

Safety checklist

Silica safety in construction

(excluding tunnelling work)



This following checklist can be used by principal contractors and builders to identify and manage silica dust exposure risks on construction sites.

Silica (crystalline silica) is found in most stone, rock, sand, gravel and clay. The most common form is quartz. Silica can also be found in bricks, tiles and concrete materials and is 100 times smaller than a grain of sand. You can be breathing it in without even knowing.

Uncontrolled cutting, grinding or drilling of products or materials containing crystalline silica can generate hazardous levels of airborne dust. Breathing in silica dust can be harmful and lead to serious, sometimes fatal illnesses.

Principal contractors and builders have a duty to provide and maintain a working environment that is safe and without risks to health and safety, so far as is reasonably practicable. This includes having safe systems of work and safety equipment when working with products/materials containing silica.

SafeWork NSW inspectors may issue “stop work” prohibition notices for activities that generate uncontrolled silica dust.

On-the-spot fines of up to \$3,600 may also be issued to those placing workers lives at risk by not adequately protecting them from silica dust exposure when cutting manufactured stone.

Name: _____ Date: _____ Time: _____

Site Address: _____

Work Activity: _____

1. Identifying silica	Y	N
<p>a) Will you be working with any of the following materials/products listed below that may contain silica?</p> <ul style="list-style-type: none"> • Bricks • Wall/floor tiles • Stone (natural – sandstone, granite) • Roof tiles • Manufactured solid stone products such as engineered (composite) stone • Asphalt • Mortar and grout • Concrete, light weight aerated concrete blocks and fibre cement products • Pavers 		
<p>b) Are the following work high-risk activities/processes being conducted that may generate airborne silica dust?</p> <ul style="list-style-type: none"> • Excavation, earth moving or drilling plant operations • Cutting or grinding wall/floor tiles, roof tiles and pavers • Paving or surfacing • Road construction • Brick, concrete or stone cutting; especially using dry methods • Grinding, polishing, jack hammering or chiseling of concrete or masonry • Demolition • Crushing, loading, hauling or dumping of rock • Clean-up activities such as sweeping or pressurised air blowing of dust • Fabrication, installation, maintenance or removal of engineered stone 		
2. Controlling silica dust exposure using the hierarchy of control (You may involve a single or a combination of different controls that work together to provide the highest level of protection).	Y	N
<p>a) Can silica dust exposure be eliminated?</p> <p>For example:</p> <ul style="list-style-type: none"> • using products that do not contain silica • direct fastening instead of drilling and anchoring • cast channels in concrete instead of drilling and anchoring. 		
<p>b) Can silica dust be isolated?</p> <p>For example:</p> <ul style="list-style-type: none"> • isolate high-dust generation work processes within an enclosed area with restricted access • provide physical barriers and exclusion zones between different work groups and workstations to prevent dust from moving into other work areas or towards other workers • distance the work process from other workers. 		

2. Controlling silica dust exposure using the hierarchy of control (continued)		Y	N
<i>(You may involve a single or a combination of different controls that work together to provide the highest level of protection).</i>			
c) Can silica containing products be substituted? For example: <ul style="list-style-type: none"> • use products that do not contain silica or have less silica in them • use a silica containing product that does not need to be cut, ground or polished. 			
d) Can the silica dust be managed through engineering controls? For example: <ul style="list-style-type: none"> • use wet method that is likely to generate less dust • use dust capture systems and/or water suppression systems on tools and equipment to reduce dust exposure of workers • use automated methods when cutting, grinding or drilling • ensure regular housekeeping in work areas to prevent the accumulation of dust • use H or M class vacuums for safe clean up. 			
e) Do you have administrative controls in place to assist in the management of silica dust exposure? For example: <ul style="list-style-type: none"> • prepare a safe work method statement (SWMS) if you carry out work or tasks which have the potential to create respirable silica dust • use safe work procedures, minimise the time workers perform higher exposure tasks, alert workers and visitors to the danger with signage, and provide adequate information, training and supervision • ensure dust control measures are always implemented, maintained and reviewed regularly. 			
f) Have you provided appropriate Personal Protective Equipment (PPE) to assist in the management of silica dust exposure? For example: <ul style="list-style-type: none"> • provide suitable PPE (e.g. P2 minimum rated face mask), including a program to correctly fit, instruct on use and ensure regular maintenance of respiratory protective equipment (RPE). 			
3. Air and Health Monitoring		Y	N
a) Does the activity require air monitoring to determine the level of silica dust exposure to workers? Note: Workers must not be exposed to respirable crystalline silica above the workplace exposure standard of 0.05 mg/m ³ over an 8 hr day. Air monitoring must be conducted if: <ul style="list-style-type: none"> • you are not certain whether workers are exposed to silica dust above the workplace exposure standard; or • monitoring is necessary to find out if there is a risk to health. 			
b) Has health monitoring been provided to workers, if there is a significant risk to their health? eg if the exposure standard is exceeded.			
4. Consultation		Y	N
a) Have workers been consulted on the hazards associated with silica dust, and have the safety control measures been communicated and understood? For example: <ul style="list-style-type: none"> • delivered toolbox talks on silica hazards, risks and controls (Refer to SafeWork NSW silica toolbox talk) • provided access or copies to Safety Data Sheet (SDS) • consulted on safe working procedures. 			

Any hazards or risks that are currently not being managed so far as reasonably practicable should be transposed to a action plan with responsible person and due dates to ensure rectifications are carried out.

For additional silica safety information

- Crystalline silica – [General information for construction and other industries](#)
- Safe Work Australia – [Working with silica and silica containing products guide](#)
- Code of practice – [Managing risks of hazardous chemicals in the workplace](#)
- SafeWork NSW video – [Silica dust controlled cutting of bricks and concrete using on-tool capture](#)
- SafeWork NSW video – [Silica dust controlled cutting of bricks and concrete using water](#)
- SafeWork NSW webpage – [Health monitoring | SafeWork NSW](#)

For more information on how to work safely with products/materials that contain silica, see the crystalline silica page at www.safework.nsw.gov.au or call 13 10 50.