



What is silica dust?



Crystalline silica is a **naturally occurring mineral** found in most rocks, soil, sand and clay and is used to create products like bricks, pavers, concrete, artificial stone products and tiles.

When you work with these materials, harmful silica dust can be produced.

Silica dust can be produced:

- during manufacturing and construction
- when mining, quarrying or tunnelling
- when processing materials containing silica
- when using sand-based products, and
- when cleaning the workplace.



Very small silica dust particles are known as respirable crystalline silica. Silica dust can stay in the air for a long time and if you breathe it in, it can get deep into your lungs and cause damage.

Breathing in silica dust can lead to:

- silicosis
- progressive massive fibrosis
- chronic obstructive pulmonary disease
- chronic bronchitis, or
- lung cancer.



Lung damage and symptoms of disease may not show up for years. Workers may not show any symptoms, even when first diagnosed. There is no cure for silicosis. However, all silica related diseases are preventable.

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 **CLEAN AIR. CLEAR LUNGS.**


Not all workplace hazards are visible.



How silica dust is produced

Work activities that can produce silica dust include:

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|  excavation, earth moving and drilling plant operations |  abrasive blasting |
|  clay, sand and stone processing machine operations |  foundry casting |
|  cutting, polishing or grinding natural and artificial stone |  angle grinding, jack hammering and chiselling of concrete or masonry |
|  cutting and laying pavers and surfacing |  hydraulic fracturing of gas and oil wells |
|  mining, quarrying and mineral ore treating processes |  pottery making |
|  road construction and tunnelling |  crushing, loading, hauling and dumping rock or tunnelling waste |
|  construction, building and demolition |  mechanical screening, and |
|  brick, concrete or stone cutting |  clean-up from these activities (sweeping, air blowing). |

-  If activities at your workplace produce silica dust, you must do a risk assessment to determine the level of risk of exposure to silica dust and there are actions you must take to manage the risks.

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Identifying and assessing the risks from silica dust in the workplace



Businesses must manage the health and safety risks from silica dust at work.

Primary exposure

may occur in workers carrying out activities that produce silica dust

Secondary exposure

may occur in workers and others in or near areas where these activities are done.

If activities at your workplace produce silica dust, you must do a risk assessment to determine the level of risk of exposure to silica dust. **You must consider the following in your risk assessment:**

the type of material you are using and the amount of crystalline silica it contains

the activity you are doing that produces silica dust, including how often and for how long workers might be exposed to silica dust

how much silica dust is likely to be in the air at your workplace and whether this amount is likely to be unsafe for your workers and others at the workplace, and

any relevant air and health monitoring results for your workplace and any previous incidents, illnesses or diseases related to exposure to silica dust at your workplace.



Everyone in the workplace has health and safety duties.

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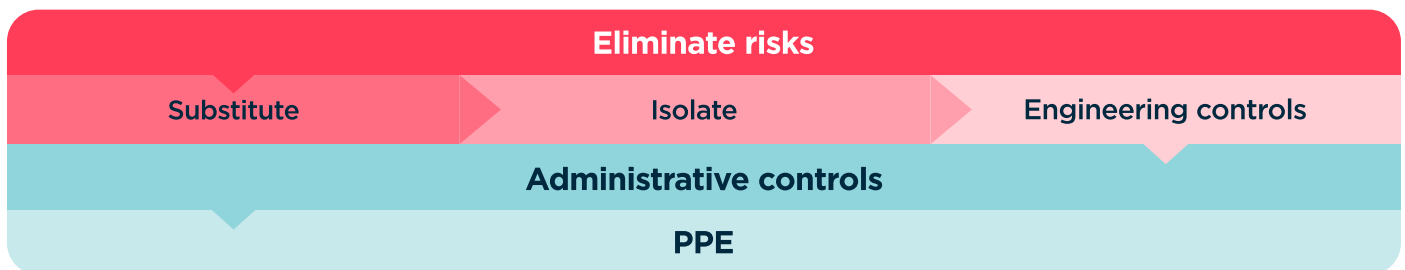


Controlling the risks from silica dust



Businesses must manage the health and safety risks from silica dust at work.

Risks from silica dust must be managed using the hierarchy of control measures. This ranks control measures from the highest level of protection to the lowest. They are:



You must use at least one of the following isolation or engineering control measures during processing of a material containing crystalline silica:

- isolate a person from silica dust exposure
- fit a fully enclosed operator cabin with a high efficiency air filtration system
- use an effective wet dust suppression method
- use an effective on-tool extraction system
- use an effective local exhaust ventilation system

AND

If a worker is still at risk of being exposed to silica dust, provide them with the right respiratory protective equipment and make sure it is worn while doing the work.



The use of respiratory protective equipment alone is only allowed if the above isolation or engineering control measures can't be implemented.

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Completing a silica risk control plan



A silica risk control plan is needed for work activities that produce silica dust that are high risk.

A silica risk control plan must:

identify all work activities that are high risk

include a copy of the risk assessment undertaken

document the control measures that will be used to control the risks associated with the work activities and how these will be implemented, monitored and reviewed

be accessible and easy to understand, and

be developed in consultation with workers who do work activities that produce silica dust and any health and safety representatives.



If the work activity is construction work, you can use a safe work method statement instead of a silica risk control plan to record the above information.

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Processing of a crystalline silica substance: Risk management process

Everyone in the workplace has health and safety duties. See [Duties under WHS laws](#)

Work activities that produce silica dust

Conduct a risk assessment to determine if the work activity is high risk

Work activity is assessed as high risk.

Employers must:

- ✓ develop and use a silica risk control plan
- ✓ provide crystalline silica training to workers at risk of exposure to silica dust
- ✓ where required do air monitoring for silica dust, and
- ✓ where required provide health monitoring for workers at risk of exposure to silica dust.

Work activity is assessed as not high risk

Effective control measures are used to manage the risks from silica dust

Maintain and review control measures.

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Work producing silica dust that is high risk



There are additional actions you must take if your work activity that produces silica dust is high risk.

For work activities producing silica dust that are high risk you must:

develop and use a silica risk control plan

provide crystalline silica training to workers at risk of exposure to silica dust

where required do air monitoring for silica dust, and

where required provide health monitoring for workers at risk of exposure to silica dust.



Your risk assessment will determine whether a work activity that produces silica dust is high risk.

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Changes to the regulation of work with crystalline silica substances



What is changing?

From 1 September 2024, stronger work health and safety regulations will apply to work with materials containing 1% or more crystalline silica, known as crystalline silica substances.

Common crystalline silica substances include:

natural stone (granite, marble, sandstone), artificial stone products (sintered stone and porcelain), asphalt, bricks, tiles and concrete.



Check the relevant safety data sheet or product information sheet if you are unsure about a product's crystalline silica content.

How do the changes affect your workplace?

If you process crystalline silica substances at your workplace using power tools or other machinery, you need to:

- Assess whether the processing is high risk, meaning it is likely to result in a risk to the health of someone at the workplace.
- If the processing is assessed as high risk, you must comply with additional requirements, including having a silica risk control plan and providing crystalline silica training to your workers.
- Use a combination of control measures to minimise the risk of exposure to silica dust as much as possible.

Engineered stone is a crystalline silica substance

From 1 September:

- you must do a risk assessment for any permitted work with legacy engineered stone to determine if it involves processing that is high risk, and
- if you assess the processing as high risk, you need to comply with additional requirements, including having a silica risk control plan and providing crystalline silica training to your workers.

You still need to minimise risk as much as possible when processing any legacy engineered stone.

You must also notify your state or territory WHS regulator that you are doing permitted work with legacy engineered stone.

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