



2023

Respirable Crystalline Silica (RCS) Dust related related WHS Regulation Requirements.



Legislative and regulatory framework for crystalline silica under the SA WHS laws

What are the duties of PCBUs?

Under the SA WHS laws (*Work Health and Safety Act and Regulations 2012*), a PCBU has a primary duty of care to ensure the health and safety of workers while they are at work in the business or undertaking and that the health and safety of others is not put at risk from work carried out by the business or undertaking.

A PCBU is often an employer. However, the concept of PCBUs also captures modern work relationships outside of the traditional contract of employment. For example, it includes principal and subcontractor relationships, host employers in a labour hire arrangement.

It is the PCBU's responsibility to eliminate so far as is reasonably practicable, risks arising from exposure to RCS or, where elimination is not reasonably practicable¹, minimise the risks so far as is reasonably practicable to workers and other persons². This includes the provision and maintenance of the workplace environment without risks to health and safety, as well as the provision of any information, training, instruction, or supervision necessary to protect people from risks to their health and safety.³ PCBUs must also, so far as is reasonably practicable, consult with workers who carry out work for the business or undertaking who are or are likely to be directly affected by a WHS matter.⁴ PCBUs must also consult with the workers' HSRs on WHS matters.⁵ For PCBUs working with RCS, examples of when consultation must occur include when preparing risk assessments and safe work method statements (SWMS), developing a silica dust control plan, deciding on control measures and selecting the medical practitioner to undertake health monitoring.⁶

Where there is more than one person that has a duty in relation to the same WHS matter, each person with the duty must discharge their duty to the extent that they have the capacity to influence and control the matter⁷ and must consult, cooperate and coordinate activities with all other persons who also owe a duty in relation to the same matter.⁸ A duty cannot be transferred to another person.⁹

Managing the risks of RCS as a hazardous chemical

A PCBU must manage the risks to health and safety associated with handling or generating RCS (a hazardous chemical) at a workplace in accordance with Part 3.1 of the WHS Regulations¹⁰. Part 3.1 requires, for example, that the PCBU identify hazards that could give rise to risks to health and safety

¹ Safe Work Australia has published an interpretive guideline on the meaning of reasonably practicable (Safe Work Australia 2011).

² Work Health and Safety Act s17 (WHS Act); Work Health and Safety Regulations r35 (WHS Regulations).

³ WHS Act s19 and s20; WHS Regulations r39.

⁴ WHS Act s47.

⁵ WHS Act s70.

⁶ WHS Act s47; WHS Regulations r299 and r369.

⁷ WHS Act s16(3).

⁸ WHS Act s46.

⁹ WHS Act s14.

¹⁰ WHS Regulations r351.

and apply the hierarchy of controls to minimise the risks to health and safety if it is not reasonably practicable to eliminate the risks. Failure to comply with regulation 351 is a breach of the PCBU's primary duty of care in section 19 of the WHS Act.

As with all health and safety duties in the WHS law, the duty on a PCBU to manage the risks to health and safety from RCS at a workplace are not transferrable¹¹.

Workplace exposure standard for RCS

A PCBU must ensure that no person at the workplace is exposed to a substance or mixture in an airborne concentration that exceeds the exposure standard for the substance or mixture.¹² The duty to ensure the WES is not exceeded is absolute and not qualified by so far as is reasonably practicable. A WES must not be adjusted upwards, even for shifts of less than eight hours (Safe Work Australia 2021a).

This means that a PCBU must ensure that no person at the workplace is exposed to RCS at a concentration above the WES, which is an eight-hour TWA of 0.05 mg/m³. An exposure standard represents the airborne concentration of a particular substance or mixture that must not be exceeded. However, it does not represent a line between a 'safe' and 'unsafe' concentration of an airborne substance or mixture. The exposure standard does not eliminate risk of disease and some people may experience adverse health effects below the exposure standard.

Air monitoring

A PCBU must undertake air monitoring in the breathing zone of workers (Safe Work Australia 2013) if there is uncertainty that the workplace exposure standard is being exceeded or if it is necessary to determine whether there is a risk to a worker's health.¹³ Air monitoring records must be kept for a period of 30 years and must be readily accessible to persons in the workplace who may be exposed to RCS.¹⁴ The air monitoring report should be made available to a WHS inspector on request and to a registered medical practitioner carrying out or supervising health monitoring (Safe Work Australia 2021a).

