

**Charging Forklift Batteries**

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			<b>Elimination</b> Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	<b>Substitution</b> 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.	<b>Engineering</b> 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:	
<b>4A</b>	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.
<b>3H</b>	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
<b>2M</b>	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
<b>1L</b>	Proceed, following standard operating procedures. Monitor and keep records.

  

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
<b>Catastrophic</b>	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
<b>Major</b>	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
<b>Moderate</b>	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
<b>Minor</b>	First-aid only, no lost time	negligible delay	Isolated non-conformance
<b>Insignificant</b>	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. Governance, Policy and WHS Duties	<ul style="list-style-type: none"> <li>Absence of a documented WHS policy specific to battery charging and storage for electric forklifts</li> <li>Unclear allocation of WHS duties and due diligence responsibilities under the WHS Act 2011 (officers, PCBUs, workers, contractors)</li> <li>Inadequate consultation with workers and Health and Safety Representatives (HSRs) on battery charging risks and controls</li> <li>Failure to ensure systems for monitoring, reviewing and continuously improving WHS performance related to battery charging</li> <li>No integration of battery charging risks into the organisation's overall WHS management system and risk register</li> </ul>	High	<ul style="list-style-type: none"> <li>Develop and endorse a site-specific WHS policy that explicitly addresses charging, maintenance and storage of forklift batteries, aligned with WHS Act 2011 and WHS Regulations</li> <li>Document and communicate roles and responsibilities for officers, managers, supervisors, workers and contractors in relation to forklift battery charging safety and compliance</li> <li>Establish formal consultation mechanisms (e.g. WHS committees, toolbox talks, HSR forums) to discuss battery charging hazards, incidents and improvement actions</li> <li>Include forklift battery charging risks in the organisation's WHS risk register, with assigned risk owners, review dates and action tracking</li> <li>Implement a documented safety management plan for powered industrial trucks that covers battery charging, with measurable objectives, KPIs and review timelines</li> <li>Conduct periodic WHS legal compliance reviews focusing on hazardous chemicals (electrolyte), electrical safety and relevant safety obligations tied to battery charging</li> <li>Ensure senior management demonstrate due diligence by regularly reviewing incident data, inspection outcomes and audit findings relating to battery charging</li> <li>Integrate contractor management procedures so that external technicians working on chargers or batteries comply with site WHS policies and permits</li> </ul>	Medium
2. Procurement, Design and Engineering of Battery Charging Systems	<ul style="list-style-type: none"> <li>Selection of battery chargers, batteries and associated equipment that are not compliant with relevant Australian Standards or manufacturer specifications</li> <li>Incompatible combinations of forklifts, batteries and chargers leading to overcharging, gassing, overheating or battery failure</li> <li>Charging stations located in poorly ventilated or confined spaces increasing risk of hydrogen gas accumulation and explosion</li> <li>Charging systems without adequate electrical protection, isolation and fault detection</li> <li>Lack of spill containment and corrosion-resistant finishes for flooring and infrastructure around the charging area</li> <li>Inadequate segregation of charging area from traffic routes, pedestrians and flammable materials</li> </ul>	High	<ul style="list-style-type: none"> <li>Specify and procure battery chargers, batteries and associated equipment that comply with relevant Australian Standards (e.g. AS/NZS 3000, AS/NZS 3760, AS 2359 series) and original equipment manufacturer (OEM) requirements</li> <li>Implement an engineering review and sign-off process before purchase of new forklifts, batteries or chargers, confirming compatibility (voltage, capacity, charging profile) and required safety features</li> <li>Designate and engineer dedicated battery charging areas with adequate natural or mechanical ventilation in accordance with relevant standards and OEM guidance to manage hydrogen gas</li> <li>Ensure charging systems include appropriate circuit protection, earthing, RCDs where applicable and clearly labelled isolation switches for both emergency and maintenance purposes</li> <li>Provide spill containment systems (bundling, drip trays) and acid-resistant flooring or coatings around charging areas to manage electrolyte leaks and corrosion</li> <li>Develop design standards for battery charging layouts that ensure separation from pedestrian walkways, vehicle traffic, ignition sources and combustible materials, including clear exclusion zones</li> <li>Specify chargers with in-built safety functions (e.g. charge monitoring, automatic shut-off, temperature monitoring and fault indication)</li> <li>Require suppliers to provide technical documentation, commissioning reports and user manuals, and ensure they are stored and accessible within the WHS management system</li> </ul>	Medium

