% - 60%
Plaster/Plasterboard	4% - 6%
Paint	1% - 6%

Table 1. Silica concentration in different types of construction products (*Source; HSE <https://www.hse.gov.uk/pubns/books/hsg201.htm>*).

Exactly what you do is down to you. You must consider your organisational objectives and the degree to which driving social and environmental as well as economic value from your investment is important to you. Your conclusions will inform the design and implementation of the air pollution sustainability strategy for your project.

The following section has been extracted and reproduced from CIOB's Client Guide to Leading Projects in the Built Environment. As it is highly relevant to clients dealing with air pollution from construction activities.



Bringing it all
together

Bringing it all together

As this toolkit shows, mitigating silica dust exposure has many moving parts and requires considerable management over the entire life cycle of the asset.

Your influence is most relevant in the early stages of a construction project when decisions are being made about health and safety needs and benefits, and when deciding on the feasibility of options and the chosen option to invest in.

However, you remain accountable throughout the life cycle for all decisions. Your client project manager, working with the supply chain of consultants and contractors, and with representatives of end users, is responsible for ensuring that realistic and resourced health and safety plans are in place for each stage of the life cycle. They are also responsible for ensuring that Health and Safety performance is monitored against those plans so that suitable decisions can be made within each stage before moving on to the next.

Overall, you have enormous influence on the success of health and safety outcomes and so the better you engage, the better the result.

To help you to bring it all together, here is a handy summary of the 3 vital elements for silica dust health and safety management decisions (Figure 5) you own as the project progresses from stage to stage:

- A Control of Substances Hazardous to Health Regulations (COSHH based) risk assessment which looks at what might cause harm and what is needed to avoid it and assesses the effectiveness of any control measures in place.
- Provide a task-specific safe work method statement
- Employ the hierarchy of control

COSHH Risk Assessment No: EX 1

Service: _____ Establishment/Section: _____

Name the substance involved (If copy of a current safety data sheet for this substance should be attached to this assessment): **CRYSTALLINE SILICA DUST**

Manufacturer: N/A - Substance is generated as a by-product of quarrying activities

Describe the activity or work process. (Include how long and how often this is carried out and the quantity of substance used): Quarrying activities

Location of process being carried out: Pits, Balmuccia and Craiglass Quarries

Identify the persons at risk: Employees ☒ Contractors ☒ Public ☒

Classification (state the category of danger)

☐ Very Toxic	☒ Irritant	☐ Extremely Flammable
☐ Toxic	☐ Sensitising	☐ Highly Flammable
☐ Corrosive	☐ Biological	☐ Flammable
☒ Harmful	☐ Oxidising	☐ Environmental

Hazard Type: _____

Route of Exposure: _____

Workplace Exposure Limits (WELs) please indicate via where not applicable:
 Long-term exposure level (8hr TWA): _____
 Short-term exposure level (15 mins): _____
 Respirable Crystalline Silica 0.1mg/m³

State the Risks to Health from Identified Hazards

Prolonged inhalation of dust can lead to the development of respiratory ill health, in particular silicosis.
 Dust can cause irritation by abrasion to skin and eyes.
 Dust can cause gastrointestinal irritation if ingested.

COSHH

Page 1 of 2

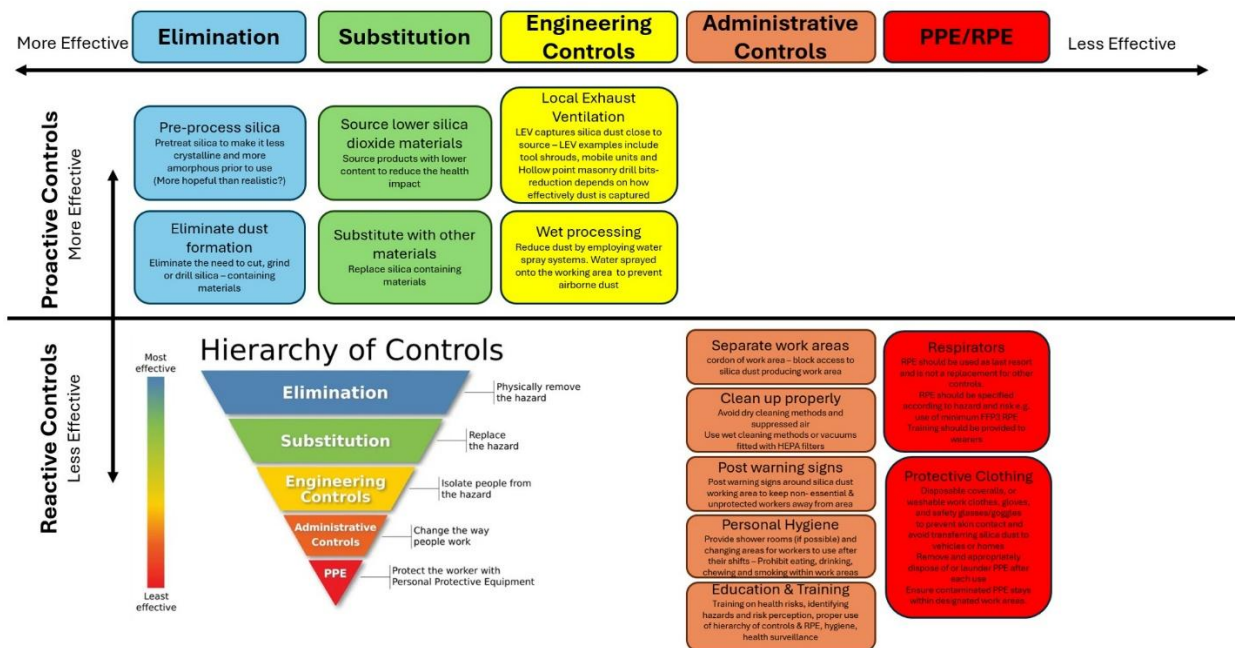


Figure 5: Three vital elements for silica dust health and safety management (source – Author)

Additional reading

- CIOB (2022). Code of Practice for Project Management for the Built Environment, 6th edition
- CIOB (2024). Code of Practice for Programme Management in the Built Environment, 2nd edition
- RIBA Plan of Work 2020 <https://www.architecture.com/knowledge-and-resources/resources-landing-page/riba-plan-of-work>

Additional advice

- Health and Safety Executive - www.hse.gov.uk
- All-Party Parliamentary Group (APPG) for Respiratory Health - <https://www.parliament.co.uk/APPG/respiratory-health>
- Institution of Occupational Safety and Health (IOSH) - <https://iosh.com/guidance-and-resources>