

Forklift Gas And Fuel

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:	
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 before task starts. 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. Governance, WHS Duties and Legislative Compliance	<ul style="list-style-type: none"> Failure of PCBU and officers to understand and discharge WHS Act 2011 duties in relation to LPG and petrol/diesel for forklifts Absence of a documented WHS management plan specifically addressing gas and fuel for forklifts and other powered industrial trucks Inadequate integration of forklift gas and fuel risks into the organisation's overall risk management framework and WHS consultation processes Lack of clarity around responsibilities between host employer, labour-hire providers, contractors and site controllers for fuel storage, change-out and emergency response Non-compliance with relevant Australian Standards and codes of practice for storage and handling of flammable and combustible liquids and LP Gas 	High	<ul style="list-style-type: none"> Develop and maintain a documented WHS management system (WHSMS) that explicitly includes gas and fuel risks for all forklifts, order pickers, pallet stackers, truck-mounted forklifts and elevated work platforms powered by internal combustion engines Undertake a formal legal compliance review against the WHS Act 2011, WHS Regulation, and applicable Australian Standards (e.g. AS/NZS 1596 LP Gas, AS 1940 flammable and combustible liquids) for forklift fuel and gas systems Define, document and communicate clear accountabilitys for officers, managers, supervisors and contractors concerning procurement, storage, issue, handling, battery charging, inspection and emergency management of gas and fuel Incorporate gas and fuel hazards into the organisation's WHS policy, risk management procedure and consultation arrangements, including HSRs and WHS committees Ensure contracts, service agreements and labour-hire arrangements stipulate responsibilities for forklift fuel systems including training, maintenance, inspections and incident reporting Establish an annual WHS governance review and internal audit program that includes verification of compliance with gas and fuel storage and handling requirements for forklifts and associated equipment Require management review meetings to consider incident trends, near misses and audit findings related to forklift fuel and gas systems and to track corrective actions to completion 	Medium
2. Procurement, Design and Specification of Forklifts and Fuel Systems	<ul style="list-style-type: none"> Selection of forklifts with inappropriate fuel type (LPG, petrol, diesel, battery electric) for the environment or use in poorly ventilated or hazardous areas Purchase or lease of forklifts, order pickers, pallet stackers and truck-mounted forklifts without adequate engineering controls for fuel system integrity and fire protection Use of non-compliant or incompatible LPG cylinders, regulators, hoses and fittings for forklifts Insufficient consideration of battery type, charging system and ventilation when procuring electric forklifts and pallet stackers Failure to specify requirements for counterbalance design, load capacity 	High	<ul style="list-style-type: none"> Implement a formal procurement procedure requiring WHS and engineering review before purchasing or hiring forklifts, order picker forklifts, pallet stackers, truck-mounted forklifts and elevated work platforms Specify fuel type based on risk assessment of work environment, including ventilation, potential explosive atmospheres, indoor vs outdoor use, and proximity to public or shared areas Require all fuel and LPG components (cylinders, valves, regulators, hoses) to comply with relevant Australian Standards and to be supplied with certificates of conformity and manufacturer instructions Ensure procurement specifications include fire protection features such as flame arrestors where applicable, engine shut-off systems, and suitable fire extinguishers mounted on vehicles Incorporate stability, counterbalance and load capacity requirements into purchase criteria, including impact of fuel tank size and location on centre of gravity for different load conditions For battery-electric forklifts and pallet stackers, require compatible battery charging systems with integrated safety devices, spill containment for electrolyte where relevant, and ventilation to control hydrogen accumulation Include design requirements for warning devices, lights, reversing alarms, gas detection where appropriate, and speed-limiting systems to support safe fuel-related operations Engage competent engineers or specialist suppliers to review suitability of forklifts used to transport scrap metal or operate on rough terrain where vibration or impact may compromise fuel system integrity 	Medium

