



Working with Silica Procedure

1. Purpose

The WA Country Health Service (WACHS) is committed to providing and maintaining a safe work environment. Under the [Work Health and Safety Act 2020](#) (WA) (the Act), WACHS has a primary duty of care to ensure, so far as is reasonably practicable, the health and safety of workers (while those workers are at work), as well as to ensure that other persons are not put at risk from work carried out as part of WACHS's business or undertaking.

The purpose of this Working with Silica Procedure is to mitigate the risk of illness or death.

This procedure must be followed when silica is suspected or has been identified in a product or material. This document outlines the process to be applied to ensure all personnel maintain a safe working environment.

2. Procedure

This procedure applies to all sites and workers who are required to work with material that may or does contain silica. This procedure has been developed in accordance with the Safe Work Australia [Working with crystalline silica substances: Guidance for PCBUs](#) and Safe Work Australia [Code of Practice: Managing the risks of respirable crystalline silica from engineered stone in the workplace](#).

2.1 Risk Management

Risk assessments are completed by the worker and Nominated Site Delegate of the workplace by completing a [Job Hazard Analysis Form](#) (JHA) and/or [Safe Work Method Statement](#) (SWMS) and following the WACHS [Job Hazard Analysis Procedure](#) or WACHS [Safe Work Method Statement Procedure](#) to ensure all hazards are identified, and procedures are written and followed to control identified hazards.

The risks associated with silica are to be controlled by hierarchy of control. It is important to constantly monitor and review control measures to ensure they continue to prevent or control exposure to hazardous acts or conditions.

Before work commences, all workers new to the task should be briefed on the processes to be followed and the need to observe all safety requirements. If the scope of work changes or the efficiency of an existing control is reduced, work is to be stopped immediately, a review conducted, and necessary changes made to the [JHA](#) or [SWMS](#) and associated work practices. The work can recommence once this process has been completed.

All [JHAs/SWMS](#) completed for silica tasks must be held at the job whilst the task is being undertaken. Once the job has been finalised the [JHA/SWMS](#) must be filed as per the local area procedures.

All completed documentation must be maintained and retained as per the WACHS [Corporate Recordkeeping Compliance Policy](#).

2.2 Selecting Appropriate Equipment

All equipment should be selected based on the hazard assessment and the task being performed as outlined in Safe Work Australia [Working with silica and silica containing products guidance material](#) and Safe Work Australia [Code of Practice: Managing the risks of respirable crystalline silica from engineered stone in the workplace](#).

Additionally, workers must wear the appropriate Personal Protective Equipment (PPE) as identified in the [JHA](#) or [SWMS](#) form.

Dust monitors must be calibrated with a current calibration certificate.

Respirator Protective Equipment (RPE) must be maintained, repaired or replaced so that it continues to be effective. A person who is cutting, grinding or undertaking abrasive polishing of engineered stone must be provided with RPE that complies with AS/NZS 1716:2012 (Respiratory protective devices). The standards can be accessed via the [WACHS Library](#).

A competent person should administer a RPE maintenance program in accordance with the manufacturer's instructions.

Records must be kept of:

- details of any issues, including the date
- user records including training provided
- fit testing records for each worker including:
 - type of test performed
 - make, model, style and size of respirator tested
 - date of the test
 - result of the test
- maintenance records including filter replacement and RPE maintenance schedules, and
- RPE program records, including procedures for use and audits or evaluations.

The person conducting a business or undertaking (PCBU) that provides equipment must ensure that the equipment is suitable for its intended use, inspected and approved before use to ensure it is in good working condition. It must be calibrated and maintained as per manufacturer specifications. Defective or damaged equipment should be removed immediately and repaired or replaced.

2.3 Training Competency and Records

Workers are required to complete the Silica toolbox training and the WACHS JHA online training which are both available on the WACHS Learning Management System.

Workers intending to undertake dust monitoring must be a certified Occupational Hygienist.