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3. Site Layout, Infrastructure and Environmental Controls	<ul style="list-style-type: none"> <li>Poorly planned location of charging areas resulting in congestion, collision risk and unsafe interaction between forklifts and pedestrians</li> <li>Insufficient space and poor ergonomics around chargers leading to awkward manual handling and strain injuries when connecting or moving batteries</li> <li>Inadequate lighting in charging areas contributing to trips, misconnection, inspection errors and damage to equipment</li> <li>Lack of fixed ventilation systems or inadequate airflow to disperse hydrogen and acid mist</li> <li>Poor control of stormwater or drainage allowing contaminated water from spills to enter the environment</li> </ul>	High	<ul style="list-style-type: none"> <li>Incorporate battery charging locations into the overall traffic management plan, ensuring clear separation from pedestrian paths, loading zones and high-traffic areas using barriers, markings and signage</li> <li>Design charging bays with sufficient clearance around each station to allow safe access, battery change-out (where applicable) and maintenance without overreaching or twisting</li> <li>Provide and maintain adequate illumination levels in charging areas consistent with relevant lighting standards, with periodic checks and prompt resolution of faults</li> <li>Install or verify ventilation systems (natural or mechanical) capable of keeping hydrogen concentration well below lower explosive limit and document ventilation design assumptions and maintenance requirements</li> <li>Implement fixed signage in charging areas indicating no smoking, no ignition sources, PPE requirements, emergency contact details and maximum forklift numbers in the area</li> <li>Ensure floor surfaces in charging areas are non-slip, in good condition and kept free of obstructions, with scheduled housekeeping inspections</li> <li>Design drainage and spill containment so that any electrolyte spills are contained, neutralised and disposed of in accordance with environmental and waste legislation</li> <li>Integrate charging area infrastructure requirements into capital works and facility change management processes so modifications are formally risk assessed before implementation</li> </ul>	Medium
4. Electrical and Fire Safety Management	<ul style="list-style-type: none"> <li>Uncontrolled electrical hazards from damaged chargers, cables, plugs or outlets</li> <li>Inadequate selection and maintenance of fire protection (extinguishers, detection, alarms) for areas with batteries and charging equipment</li> <li>Lack of systems for managing ignition sources near charging areas (hot work, smoking, vehicles, portable electrical equipment)</li> <li>Overloading of electrical circuits or use of non-compliant multi-boards and extension leads</li> <li>Failure to inspect, test and tag relevant electrical equipment in accordance with Australian requirements</li> </ul>	High	<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>	Medium

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			[REDACTED]	
5. Chemical and Hazardous Substances Management	<ul style="list-style-type: none"> <li>Exposure to battery electrolyte (acid or other chemistries) causing burns, eye injury and inhalation risks</li> <li>Inadequate classification, labelling and storage of batteries and associated hazardous chemicals (e.g. cleaners, neutralisers)</li> <li>Insufficient emergency equipment such as eyewash stations and safety showers near charging and maintenance areas</li> <li>Improper handling, storage and disposal of spent batteries and contaminated absorbents leading to environmental harm and regulatory non-compliance</li> <li>Incomplete or inaccessible Safety Data Sheets (SDS) for batteries and related substances</li> </ul>	High	[REDACTED]	Medium
6. Competency, Training and Supervision	<ul style="list-style-type: none"> <li>Workers performing battery charging without formal training or competency assessment</li> <li>Lack of understanding of specific risks such as hydrogen gas generation, electrical shock and acid exposure</li> <li>Insufficient supervision or monitoring of new, young or inexperienced workers in charging areas</li> <li>No refresher training or verification of current competency, leading to skill fade and unsafe short-cuts</li> <li>Contractors and visitors not inducted into site-specific battery charging risks and controls</li> </ul>	High	[REDACTED]	Low

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			[REDACTED]	
7. Procedures, Work Instructions and Documentation Control	<ul style="list-style-type: none"> <li>Absence of clear, written procedures for safe battery charging, inspection, isolation and fault reporting</li> <li>Outdated or inconsistent instructions between different departments, shifts or sites</li> <li>Reliance on informal or verbal instructions that vary between supervisors and experienced operators</li> <li>Inadequate document control resulting in workers using superseded procedure when equipment or layout has changed</li> </ul>	Medium	[REDACTED]	Low
8. Inspection, Maintenance and Asset Management	<ul style="list-style-type: none"> <li>Deteriorating chargers, cables, connectors and batteries not identified due to lack of systematic inspection</li> <li>Use of damaged or out-of-service equipment because isolation and tagging systems are ineffective</li> <li>Inadequate maintenance planning leading to unplanned failures, overheating and potential fires</li> <li>Lack of records demonstrating that maintenance has been performed by</li> </ul>	High	[REDACTED]	Medium

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	competent persons in accordance with OEM requirements		[REDACTED]	
9. Traffic Management and Interaction with Other Activities	<ul style="list-style-type: none"> <li>Conflicts between forklifts entering and leaving the charging area and other vehicles or pedestrians</li> <li>Charging leads and equipment creating trip hazards or collision points in traffic routes</li> <li>Uncontrolled parking of forklifts awaiting charging encroaching into aisles and emergency egress routes</li> <li>Other workplace activities (e.g. hot work, welding, grinding) occurring near charging areas without coordination</li> </ul>	High	[REDACTED]	Medium
10. Emergency Preparedness, Incident Management and First Aid	<ul style="list-style-type: none"> <li>Inadequate planning for fires, explosions, chemical burns or electric shock incidents in charging areas</li> <li>Lack of first aid capability and supplies relevant to electrolyte exposure and electrical injuries</li> <li>Incidents and near misses involving battery charging not being reported, investigated or acted upon</li> <li>Workers unsure of evacuation routes, assembly points and communication protocols in the event of an emergency originating at the charging station</li> </ul>	High	[REDACTED]	Medium

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			[REDACTED]	
11. Change Management and Project Implementation	<ul style="list-style-type: none"> <li>• Introduction of new forklift models, battery technologies or charging systems without formal risk assessment</li> <li>• Relocation or expansion of charging facilities without considering ventilation, electrical capacity and traffic management impacts</li> <li>• Software or control system changes, chargers not validated prior to use, leading to unsafe charging profiles</li> <li>• Contractors or project teams bypassing WHS governance when installing or modifying charging systems</li> </ul>	Medium	[REDACTED]	Low
12. Monitoring, Audit and Continuous Improvement	<ul style="list-style-type: none"> <li>• Failure to detect emergency or non-compliance in battery charging practices over time</li> <li>• Complacency leading to erosion of standards once systems have been implemented</li> <li>• Data on incidents, inspections and maintenance not analysed, resulting in repeated issues</li> <li>• Lack of worker feedback mechanisms to identify practical problems with charging systems and procedures</li> </ul>	Medium	[REDACTED]	Low

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			[REDACTED]	
			[REDACTED]	

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.