

Spray Foam Insulation and Chemical Foaming

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:	

SAMPLE

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:	
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.
3H	Review and approve additional controls for the task parts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures. Monitor and keep records.

Consequence Scale:			
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

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. **Substitute**
3. **Isolate**
4. **Engineering**
5. **Administrative**
6. **PPE**

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

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. WHS Legal Compliance, Duties and Governance	<ul style="list-style-type: none"> Lack of understanding of PCBU primary duty of care under WHS Act 2011 for spray foam insulation and chemical foaming operations No formal process to identify and comply with relevant WHS Regulations, Codes of Practice and Australian Standards (e.g. hazardous chemicals, confined spaces, electrical safety, respiratory protection) Inadequate appointment of WHS responsibilities and due diligence obligations for officers and senior managers Failure to consult, cooperate and coordinate with other duty holders (builders, principal contractors, other trades, tenants, building owners) Insufficient review of compliance following incidents, enforcement notices or legislative changes 	4A	<ul style="list-style-type: none"> Establish and maintain a documented WHS Management System aligned to WHS Act 2011, WHS Regulations and relevant Codes of Practice for hazardous chemicals and construction work Allocate clear WHS roles, responsibilities and authorities for officers, managers, supervisors and workers in position descriptions and organisational charts Implement a legislative compliance register covering spray foam insulation, foam board insulation, chemical foaming systems and hot wire foam cutting activities, with scheduled periodic reviews Undertake regular WHS legal compliance audits (internal or external) and track actions in a corrective action register Ensure officers complete due diligence training specific to hazardous chemical management and construction health risks (respiratory, skin, fire and environmental hazards) Implement a consultation procedure requiring coordination of WHS controls with principal contractors, other PCBUs and property owners before works commence Include WHS compliance performance indicators in management reviews and business planning processes 	3H
2. Hazardous Chemicals Identification, Assessment and Register Management	<ul style="list-style-type: none"> Incomplete or inaccurate identification of hazardous chemicals used in spray foam and foaming operations (isocyanates, blowing agents, adhesives, cleaning solvents, propellants) Lack of current Safety Data Sheets (SDS) compliant with Australian requirements Failure to recognise hazardous decomposition products (e.g. toxic fumes from heated or burnt foam boards and cured foams) No formal hazardous chemical risk assessments addressing inhalation, skin contact, eye contact, fire and environmental contamination Unlabelled or incorrectly labelled decanted containers and foaming equipment reservoirs 	4A	<ul style="list-style-type: none"> Maintain a centralised hazardous chemicals register listing all spray foam products, two-part systems, foam board adhesives, solvents, cleaning agents and propellants used on any site Ensure current (≤5 years old) Australian-compliant SDS are readily accessible to workers (electronic and hard copy) and integrated into training and risk assessments Conduct formal hazardous chemical risk assessments for each major product line covering storage, mixing, application, curing, off-gassing and waste management Implement a strict chemical labelling procedure for all original and decanted containers, with periodic supervision checks Standardise product selection to a controlled list of approved foams and foam board systems with known hazard profiles and preferred lower-hazard options where practicable Review new products through a pre-purchase WHS and environmental impact assessment process before introduction into the business Integrate hazardous chemical information into project-specific WHS documentation and communication with principal contractors and building owners 	2M

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
	<ul style="list-style-type: none"> • Reliance on PPE alone instead of a hierarchy of controls approach to respiratory risk • Lack of air monitoring or verification against relevant Workplace Exposure Standards • Secondary exposure to other workers, occupants or neighbours from overspray, fumes or off-gassing during curing • Inadequate decontamination procedures leading to take-home exposure risks via contaminated clothing and equipment 		[REDACTED]	
6. Thermal, Fire and Explosion Risk Management	<ul style="list-style-type: none"> • Generation of flammable vapours from propellants, solvents or heated foam boards during cutting and foaming operations • Auto-ignition or combustion of foam materials when exposed to hot wire cutters or other heat sources • Inadequate control to prevent ignition sources (smoking, grinding, electrical sparks) in areas with spray foam activities • Incorrect assumption that all foam products are non-combustible leading to poor fire-stopping design and management • Failure to manage exothermic reaction heat build-up in large volume foaming applications, leading to smouldering and delayed ignition 	4A	[REDACTED]	2M
7. Design, Specification and Incorrect Use of Insulating Foams	<ul style="list-style-type: none"> • Selection of inappropriate foam products for specific building applications (e.g. incorrect fire rating, moisture resistance, or thermal performance) 	3H	[REDACTED]	2M