Workers intending to undertake work with materials or products that contain silica must be trained in:

- what silica dust is and its health effects

- what controls are in place to protect them
- when they might be at risk of exposure including
 - work practices that breach the PCBU's instructions or policies, or
 - when controls might not be effective, and
- what to do if they observe unsafe practices at the workplace.

Note: all workers intending to undertake work need to be suitably trained and possess qualifications and licenses relevant to the scope of work being conducted.

Contractors are required to upload their qualification onto the WACHS Online Contractor Induction during induction and WACHS workers are required to provide their qualification to their manager for record keeping.

2.4 Health Monitoring

If there is a risk to the health of workers because of exposure to silica dust, health monitoring must be conducted. This includes workers who are not directly generating dust but may be in the vicinity of silica dust or in contact with silica dust in other ways such as through cleaning work areas or equipment.

Health monitoring should begin at the time a worker is first employed or when they first start working with silica and silica containing products. It should continue annually while exposure persists and upon cessation of exposure.

Health monitoring must be carried out by a doctor with experience in health monitoring. Health monitoring for crystalline silica through exposure to silica dust must include:

- collection of demographic, medical and occupational history
- records of personal exposure
- standardised respiratory questionnaire
- standardised respiratory function tests, for example, FEV1 (forced expiratory volume in one second), FVC (forced vital capacity) and FEV1/FVC (respiratory ratio, or Tiffeneau index), and
- low dose HRCT scan of the chest (non-contrast) is required to be taken by a registered medical practitioner supervising or carrying out the health monitoring.

The doctor doing your health monitoring must provide a health monitoring report. A copy must be kept for at least 30 years and the worker must receive a copy of the report.

The health monitoring report must be provided to the WHS regulator if the doctor doing the monitoring:

- informs the worker they may have contracted a disease, injury, or illness as a result of carrying out work using, handling, generating, or storing silica, or
- recommends the worker takes remedial measures (such as removing the worker from work).

Further information can be obtained from the [Health monitoring guide for PCBUs](#) and [Health monitoring guide for crystalline silica](#).

2.5 Isolations

Refer to the WACHS [Lockout and Tagout Works Procedure](#) for any required isolations.

2.6 Working in an area that contains Silica

Multiple stakeholders are required for the efficient, and successful management of silica. It is important to establish who these stakeholders are early and ensure clear and concise communication throughout the process. In turn, this creates a proactive work environment and aids in foreseeing any potential risks or delays.

Preparation

As soon as work is scheduled for an area that potentially contains or contains silica, preparation of the following is required prior to the scheduled date and time.

Documentation

- [SWMS](#) or [JHA](#)

Signage

Prepare signage at each entry point to the worksite. The below or similar signage should be used to indicate silica is in the work area.



Barricading

Barricading will vary based on each individual case. Hard barricade may be required to keep unauthorised people out of the work area. Tape may be used if the area only requires demarcation.

Hard barricade must always be used if there is a potential for fall from height.

Dust Suppression

Dry cutting, grinding, or polishing silica containing products generates very high levels of silica dust that far exceed the permissible [workplace exposure standard](#). On tool dust extraction, water suppression or local exhaust ventilation must be used in these instances.

There must be adequate water supply for water suppression systems. Daily checks must be conducted to ensure controls remain effective.

Refer to [Selecting Appropriate Equipment](#) for further information on RPE.

When controlling dust consideration must be given to:

- wind conditions
- amount of dust being generated
- nearby stakeholders e.g. neighbouring public, business or similar.
- nearby intake vents or similar which may draw silica dust into it.

Dust Monitoring

Dust monitoring can be completed for an area or for individuals as personal samplers.

A certified Occupational Hygienist will conduct the sampling, provide expert guidance and provide a report on sample results.

It is the responsibility of the Nominated Site Delegate to coordinate dust monitoring if required.

Monitoring must be conducted by a certified Occupational Hygienist, using a in date calibrated dust monitor. The [Safe Work Australia Exposure standards - airborne contaminants](#) for respirable crystalline silica in Australia is 0.05 mg/m³. Records of air monitoring must be retained for at least 30 years. Workers must have access to these records.