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	<p>and stability in conjunction with fuel tank location and weight</p> <ul style="list-style-type: none"> Inadequate assessment of how forklifts transporting scrap metal or operating on uneven surfaces may increase tipping risk when fuel tanks are full or partially full 			
3. Fuel and LPG Storage, Handling and Refuelling Infrastructure	<ul style="list-style-type: none"> Inadequate design and management of LPG cylinder storage areas for forklifts leading to fire, explosion or gas exposure Non-compliant storage of petrol or diesel used for forklifts and truck-mounted forklifts (e.g. unbanded, poor segregation, inappropriate containers) Lack of segregation between fuel storage/refuelling points and battery charging areas for electric forklifts, creating ignition and explosion risks Poorly designed refuelling and gas-change stations with inadequate ventilation, traffic separation, signage and spill management Uncontrolled ignition sources such as smoking, hot work or vehicle exhausts and fuel storage Inadequate housekeeping around fuel and gas storage leading to accumulation of combustible materials or damaged cylinders and containers 	High	<ul style="list-style-type: none"> Design and manage LPG cylinder storage areas for forklifts in accordance with AS/NZS 1596, including segregation, clearances, ventilation, cylinder restraint, protection from impact and weather, and secure access control Store control arm cylinders in accordance with AS 1940, using approved containers, banded tanks, appropriate spill containment and clearly defined maximum quantities on site Location and design of refuelling and LPG change-over stations away from battery charging rooms and other potential ignition sources with clear zoning and physical barriers where necessary Provide compliant safety signage, placarding, emergency information panels and labelling at all fuel and LPG storage and refuelling locations, including "No Smoking" and "Flammable Gas/Liquid" signage Implement a documented inspection and housekeeping regime for fuel and LPG storage areas, including checks for leaks, corrosion, damage, unsecured cylinders, and presence of combustible rubbish Install adequate lighting, emergency stop systems, spill kits, fire extinguishers rated for flammable liquids and gases, and eyewash where required at refuelling and LPG handling points Develop and enforce procedures for safe delivery, storage, rotation and return of LPG cylinders and fuel, including maximum stack heights and segregation from traffic routes Control access to fuel and LPG storage areas to authorised and trained personnel only, through key, swipe or lock systems and clear induction requirements 	Low
4. Battery Charging Systems for Electric Forklifts and Pallet Stackers	<ul style="list-style-type: none"> Inadequately designed battery charging areas for electric forklifts, order pickers and pallet stackers leading to hydrogen accumulation, fire or explosion Poor ventilation and lack of monitoring of charging rooms used for high-reach forklifts and order pickers Absence of systems for managing electrolyte spills, damaged batteries or incorrect charging setups Uncontrolled ignition sources, including forklift traffic, hot work or electrical 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<p>equipment not rated for hazardous atmospheres within charging areas</p> <ul style="list-style-type: none"> • Inadequate separation between battery charging areas and LPG/fuel storage or refuelling points • Insufficient training and procedures for safe battery charging, battery replacement, and isolating equipment before maintenance 		[REDACTED]	
5. Operating Environment, Traffic Management and Fuel-Related Interactions	<ul style="list-style-type: none"> • Poorly planned traffic management systems resulting in forklifts refuelling or changing LPG cylinders in congested or pedestrian-heavy zones • Inadequate separation between forklift operating routes (including scrap metal transport routes) and fuel or LPG storage areas • Use of internal combustion forklifts in confined or poorly ventilated areas causing accumulation of exhaust gases and potential ignition hazards • Inappropriate locations for stopping, parking, and dismantling from forklifts near fuel storage or battery charging areas • No systematic assessment of how gradients, uneven ground and load characteristics (e.g. scrap metal, high-reach loads) affect tipping risk when combined with fuel tank placement and weight • Limited controls for order picker forklifts and pallet stackers operating near refuelling or battery charging zones, increasing collision and impact risks 	High	[REDACTED]	Medium
6. Operator Competency, Training	<ul style="list-style-type: none"> • Forklift, order picker and pallet stacker operators lacking formal licensing, 	High	[REDACTED]	Medium

