

**SKILLS FRAMEWORK FOR ENERGY AND CHEMICALS
SKILLS MAP - LABORATORY CHEMIST**

Sector	Energy and Chemicals			
Track	Quality Assurance and Quality Control (QA&QC)			
Occupation	Chemist			
Job Role	Laboratory Chemist			
Job Role Description	<p>The Laboratory Chemist applies existing test methods and analytical techniques for product testing and quality control, and recommends improvements in accordance with international best practice standards and procedures. He/She manages laboratory operation activities to meet customers' needs within schedule, and in accordance with the organisation's quality objectives. He develops and maintains laboratory Standard Operating Procedures (SOPs) and carries out laboratory special projects.</p>			
	<p>The Laboratory Chemist is responsible for maintaining the compliance of laboratory activities with Workplace Safety and Health (WSH) and Environmental Management System (EMS) requirements, which includes implementing the Management of Hazardous Chemicals Programme (MHCP) in the laboratory. He manages non-conformance by identifying standard deviation and product failure data from the laboratory information management system (LIMS). In addition, he implements continuous improvement initiatives and activities for the laboratory.</p>			
	<p>The Laboratory Chemist works in a team in the laboratory. He is a team player, able to work independently, organised and possesses good analytical and communication skills.</p>			
Critical Work Functions and Key Tasks	Critical Work Functions	Key Tasks		
	Administer Workplace Safety and Health (WSH) and Environmental Management Systems (EMS)	Analyse information from Safety Data Sheets (SDS) for the conduct of laboratory activities		
		Coordinate the conduct of activity-based risk assessments at the department level		
		Implement the Management of Hazardous Chemicals Programme (MHCP)		
		Maintain WSH and EMS practices and compliance with regulations and system requirements for laboratory activities at the department level		
		Support WSH and EMS incident investigations		
	Perform laboratory operations	Carry out laboratory special projects for new developments, systems and equipment at the department level		
		Develop and maintain Standard Operating Procedures (SOPs) for laboratory operations		
		Develop preventive maintenance regimes for laboratory equipment and/or on-line analysing devices		
		Manage laboratory operation activities to meet customers' needs within schedule and in accordance with the organisation's quality objectives		
		Provide technical advice on specifications for new laboratory equipment and consumable items		
	Manage analytical and test methods	Apply analytical techniques for product testing and quality control		
		Apply existing test methods and recommend improvements, in accordance with international best practice standards and procedures		
		Assist in the design of new experiments to solve complex problems and deliver high quality analytical results		
		Liaise with government agencies, testing laboratories and external suppliers regarding regulatory requirements, international standards and product specifications		
Manage non-conformance	Identify standard deviation and product failure data from the laboratory information management system (LIMS)			
	Support investigations into inconsistent quality processes and non-conformance issues			
Administer staff and organisational development	Adopt technologies to support virtual collaboration in remote locations			
	Implement continuous improvement initiatives and activities			
Skills & Competencies	Technical Skills and Competencies		Generic Skills and Competencies (Top 5)	
	Analytical Method Validation	Level 4	Problem Solving	Advanced
	Change Management	Level 4	Sense Making	Advanced
	Continuing Professional Development Management	Level 4	Leadership	Intermediate
	Continuous Improvement Management	Level 3	Developing People	Intermediate
	Data and Statistical Analytics	Level 3	Communication	Intermediate
	Environmental Management System Framework Development and Implementation	Level 4		
	Incident Investigation Management	Level 3		
	Laboratory Data Reporting and Analysis Management	Level 4		
	Laboratory Equipment Maintenance and Calibration Management	Level 4		
	Laboratory Operations Management	Level 4		

Skills & Competencies	Non-Conformance Management	Level 4	
	Product Testing Management	Level 4	
	Project Management	Level 4	
	Quality Assurance Management	Level 3	
	Quality Control Management	Level 4	
	Sample Management	Level 4	
	Technical Presentation	Level 4	
	Technical Report Writing	Level 4	
	Workplace Safety and Health Framework Development and Implementation	Level 4	
	Workplace Safety and Health Hazard Identification and Risk Control Management	Level 3	
Programme Listing	For a list of Training Programmes available for the Energy and Chemicals sector, please visit: www.skillsfuture.sg/skills-framework/energyandchemicals		

The information contained in this document serves as a guide.