An air monitoring report from the hygienist should include

- the background and purpose of the air monitoring including the current workplace exposure standard
- the task to be measured including work patterns and hazards involved with this task
- the control measures in place and their performance
- what sampling and measurements were taken (long and short-term) including information on the calibration of the sampling equipment
- specifics of how sampling was taken
- how and where the samples were analysed including information on the calibration of the analysis equipment
- an interpretation of the results:
 - exposure sources
 - adequacy of current control measures
 - assessment of risk including identification of tasks not measured that are likely to be an exposure source and any workers that could be exposed but were not measured, and
 - compliance with WHS laws
- recommendations, for example:
 - dust control action plan
 - changing control measures and work practices
 - worker training
 - further air monitoring, and
 - health monitoring.

Housekeeping

Good housekeeping can eliminate or reduce exposure to silica. Refer to below for good housekeeping practices:

- wet down dusty work areas
- conduct a cleaning schedule to reduce dust
- conduct a maintenance schedule to improve efficiency of equipment
- never use compressed air, dry sweeping or general-purpose vacuum cleaners to clean surfaces or clothing
- use a low-pressure water, wet sweeping or a M or H class rated vacuum cleaner to
- clean dusty floors, walls, other surfaces, and equipment

- always follow the vacuum manufacturer's operator manuals and instructions for changing dust bags and filters
- store dusty PPE and equipment in sealed bags when not in use
- clean PPE and equipment in designated areas only

Decontamination

Dusty clothing, PPE and equipment can expose workers and others to silica dust. Refer to below to minimise exposure to dust:

- use an industrial M- or H- class vacuum cleaner to remove dust from clothes, uniforms and equipment
- regularly wash down equipment
- workers should practice good hygiene by washing their arms, hands and faces before leaving work or consuming food/drink
- store food and drink in dust free area
- change out of contaminated clothing prior to leaving work or after completing a dusty task. Place in a sealed bag and launder separately from other clothing.
- use rubber boots and aprons where possible
- clothes and uniforms must be cleaned frequently to stop silica dust from contaminating break rooms, other parts of the workplace and importantly, to stop workers from taking silica dust home.

Workplaces with a high level of dust and that require decontamination must include the decontamination process in a [SWMS/JHA](#).

Completing of Work

On completion of work the area must be reinstated to ensure the area is safe and left as per WACHS standards.

Signage and Barricading

Signage and barricading are to be removed from the work area.

Hand Back

Upon the Nominated Site Delegate receiving confirmation that all Scope of Work has been completed the Nominated Site Delegate is to initiate the hand back process.

Hand Back Process

The below process is to be followed:

1. Scope of work has been completed as per work order.
2. Nominated Site Delegate completes a final inspection (if required).
3. Nominated Site Delegate accepts completed work.
4. Workplace is reinstated back to its original state.
5. Work area is handed back to Nominated Site Delegate

All documentation is to be maintained and retained as per the WACHS [Corporate Recordkeeping Compliance Policy](#).

2.7 Management of Water and Waste

Wet slurry is not hazardous while wet. However, if it dries, the dust can become airborne when disturbed and expose workers and others. Any wet slurry that is de-watered so that it is still wet, but of cake-like consistency, should be disposed of in a way that minimises the risk of dust being redistributed over the workplace.

Water that is recycled on-site for use in water suppression should be effectively filtered to remove silica dust and prevent contaminated water continually passing through the system. Water that is recycled needs to be visually assessed to ensure it is clear. If the water has a cloudy or milky appearance this means it is likely to contain a high concentration of silica dust which needs to be managed to reduce the risk of airborne particles.

Containers of waste produced or generated at a workplace from a hazardous substance containing silica dust, must be labelled "Silica Dust Hazard". Bags used for containing waste need to be strong enough to ensure they will not tear and release dust. Waste material must be disposed of as per the regions Waste Disposal Procedure.

