

## Deal With Hydrogen Sulphide Exposure 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	4A ACUTE	DO NOT PROCEED	Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE			Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE			Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE			Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH			Administrative Change	
						1L LOW	Monitor and keep records.	PPE	
<b>Risk Rating &amp; Required Action:</b>								<b>Notes on Hierarchy of Controls:</b>	
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	
<b>Consequence Scale:</b>								4. Engineering	
Consequence		People (injury/illness)		Project / Assets		Compliance / Reputation		5. Administrative	
Catastrophic		Fatality or permanent total disability		project shutdown		Significant regulator intervention; criminal prosecution		6. PPE	
Major		Serious injury/illness (hospital > 5 days)		critical delay		Improvement notice; major media coverage		Always document <b>why</b> a lower-order control is accepted if elimination or substitution is not reasonably practicable.	
Moderate		Medical-treatment injury; lost-time > 1 day		moderate delay		Minor breach; adverse client comment		aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.	
Minor		First-aid only, no lost time		negligible delay		Isolated non-conformance			
Insignificant		No injury		no schedule impact		Deviation caught and corrected on site			

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. Preparation	inadequate training, lack of equipment	3H	<ul style="list-style-type: none"> <li>- Conduct comprehensive training on hydrogen sulphide hazards</li> <li>- Ensure all personnel have access to and understand the Material Safety Data Sheet (MSDS)</li> <li>- Verify equipment availability and suitability for tasks</li> <li>- Conduct safety briefing prior to task commencement</li> <li>- Establish emergency procedures and communicate to all workers</li> <li>- Ensure communication devices are functional for emergencies</li> <li>- Identify team leader responsible for monitoring task safety</li> <li>- Provide hydrogen sulphide exposure monitoring tools</li> <li>- Restrict access to authorised personnel only</li> <li>- Maintain up-to-date training records for personnel</li> </ul>	2M
2. Site Inspection	unidentified gas sources, uneven surfaces	3H	<ul style="list-style-type: none"> <li>- Perform a thorough inspection to identify potential hydrogen sulphide emission points</li> <li>- Use portable gas detectors to check hydrogen sulphide levels</li> <li>- Identify and mark uneven surfaces with high-visibility tape</li> <li>- Implement buddy system to ensure worker safety</li> <li>- Document and communicate inspection findings to all relevant personnel</li> <li>- Correct or report any identified hazards before commencing work</li> <li>- Utilize drone technology for inaccessible areas</li> <li>- Establish clear communication channels for inspection updates</li> <li>- Regularly inspect and recalibrate detection equipment</li> <li>- Ensure all inspection crew are trained in hazard recognition</li> </ul>	2M
3. Equipment Setup	incorrect setup, equipment failure	3H	<ul style="list-style-type: none"> <li>- Double-check equipment setup using a checklist</li> <li>- Conduct functionality tests on all equipment prior to use</li> <li>- Ensure only trained personnel handle equipment setup</li> <li>- Provide backup equipment in case of primary equipment failure</li> <li>- Follow manufacturers' instructions during setup</li> <li>- Document setup process to ensure compliance</li> <li>- Maintain communication between setup team members</li> <li>- Schedule regular maintenance checks on equipment</li> </ul>	2M

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			<ul style="list-style-type: none"> <li>- Establish a troubleshooting guide for common issues</li> <li>- Verify availability of necessary tools for repair</li> </ul>	
4. Ventilation Assessment	inadequate ventilation, obstructed airways	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
5. Personal Protective Equipment (PPE)	incorrect PPE use, PPE malfunction	3H	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	1L
6. Monitoring Hydrogen Sulphide Levels	undetected gas levels, equipment inaccuracy	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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7. Work Execution	unauthorised personnel entry, procedure deviation	3H		1L
8. Emergency Response Planning	delayed response, incomplete emergency kits	3H		2M
9. Waste Disposal	incorrect waste segregation, chemical exposure	3H		1L

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10. Decommissioning	residual gas emission, equipment malfunction	3H		2M
11. Maintenance	infected maintenance tools, incomplete task execution	3H		1L
12. Environmental Monitoring	unaddressed contamination, inconsistent monitoring	4A		2M

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13. Training and Competency	skill gaps, inadequate learning resources	3H		1L
14. Post-Operation Review	overlooked procedural deficiencies, underreported incidents	3H		1L
15. Reporting and Documentation	data loss, incomplete records	3H		1L

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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>

### 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>

### 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>

### 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>

### 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>

### 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

### 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.