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
	<ul style="list-style-type: none"> • Deviation from manufacturer design limitations (thickness, substrate compatibility, curing conditions) leading to system failure or hazards • Incorrect use of expanding foams in confined or sensitive building elements causing structural damage, window frame distortion or services obstruction • Inadequate coordination between designers, builders and installers resulting in gaps, thermal bridges or condensation issues • Use of non-approved foam board insulation systems or substitutions without formal review 		[REDACTED]	
8. Site Planning, Segregation and Interface with Other Trades and Occupants	<ul style="list-style-type: none"> • Poor planning of work areas leading to uncontrolled interaction between foam installers, other trades and building occupants • Inadequate segregation from food preparation, childcare centre or other sensitive environments during foaming operation • Failure to communicate times, re-entry criteria and ventilation requirements to principal contractor and occupants • Dust and debris from foam board cutting affecting adjacent workers or equipment • Uncontrolled access to stored foam boards, chemicals and plant by unauthorised persons 	3H	[REDACTED]	2M
9. Worker Competency, Training and Supervision	<ul style="list-style-type: none"> • Workers performing spray foam, foam board installation and chemical foaming tasks without adequate competency or formal training 	4A	[REDACTED]	2M

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
	<ul style="list-style-type: none"> • Insufficient understanding of chemical hazards, safe mixing ratios, reaction times and curing characteristics • Lack of competence in safe operation and maintenance of foam cutters and other specialised equipment • Inadequate supervision of apprentices, labour hire personnel or new workers leading to unsafe practices • Failure to recognise early symptoms of respiratory sensitisation, skin reactions or chemical exposure 		[REDACTED]	
10. PPE Programs, Fit Testing and Decontamination Systems	<ul style="list-style-type: none"> • Improper selection or use of respiratory, eye, skin and hearing protection for spray foam and cutting operations • No formal fit-testing program for tight-fitting respirators used around isocyanates and vapours • Inadequate cleaning, repair and replacement systems for PPE leading to ineffective protection • Lack of defined procedures for donning, doffing and decontamination of PPE, causing secondary exposure or cross-contamination • Insufficient management oversight resulting in inconsistent PPE compliance between sites and crews 	3H	[REDACTED]	2M
11. Health Monitoring, Fitness for Work and Medical Management	<ul style="list-style-type: none"> • Failure to provide health monitoring for workers exposed to isocyanates and relevant hazardous chemicals as required by WHS Regulations • Delayed recognition of work-related asthma, dermatitis or other sensitisation associated with foaming chemicals • Workers attending work while impaired by illness, medication, alcohol or drugs 	3H	[REDACTED]	2M

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
	<ul style="list-style-type: none"> affecting safe operation of equipment and vehicles Inadequate systems for confidential reporting and management of health concerns related to foam insulation work Poor communication with treating practitioners regarding workplace exposures and restrictions 		[REDACTED]	
12. Contractor, Labour Hire and Supply Chain Management	<ul style="list-style-type: none"> Use of subcontractors or labour hire workers who do not meet organisational WHS standards for spray foam and chemical foaming activities Poor clarity of WHS responsibilities and handover of risk controls between PCBUs in the supply chain Inconsistent training, equipment and PPE standards across different contractors on the same site Lack of verification of chemical sourcing, product quality and compliance of imported foam products with Australian requirements Inadequate management of transport providers who move foaming chemicals and foam boards 	2H	[REDACTED]	2M
13. Environmental Management, Waste and Off-Site Impacts	<ul style="list-style-type: none"> Uncontrolled discharge of foam chemicals, overspray or wash-water to stormwater, soil or neighbouring properties Improper disposal of foam off-cuts, contaminated packaging and chemical residues leading to environmental contamination or fire load increase Noise, odour and fume complaints from neighbours or adjacent occupants during foaming and foam board cutting activities 	3H	[REDACTED]	2M

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
	<ul style="list-style-type: none"> Inadequate emergency planning for significant chemical spills during transport, storage or on-site handling Lack of consideration of end-of-life removal or rework of foam products during refurbishments and demolitions 		[REDACTED]	
14. Emergency Preparedness, Incident Response and Investigation	<ul style="list-style-type: none"> Lack of prepared and practised emergency procedures for chemical exposure, fires, explosions and spills involving foam products Insufficient availability of first aid, emergency showers and eye-wash facilities where chemicals are mixed or applied Delayed or ineffective response to accidental releases of isocyanates or other hazardous components Inadequate reporting, investigation and learning from incidents, near misses and health complaints Poor coordination with site emergency plans, fire services and medical responders 	3H	[REDACTED]	2M
15. Documentation, Information Management and Continuous Improvement	<ul style="list-style-type: none"> Outdated or inconsistent procedures, risk assessments and training materials for spray foam and foam cutting operations Lack of version control and document approval leading to workers following superseded requirements Poor capture and use of monitoring data (health monitoring, air sampling, inspections) to improve controls Inadequate communication of lessons learned across different crews, regions or projects 	2M	[REDACTED]	1L

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
	<ul style="list-style-type: none"> Failure to incorporate new technology, regulatory changes or industry best practice into existing systems 		<div style="background-color: black; width: 100%; height: 15px; margin-bottom: 5px;"></div> <div style="background-color: black; width: 100%; height: 15px;"></div>	

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 FOR 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 2025
 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) Regulation 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>

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>

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

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.