

Breathing Silica Dust Risk Assessment

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	

RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	
Risk Rating & Required Action:								Notes on Hierarchy of Controls:	
4A		Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.						Remember to apply controls in the preferred order shown by the coloured pyramid:	
3H		Review and approve additional controls before task starts. Senior supervisor sign-off needed.						1. Eliminate	
2M		Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.						2. Substitute	
1L		Proceed, following standard operating procedures. Monitor and keep records.						3. Isolate	
								4. Engineering	
								5. Administrative	
								6. PPE	
Consequence Scale:								Always document why a lower-order control is accepted if elimination or substitution is not reasonably practicable.	
Consequence	People (injury/illness)		Project / Assets		Compliance / Reputation				
Catastrophic	Fatality or permanent total disability		project shutdown		Significant regulator intervention; criminal prosecution				
Major	Serious injury/illness (hospital > 5 days)		critical delay		Improvement notice; major media coverage				
Moderate	Medical-treatment injury; lost-time > 1 day		moderate delay		Minor breach; adverse client comment				
Minor	First-aid only, no lost time		negligible delay		Isolated non-conformance				
Insignificant	No injury		no schedule impact		Deviation caught and corrected on site				
								aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.	

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Review site plans	insufficient information, hidden silica exposures	2M	<ul style="list-style-type: none"> - Consult with geologists to identify silica presence in soil. - Use comprehensive surveys to identify potential locations of silica dust. - Access historical site data and records for known silica risks. - Obtain digital site maps for precise drilling and excavation locations. - Validate information accuracy with secondary sources. - Train personnel on interpreting site plans concerning silica risks. - Partner with local authorities for oversight on previously undocumented risks. - Regularly update site plans to reflect new findings. - Employ technology to detect silica presence before accessing the area. - Ensure clear communication with all stakeholders regarding risk potential. 	1L
2. Initial briefing with team	communication failures, incomplete hazard understanding	2M	<ul style="list-style-type: none"> - Conduct detailed briefing sessions before starting operations. - Provide comprehensive printed and digital briefings. - Ensure all employees understand silica hazards through Q&A sessions. - Review emergency procedures in case of silica dust exposure. - Use language translators for non-English speaking members. - Develop checklists covering key safety points for reference. - Repeat briefings regularly for emphasis on critical points. - Incorporate visual aids to enhance communication. - Require sign-off from each team member certifying understanding. - Schedule follow-up sessions to reinforce briefing topics. 	1L
3. Equipment check	malfunctioning dust suppression systems, worn protective gear	3H	<ul style="list-style-type: none"> - Regular maintenance schedule for all dust suppression equipment. - Check personal protective equipment for wear and tear before use. - Replace defective equipment immediately upon discovery. - Ensure sufficient supply of protective gear for all workers. - Implement a daily checklist for equipment functionality. - Employ trained personnel for equipment inspections. - Utilize technology for real-time monitoring of equipment status. - Maintain a log of all checks and repairs conducted. 	1L

<p>ust, inadequate access</p>	<p>3H</p>	<p>100%</p>
<p>tion from earth es</p>	<p>4A</p>	<p>100%</p>

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7. Monitor air quality	high silica concentrations, sensor failure	4A		2M
8. Personal Protection Equipment (PPE) enforcement	insufficient or incorrect PPE use, rapid PPE degradation	3H		1L
9. Supervise waste disposal	improper disposal of silica-containing materials, accidental exposure during waste handling	3H		2M

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10. Regular health surveillance	undiagnosed respiratory issues, sudden health deterioration	3H		1L
11. Monitor worker exposure	overexposure to silica dust, long-term exposure accumulation	4A		2M
12. Emergency response planning	inadequate response to silica exposure, delayed emergency response	3H		1L

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13. Conduct risk assessments	outdated risk information, risk underestimation	3H		1L
14. Employee training and awareness programs	lack of hazard awareness, improper response to silica risks	4A		1L

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15. Periodic review of risk controls	failure of existing controls, emerging unassessed risks	3H	<div>SAMPLE</div> <div>[REDACTED]</div>	1L
16. Collaborate with external experts	limited internal expertise, inefficient hazard management	2H	<div>SAMPLE</div> <div>[REDACTED]</div>	1L
17. Implement administrative controls	uncoordinated efforts, ineffective policy enforcement	3H	<div>SAMPLE</div> <div>[REDACTED]</div>	1L

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18. Communication of risk findings	miscommunication of risk data, data overload	2M		1L
19. Reinstate site operations	unexpected disruptions, unresolved hazards	3H		1L

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20. Site closure procedures	final site silica exposure, incomplete hazard de-escalation	2M	<div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> </div>	1L

SAMPLE

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES IF ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory

Work Health and Safety Act 2011

Work Health and Safety Regulations 2011

Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>

Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>

Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>

Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

New South Wales

Work Health and Safety Act 2011

Work Health and Safety Regulations 2017

Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>

Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011

Work Health and Safety (National Uniform Legislation) Regulations 2011

Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>

Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

South Australia

Work Health and Safety Act 2012 (SA)

Work Health and Safety Regulations 2012 (SA)

Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>

Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

Tasmania

Work Health and Safety Act 2012

Work Health and Safety (Transitional and Consequential Provisions) Act 2012

Work Health and Safety Regulations 2012

Work Health and Safety (Transitional) Regulations 2012

Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>

Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.

Victoria

Occupational Health and Safety Act 2004

Occupational Health and Safety Regulations 2017

Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>

Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

Western Australia

Work Health and Safety Act 2020

Work Health and Safety Regulations 2022

Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>

Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>

Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work