2.8 Failure or Breach of Working with Silica Procedure

If there is a Working with Silica procedure breach:

- the Facility Maintenance Manager/Senior Maintenance Supervisor will investigate the alleged breach and possible reasons for the breach
- complete a [WACHS Safety Risk Report Form](#) (SRRF).
- determine appropriate action to be taken.

Hazards and incidents must be reported in line with the WACHS [Hazard and Incident Management Procedure](#).

3. Roles and Responsibilities

The **Person Conducting a Business or Undertaking** (PCBU) is responsible for:

- ensuring workers complete required inductions
- providing training and supervision information
- ensuring workers have been trained or deemed competent, providing PPE and usage guidelines
- ensuring that equipment used meets standards and is regularly inspected and maintained
- establishing and maintain safe work practices

The **Regional Manager Infrastructure and Support Services** (RMISS) is responsible for:

- establishing and maintaining safe work practices
- selecting the Nominated Site Delegate; supervisor or manager or nominated delegate
- authorisation of works to begin when risks are high or intolerable
- managing and overseeing this procedure
- operational processes being undertaken and oversight of compliance

The **Nominated Site Delegate**, as nominated by RMISS, is responsible for:

- ensuring workers complete required inductions
- providing information, training, and supervision
- verifying workers have necessary licences and training (copies must be obtained and retained)
- ensuring dust monitors are calibrated as per OEM manual (copies must be obtained and retained)
- providing Working with Silica procedures, and ensuring they are followed
- providing PPE and usage guidelines
- ensuring risk assessments have been conducted before the start of any work involving silica
- ensuring that equipment specific instructions in [JHA](#) and/or [SWMS](#) are developed and inspected periodically (at least annually).
- Report hazards and incidents in line with the WACHS [Hazard and Incident Management Procedure](#).

The **Regional Work Health Safety and Security Manager** is responsible for providing:

- advice to managers and supervisors on Working with Silica requirements in the workplace as it relates to monitoring and compliance
- advice and consulting with managers and staff on how to manage hazards and risks that have been identified and raised via [SRRF](#) reporting

The **Occupational Hygienist** is responsible for:

- conducting dust sampling
- providing expert knowledge and assistance on hygiene matters to stakeholders as required
- providing training on health effects of silica and similar
- developing and providing a report of the sample results

Workers (Contractors, Employees and Volunteers) are responsible for:

- performing risk assessment
- using Working with Silica procedures to control hazards
- taking reasonable care of their own and others' safety and health
- undertaking the relevant training
- cooperating with PCBU in carrying out safety and health requirements

All staff are required to comply with the directions in WACHS policies and procedures as per their roles and responsibilities. Guidelines are the recommended course of action for WACHS and staff are expected to use this information to guide practice. If staff are unsure which policies procedures and guidelines apply to their role or scope of practice, and/or are unsure of the application of directions they should consult their manager in the first instance.

4. Monitoring and Evaluation

Monitoring for this document is conducted by the People Capability and Culture and Infrastructure and Environment Directorates to ensure compliance across all WACHS sites. This involves periodic reviews of the following:

- comparison of risk assessments with work orders raised in Agility
- periodic assessment of site-specific registers, including monitoring inspection and maintenance frequency

- regular assessment of the Online Contractor Induction System to ensure that contractors have been inducted according to WACHS expectations for safe working practices.

Evaluation of this document will be undertaken collaboratively by the People Capability and Culture and Infrastructure and Environment Directorates utilising the outcomes of periodic review and auditing data as well as stakeholder feedback.