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and Licensing for Fuel and Gas Risks	<p>verification of competency or role-specific training on gas and fuel hazards</p> <ul style="list-style-type: none"> • Inadequate training on the impact of counterbalance, load distribution and fuel tank location on forklift stability and tipping risk • Poor understanding of correct mounting and dismounting techniques, particularly when forklifts are positioned near fuel storage, refuelling or charging points • Limited knowledge of safe operation of high-reach, truck-mounted and order picker forklifts in proximity to fuel and LPG infrastructure • Operators and spotters unaware of emergency procedures for fuel leaks, LPG leaks, battery failures or fires associated with forklifts • Insufficient supervision and monitoring of new or labour-hire operators to ensure compliance with site specific fuel and gas procedures 		<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>	
7. Procedures for Refuelling, LPG Cylinder Management and Battery Replacement	<ul style="list-style-type: none"> • Absence of clear, documented procedures for refuelling forklifts and changing LPG cylinders leading to unsafe practices • Inconsistent practices between shifts, sites and labour-hire workers concerning gas cylinder connection, leak checking and storage • Improvised or ad-hoc methods for replacing or recharging batteries on electric forklifts, order pickers and pallet stackers • Failure to ensure forklifts are safely parked, isolated and stabilised before refuelling, LPG change-out or battery replacement 	High	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	Medium

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	<ul style="list-style-type: none"> Over-reliance on informal on-the-job instruction with no verification that workers understand fuel and gas procedures No systematic process for controlling and tracking keys, access cards or approvals for those performing fuel, LPG or battery change tasks 		[REDACTED]	
8. Inspection, Maintenance and Integrity Management of Fuel and Battery Systems	<ul style="list-style-type: none"> Lack of systematic inspection and preventative maintenance for forklift fuel systems, LPG components and batteries Use of damaged or out-of-test LPG cylinders on forklifts and truck-mounted forklifts Undetected leaks, corrosion, chafed hoses, loose fittings or damaged tanks due to absence of structured inspection programs Inadequate maintenance of battery systems leading to overheating, gassing, electrical faults or loss of capacity on high-reach forklifts, order pickers and pallet stackers Poor record keeping for repairs and scheduled maintenance forklifts and associated fuel infrastructure Reliance on operators alone to identify major fuel and gas defects without competent technical oversight 		[REDACTED]	Low
9. Incident Reporting, Emergency Preparedness and Spill Response	<ul style="list-style-type: none"> No structured system for reporting, investigating and learning from fuel leaks, LPG releases, fires, near misses or battery failures involving forklifts Inadequate emergency response planning for fuel and gas incidents, including evacuation, first aid and communication with emergency services 	High	[REDACTED]	Medium

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	<ul style="list-style-type: none"> Insufficient availability of suitable spill response equipment and fire protection for fuel and LPG-related emergencies Workers untrained in recognising early warning signs of gas leaks, overheating batteries, fuel system defects or tipping events linked to fuel load Lack of scenario-based drills incorporating forklift fuel fires, LPG leaks or battery incidents near charging and refuelling infrastructure Failure to coordinate emergency arrangements with neighbouring businesses or shared facilities where fuel and LPG risks may be interdependent 		[REDACTED]	
10. Change Management, Monitoring and Continuous Improvement	<ul style="list-style-type: none"> Uncontrolled introduction of new forklifts, fuels, battery technologies or storage configurations without risk assessment Failure to review and update WHS controls when work practices change, such as expansion of scrap metal transport, increase in high-reach forklifts or new battery charging equipment Inadequate monitoring and lagging indicators related to forklift fuel and gas safety performance Lack of consultation with workers and health and safety representatives when changing procedures or infrastructure related to fuel, LPG or battery charging Drift from established procedures over time due to production pressure, poor supervision or conflicting KPIs Inconsistent application of lessons learned from incidents or audits across multiple sites or business units 	High	[REDACTED]	Low

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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 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.