Health monitoring

PCBUs must also provide and pay for health monitoring for workers if they carry out ongoing work generating RCS, or there is a significant risk to the worker's health because of exposure.¹⁵ Health monitoring must be undertaken by or under the supervision of a medical practitioner with experience in health monitoring and a record must be given to the worker as soon as practicable after receipt, be kept for a period of 30 years and given to the WHS regulator in certain circumstances.¹⁶

Under Schedule 14 to the WHS Regulations, the minimum requirements for health monitoring for crystalline silica through exposure to RCS are:

- collection of demographic, medical and occupational history
- records of personal exposure

¹¹ WHS Act s14.

¹² WHS Regulations r49.

¹³ WHS Regulations r50 and r368.

¹⁴ WHS Regulations r378.

¹⁵ WHS Regulations r370.

¹⁶ WHS Regulations rr371, 375, 378.

- standardised respiratory questionnaire
- standardised respiratory function tests, and
- chest X-Ray full posterior-anterior view.

The WHS Regulations allow for alternative types of health monitoring if they are equal to or better than these methods and the use of that other type of monitoring is recommended by a registered medical practitioner with experience in health monitoring.¹⁷ In Western Australia low dose **High resolution computed tomography is explicitly required instead of chest X-Ray for health monitoring.**

The PCBU is also responsible for providing information to staff about health monitoring, and for providing copies of the health monitoring report to other PCBUs who have a duty to provide health monitoring to the worker (Safe Work Australia 2021a). If a report indicates that a worker is experiencing adverse health effects or signs of illness because of exposure to RCS, control measures in the workplace must be reviewed and revised as necessary (Safe Work Australia 2021a).

High risk construction work and preparation of SWMS

Construction work is defined in the WHS Regulations as any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure. Regulation 291 of the WHS Regulations sets out a list of high risk construction work for which a SWMS is required. This includes work carried out in an area that may have a contaminated or flammable atmosphere. Construction work that involves processing silica-containing materials is high risk construction work when it generates RCS that may contaminate the workplace's atmosphere and would require a SWMS (Safe Work Australia 2021a).

The SWMS must be accessible and understandable to any individual who needs to use it.¹⁸ If any high risk construction work is carried out, outside the manner stipulated in the SWMS, the PCBU must ensure that the work is stopped immediately or as soon as it is safe to do so, and only resumed in accordance with the SWMS.¹⁹

Other duties for PCBUs working with engineered stone

The WHS Regulations were amended in 2023 to remove any doubt in relation to the applicable control measures when working with engineered stone.

A PCBU must not process, or direct or allow a worker to process, engineered stone unless the processing of the stone is controlled through either a water delivery system that supplies a continuous feed of water over the stone being processed to suppress the generation of dust, an on-tool extraction system, or a local exhaust ventilation system and respiratory protective equipment. The amended WHS Regulations also provide a definition of engineered stone as meaning an artificial product that:

- (i) contains crystalline silica, and
- (ii) is created by combining natural stone materials with other chemical constituents such as water, resins or pigments, and

¹⁷ WHS Regulations r370.

¹⁸ WHS Regulations r299

¹⁹ WHS Regulations r300

- (iii) undergoes a process to become hardened.

Engineered stone does not include: concrete and cement products; bricks, pavers and other similar blocks; ceramic and porcelain wall and floor tiles; roof tiles; grout, mortar and render; and plasterboard.

The Code of Practice: Managing the risks of respirable crystalline silica from engineered stone in the workplace (the Code), published in October 2021, outlines specific ways in which PCBUs working with engineered stone can comply with their WHS duties and describes effective ways to identify and manage the risks from silica.

In most cases, following an approved code of practice would achieve compliance with the health and safety duties in a jurisdiction's WHS Act and Regulations. Courts may have regard to an approved code of practice as evidence of what is known about a hazard, risk, risk assessment or risk control and may rely on the code to determine what is reasonably practicable in the circumstances.

To have legal effect in a jurisdiction, a Code must be approved as a code of practice in that jurisdiction. As of June 2022, the Code has been implemented in New South Wales and Tasmania. In 2019, Queensland implemented a Code of Practice: Managing respirable crystalline silica dust exposure in the stone benchtop industry covering natural and engineered stone (Workplace Health and Safety Queensland 2019). WorkSafe Victoria has also implemented a Compliance Code: Managing Exposure to Crystalline Silica - Engineered Stone (WorkSafe Victoria 2020).

