NSW Resources
Resources Regulator

April 2025

Frequently asked questions

WHS Chapter 8A crystalline silica Regulations

What are the WHS crystalline silica Regulations?

The NSW Government commenced the model national crystalline silica amendments for working with a crystalline silica substance (CSS) on 1 September 2024. These amendments comprise Chapter 8A of the WHS Regulation and ensure duty holders under the *Work Health and Safety Act 2011* have specific control measures in place to prevent, as far as reasonably practicable, workers processing a CSS from being exposed to hazardous concentrations of respirable crystalline silica dust (RCS) at work.

This paper details the Resources Regulator's answers to frequently asked questions in relation to the crystalline silica regulations.

When is processing of CSS 'controlled'?

If higher order controls are implemented, respiratory protective equipment (RPE) is worn and an exceedance event occurs, and the duty holder maintains they have complied with legislation, what is the Regulator's enforcement approach?

Assuming the duty holder has complied with the requirement for reporting the exceedance event, the Regulator's compliance approach may include:

- assessment of the circumstances of the exceedance on an individual basis i.e. was it due to an unusual situation, equipment breakdown etc?
- assessment of the implementation of controls i.e. are controls satisfactory in accordance with the definition of 'controlled' processing of a CSS as per s529B, including:
  - implementation of controls as far as reasonably practicable
  - demonstrated effectiveness of controls implemented
  - inclusion of at least one of the controls nominated in s529B
  - provision and wearing of RPE in accordance with s529B

If the duty holder has demonstrated all of the above, then a duty holder is determined to be compliant with the legislation and no enforcement action is warranted. The exceedance event would be recorded in the exceedance database for statistical purposes.

How will the Regulator assess the implementation and effectiveness of higher order controls if an exceedance occurs?

The Regulator will examine the controls used for the process to ascertain if all reasonably practicable measures have been implemented, including using at least one of the higher order controls nominated in 529B(1)(b). Verification of the effectiveness of controls should be undertaken by the duty holder as part of the review of control measures (required as per s15 of WHS(MPS) Regs). This could be achieved by real-time monitoring or repeat monitoring of the worker, task or process that recorded the exceedance. The Regulator may request evidence of control validation.

In terms of the requirement of 529B(1)(b) for at least one higher order control measure to be implemented, how does the Regulator define a 'fully enclosed operator cabin fitted with a high-efficiency air filtration system'?

In terms of clarification of a 'fully enclosed operator cabin fitted with a high efficiency air filtration system' the Regulator will adopt a definition similar to that outlined in the national guidance material published by SafeWork Australia - Working with crystalline silica substances: Guidance for PCBUs (2024).

The Regulator defines a fully enclosed operator cabin fitted with a high efficiency air filtration system is one that:

a) is operated with the cab door and windows closed

b) is maintained to ensure the cab, door, windows and rubber seals are free from damage that could allow ingress of dust

c) maintains a positive internal cab pressure between 50 Pa and 200 Pa (as per AS ISO 10263-4:2022) when the machine is in use

d) is fitted with a real-time monitor that displays the internal cabin pressure and alarms when the pressure drops below a pre-determined level (where possible)

e) uses HEPA (H13 or H14) filtration on the cabin air intake, and

f) incorporates a HEPA (H13 or H14) filter in the internal air-recirculation system (where possible).

For further guidance on enclosed operator cabins and air filtration systems, the Regulator recommends mine operators refer to:

- AS ISO 10263 series Operator enclosure environment (parts 1 – 5)
- AS/NZS ISO 23875 Mining — Air quality control systems for operator enclosures — Performance requirements and test methods.

How will the Regulator escalate continued non-compliance?

A trigger action response plan (TARP) will be used to escalate the Regulator's response to dust exposure exceedance events. The TARP will consider the number, frequency and concentration of exceedance events recorded by the site to determine the response level, which may include a desktop review or site inspection.

Respiratory protective equipment

How will the Regulator assess the provision and wearing of RPE?

The effectiveness of RPE will be determined through compliance with the requirements of AS/NZS 1716:2012 Respiratory protective devices and AS/NZS 1715:2009 Selection, use and maintenance of respiratory protective equipment. This may include, but may not be limited to, the type of RPE provided, use of tight-fitting negative pressure RPE in regard to fit-testing and clean-shaven requirements, the use of RPE by the worker and supervision of use.

What is the Regulator's position on the protection factors of various RPE?

The protection factors for various RPE are defined in AS/NZS 1715:2009 and represent a measure of the degree of protection afforded by the respirator to reduce exposure to an acceptable level. The protection factor of RPE must be considered during the selection process for suitable RPE provided by the duty holder to workers.

What is the Regulator's position when an exposure exceedance is measured during personal monitoring and a duty holder proposes the exceedance was not valid due to wearing RPE and the protection factor offered by the RPE?

The Regulator's position is any exceedance of the workplace exposure standards measured through personal exposure monitoring must be reported as per the requirements of s124(5)(q) & (s) of the WHS (MPS) Regulation. Measured exposure monitoring results must not be altered to account for RPE.

Under the requirements of s529CE, exceedances of the crystalline silica workplace exposure standard must be reported to the WHS regulator even if workers are wearing appropriate and correctly fitted respiratory protective equipment, which provides protection from exposure to RCS. The Safe Work Australia national guidance material (Working with crystalline silica substances – guidance for PCBUs, July 2024) reinforces this position.

Under what circumstances does the Regulator expect workers to be wearing RPE?

The requirement for wearing RPE may be implemented by a duty holder as part of their duty to ensure the processing of a CSS is controlled (regardless of whether it is determined to be high risk or not). This requirement should be defined in the site safety management system (airborne contaminants principal hazard management plan or silica risk control plan – for tier 3 quarries).

The Regulator will assess workers' compliance of RPE use in accordance with the requirements of the site's documented safety management systems.

If a duty holder has implemented higher order controls as part of their safety management system under their duty for processing of a CSS to be controlled, and the controls have been verified to be effective, then workers are not required to wear RPE. For example, workers who carry out duties in fully enclosed operator cabins fitted with a high efficiency air filtration systems or positive pressure enclosed cabins/rooms.

What is the Regulator's position on continuous flow loose-fitting powered air purifying respirators (PAPR)?

Chapter 8A of the WHS Regulation makes provision for using continuous flow (positive pressure) loose-fitting PAPR through the design and performance requirements outlined in AS/NZS 1716:2012 and the protection factors presented in AS/NZS 1715:2009. This form of RPE generally does not require a worker to be clean-shaven or fit-tested, however, specific original equipment manufacturer (OEM) instructions should still be observed as many of these forms of loose-fitting PAPR still require the elasticised edge of the face seal to maintain skin contact under the chin and around the jaw. The Regulator recommends using continuous flow loose-fitting PAPR in circumstances where workers may not be able to remove facial hair for cultural, religious or medical reasons.

Further to this list of frequently asked questions, a position paper in relation to mine operators' obligations under Chapter 8A of the WHS Regulation is available on the Regulator's website.