5. References

[Corporate Recordkeeping Compliance Policy](#)

[Health monitoring guide for crystalline silica](#)

[Health monitoring guide for PCBUs](#)

[Health Services Act 2016](#)

[Integrity Policy Framework](#)

[Safe Work Australia Code of Practice: Managing the risks of respirable crystalline silica from engineered stone in the workplace](#)

[Safe Work Australia Working with silica and silica containing products guidance material](#)

[Work Health and Safety \(WHS\) Regulations](#)

[Work Health and Safety Act 2020](#)

[WorkSafe Code of Practice: How to manage work health and safety risk](#)

6. Definitions

Term	Definition
Crystalline silica	Crystalline silica is the crystalline form of the abundant naturally occurring mineral silica or silicon dioxide (SiO ₂). It is present in almost all types of rocks, sand, clays, shales and gravel and in construction materials such as concrete, tiles and bricks.
Hazard	A hazard is a situation or item that has the potential to harm people, property or the environment
Job Hazard Analysis form	A Job Hazard Analysis (JHA) form is a document that outlines work activities to be carried out at a workplace into logical job steps, identification of hazards associated with each step and the controls for those hazards.
Personal Protective Equipment	Personal Protective Equipment is equipment and clothing that is used or worn by an individual person to protect themselves against, or minimise their exposure to, workplace risks. It includes items such as face masks

	and respirators, coveralls, goggles, helmets, gloves and footwear.
Person Conducting Business or Undertaking	A Person Conducting Business or Undertaking (PCBU) conducts a business or undertaking alone or with others. WACHS is considered a PCBU.
Risk	The likelihood and consequence of injury or harm occurring.
Risk Assessment	A risk assessment is a systematic process of evaluating the potential risks that may be involved in a task or piece of equipment and the likelihood of a hazard causing harm to a person.
Work	Work is any activity, physical or mental, carried out in the course of a business, industry, commerce, an occupation or a profession.
Worker	A worker is any person who carries out work for a person conducting a business or undertaking, including work as an employee, contractor or subcontractor (or their employee), self-employed person, outworker, apprentice or trainee, work experience student, employee of a labour hire company placed with a 'host employer' or a volunteer.
Workplace	A workplace is any place where a person works, including residences provided to support works

7. Document Summary

Coverage	WACHS-wide
Audience	All staff including contractors
Records Management	Non Clinical: Corporate Recordkeeping Compliance Policy
Related Legislation	Health Services Act 2016 (WA) Work Health and Safety Act 2020 (WA) Work Health and Safety (General) Regulations 2022 (WA)
Related Mandatory Policies / Frameworks	<ul style="list-style-type: none"> • MP 0006/16 Risk Management Policy • Integrity Policy Framework • Risk, Compliance and Audit Framework • Work Health and Safety Framework
Related WACHS Policy Documents	<ul style="list-style-type: none"> • Hazard and Incident Management Procedure • Job Hazard Analysis Procedure • Safe Work Method Statements Procedure • Work Health and Safety Policy
Other Related Documents	<ul style="list-style-type: none"> • SWA Working with silica and silica containing products guidance material
Related Forms	<ul style="list-style-type: none"> • Job Hazard Analysis Form • Safe Work Method Statement • Safety Risk Report Form
Related Training	Available from MyLearning : <ul style="list-style-type: none"> • WACHS Working with Silica Awareness Training • WACHS JHA online training (SH04 EL1)
Aboriginal Health Impact Statement Declaration (ISD)	ISD Record ID: 3547
National Safety and Quality Health Service (NSQHS) Standards	1.07, 1.08, 1.09, 1.10, 1.20, 1.21, 1.22, 1.25, 1.29, 131
Aged Care Quality Standards	Nil
Chief Psychiatrist's Standards for Clinical Care	Nil
Other Standards	AS/NZS 1716:2012 (Respiratory protective devices) - accessed via the WACHS Library

8. Document Control

Version	Published date	Current from	Summary of changes
1.00	13 December 2024	13 December 2024	<ul style="list-style-type: none"> New procedure

9. Approval

Policy Owner	Executive Director People and Culture
Co-approver	Executive Director Infrastructure and Environment
Contact	Director Infrastructure
Business Unit	WACHS Infrastructure and Environment
EDRMS #	ED-CO-24-475314
<p><i>Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the Copyright Act 1968, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.</i></p>	

This document can be made available in alternative formats on request.