The Code:

- clarifies that the on-site installation of engineered stone is considered high risk construction work if the processes used to install, modify or repair the engineered stone such as, cutting, grinding, trimming, drilling, sanding, or polishing generate RCS and contaminates the work area
- requires PCBU(s) to prepare a SWMS before any on-site installation of engineered stone that involves any processing, modification or repair of engineered stone that may generate RCS, and
- clarifies the duties for PCBUs working with engineered stone to undertake air and health monitoring.

Duties of designers, manufacturers, importers, suppliers and those who install or commission substances, plant or structures

A designer, manufacturer, importer or supplier of silica containing products must ensure, so far as is reasonably practicable, that the silica containing product they design, manufacture, import, supply or install is without risk to health and safety²⁰. This includes undertaking necessary testing and providing adequate information²¹ about the silica containing product.

Suppliers of equipment (such as hand-held water-fed power tools or RPE) should take all reasonable steps to ensure appropriate information about the safe use of the equipment is available.

A PCBU who installs, constructs or commissions structures must also ensure, so far as is reasonably practicable, all workplace activity relating to the plant or structure including its decommissioning or

²⁰ WHS Act ss22-26.

²¹ The term 'adequate information' is not defined in the WHS Act. A number of suppliers provide a safety data sheet (SDS) with their engineered stone products. An importer or manufacturer must prepare an SDS for a 'hazardous chemical' in accordance with reg 330. However, in a number of cases, the SDS provided states that the engineered stone product is classified as not hazardous but notes that the product when cut or machined may produce crystalline silica. In other cases, the SDS identifies the risks from RCS generated when the product is cut, grinded or machined.

dismantling is without risks to health or safety. A structure is defined as anything that is constructed, whether fixed or moveable, temporary or permanent, including buildings and underground works (such as shafts or tunnels).

Duties of principal contractors

Projects involving construction work that cost \$250,000 or more are classified as 'construction projects' under the WHS laws. Each construction project has a 'principal contractor'. A principal contractor is also a PCBU.

In addition to the primary duties imposed on a principal contractor as a PCBU, the principal contractor has duties relating to WHS management plans, ensuring general compliance, and managing specific risks.

Duties of workers

Workers have a duty to take reasonable care for their own health and safety, and to take reasonable care to not adversely affect the health and safety of other persons.²²

Workers must also:

- comply as far as they are reasonably able with any reasonable instruction given by the PCBU to allow the PCBU to comply with the WHS Act, such as participating in health monitoring and wearing relevant personal protective equipment (PPE), and
- co-operate with any reasonable policy or procedure relating to WHS at the workplace that has been notified to them.²³

The PCBU must make workers aware of the hazards associated with the use of silica-containing materials, including the process for reporting safety incidents.

If a worker refuses to participate in health monitoring or refuses to use PPE as they have been trained and instructed, a PCBU would need to take other action to meet its duties under the WHS laws. This could include removing the worker from the source of exposure to RCS.

Duties of officers

An officer (for example a company director) must exercise due diligence to ensure the PCBU complies with the WHS Act and WHS Regulations.²⁴ This includes taking reasonable steps to ensure the PCBU has and uses appropriate resources and processes to eliminate or minimise risks of working with silica and silica containing products. This includes:

- identifying the hazard of RCS
- controlling the risk of exposure to RCS
- conducting air monitoring, and
- providing health monitoring for workers.

²² WHS Act s28

²³ WHS Act s28

²⁴ WHS Act s27

Duties of other persons at the workplace

Other persons at the workplace, like visitors, must take reasonable care for their own health and safety and must take care not to adversely affect other people's health and safety.²⁵ They must comply, so far as they are reasonably able, with reasonable instructions given by the PCBU to allow that person to comply with the WHS Act.

Experience needed to carry out health monitoring for RCS

The WHS Regulations provide that health monitoring must be carried out by or under the supervision of a registered medical practitioner with experience in health monitoring²⁶.

Registered medical practitioners should be able to carry out the key requirements of a health monitoring program including:

- planning a health monitoring program specific for exposures to the relevant hazardous chemical that requires health monitoring
- implementing, monitoring and managing a health monitoring program
- recognising and harnessing specialist assistance when required eg respiratory and thoracic specialist and radiologists
- sourcing, interpreting and applying best practice, medical, toxicological and epidemiological literature and integrate this knowledge into health monitoring programs, and
- advising and supervising other registered medical practitioners carrying out health monitoring.

Further guidance on the elements of a health monitoring program can be found on the SafeWork Australia site.

During health monitoring

The registered medical practitioner should ensure that the health monitoring program, test methods and procedures are followed throughout the program.

Regular feedback should be provided to both the PCBU and the worker if results indicate the worker is being or has been exposed and is showing adverse health effects as a result of exposure.

Health Monitoring Report

A health monitoring report is required by the PCBU as soon as practicable after the health monitoring is carried out in relation to a worker²⁷.

A health monitoring report template is provided in *Health monitoring guides for hazardous chemicals* for each hazardous chemicals listed in Schedule 14. Other templates, forms and formats of health monitoring reports are acceptable and may also be used.

Removal from work

Should test results or symptoms indicate the worker is suffering from symptoms or a health condition due to exposure, the supervising registered medical practitioner may make a recommendation to the PCBU to have the worker removed from work with the RCS.

²⁵ WHS Act s29

²⁶ WHS Regulation r371

²⁷ WHS Regulation r374 and r375

In such instances, the PCBU will be required to remove the worker immediately from carrying out such work. This recommendation should be provided with a request for review of control measures.

Return to work

Should a worker be removed from work, they must not return to work until they have been assessed as medically fit. This should include assessment of resolution of symptoms and remediation undertaken by the PCBU. The registered medical practitioner must formally recommend the worker can return to work to the PCBU.

Termination of health monitoring – data to be collected

Final medical examination

A final medical examination should be conducted when the worker has finished working with the chemical that triggered health monitoring.

Workers with continuing symptoms of exposure or health conditions due to exposure should be advised to seek continuing medical examinations.

Health monitoring report

A final health monitoring report must be provided to the PCBU.

Content of health monitoring report

Section one of the health monitoring report must contain²⁸:

- the name and date of birth of the worker
- the name, registration number and signature of the registered medical practitioner
- name and address of the business or undertaking
- the date(s) of health monitoring
- for health monitoring in relation to hazardous chemicals– any test results that indicate whether or not the worker has been exposed above the workplace exposure standard.
- any advice that results indicate the worker may have contracted an injury, illness or disease as a result of exposure during carrying out the work that triggered the requirement for health monitoring
- any recommendation that remedial measures are to be taken, including whether the worker can continue to carry out the type of work that triggered the health monitoring, and
- whether medical counselling or specialty medical advice is required for the worker in relation to the injury, illness or disease caused by exposure during work that triggered the requirement for health monitoring.

Section two of the health monitoring report contains the information and test results that you collected to assess if a worker has been exposed to hazardous chemical and impacts on worker health. This may include:

- information on the exposure history
- the questionnaire on general health
- the questionnaire on chemical specific symptoms
- results of the medical examination

²⁸ WHS Regulation r374

- results of the exposure monitoring

When the full report is complete, both section one and section two should be signed. A copy of section one is sent to the PCBU who has engaged the services. The PCBU will provide a copy of this report and any recommendations to the worker.

Section two is to be retained by the medical provider to maintain confidentiality for the worker undergoing the health monitoring. Confidential information about a worker that has no bearing or relevance to their work must not be disclosed to another person without their written consent, including to the PCBU. This means that detailed results should not be included in section one. However, you should include a recommendation or advice based on the test results, for example tests show early indication or diagnosis of injury, illness or disease, or other interpretation of radiology or spirometry readings recommending review of workplace controls. You may provide a copy of section two to the worker at the conclusion of the examination.

Confidentiality of health monitoring records

Health monitoring records must be kept confidential²⁹. The report and results must not be disclosed to another person without the worker's written consent unless the records are required to be given under the WHS Regulations to:

- the WHS regulator
- another PCBU who has a duty to provide health monitoring for the worker, or
- a person who must keep the record confidential under a duty of professional confidentiality.

The report must not be used for any purpose other than providing the PCBU with information on the results of the health monitoring program. For example, the report should not contain details of medical conditions disclosed during the health monitoring program if these have no relevance or bearing on the work being performed.

Similarly, blood or tissue samples, X-rays, questionnaires or other materials taken for health monitoring must not be used for any other purpose.

Requirements for ongoing medical treatment

If health monitoring indicates further medical treatment is necessary, referrals for specialist treatments should be made by the registered medical practitioner supervising the health monitoring program. Treatment programs for adverse health effects or medical conditions should only be discussed between the worker and the registered medical practitioner.

Further information

Further information on health monitoring requirements, including information on individual scheduled chemicals, can be found on the Safe Work Australia website:

- *Health monitoring guide for persons conducting a business or undertaking*
- *Health monitoring guide for workers, and*
- *Health monitoring guides for hazardous chemicals.*

²⁹ WHS Regulation r378