

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

Sector	Energy and Chemicals				
Track	Quality Assurance and Quality Control (QA&QC)				
Occupation	Chemist				
Job Role	Senior Laboratory Chemist				
Job Role Description	The Senior Laboratory Chemist develops and validates new and improved test methods and establishes improved analytical techniques for the purpose of product testing and quality control. He/She liaises with government agencies, testing laboratories and external suppliers on matters relating to regulatory requirements, international standards and product specifications. He supports laboratory operations by validating the technical specifications of new laboratory equipment and providing guidance for the conduct of laboratory special projects.				
	The Senior Laboratory Chemist ensures the compliance of laboratory activities with Workplace Safety and Health (WSH) and Environmental Management System (EMS) requirements, by reviewing laboratory safe work practices and Standard Operating Procedures (SOPs). He manages non-conformance by highlighting standard deviation and product failure data to the quality assurance team. He validates continuous improvement initiatives and activities for the laboratory, and provides coaching and mentoring to the laboratory team.				
	The Senior Laboratory Chemist leads a team of chemists in the laboratory. He is able to multi-task, and possesses excellent analytical, communication and interpersonal skills.				
Critical Work Functions and Key Tasks	Critical Work Functions		Key Tasks		
	Administer Workplace Safety and Health (WSH) and Environmental Management Systems (EMS)	Ensure risk assessments for laboratory-related activities are conducted and control measures are implemented		Ensure compliance with WSH and EMS regulatory and system requirements at the department level	
		Establish the Management of Hazardous Chemicals Programme (MHCP), in accordance with industry practices and guidelines		Integrate information from Safety Data Sheets (SDS) into laboratory safe work practices and Standard Operating Procedures (SOPs)	
		Support WSH and EMS incident investigations			
		Perform laboratory operations		Ensure preventive maintenance regimes are aligned with the specifications of laboratory equipment and/or on-line analysing devices	
				Provide guidance on the conduct of laboratory special projects for new developments, systems and equipment at the department level	
	Manage analytical and test methods	Review SOPs for laboratory operations		Validate technical specifications of new laboratory equipment and consumable items	
		Design new experiments to solve complex problems and deliver high-quality analytical results		Develop and validate new and improved test methods, in accordance with international best practice standards and procedures	
		Establish improved analytical techniques for product testing and quality control		Liaise with government agencies, testing laboratories and external suppliers regarding regulatory requirements, international standards and product specifications	
		Manage non-conformance		Review standard deviation and product failure data and escalate to the quality assurance team where necessary	
	Administer staff and organisational development	Support investigations into inconsistent quality processes and non-conformance issues		Adopt technologies to support virtual collaboration in remote locations	
				Coach and mentor staff	
				Manage team performance to achieve organisational goals	
		Validate 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	Communication	Advanced	
	Continuous Improvement Management	Level 4	Decision Making	Intermediate	
	Data and Statistical Analytics	Level 4	Leadership	Intermediate	
	Environmental Management System Framework Development and Implementation	Level 4			
	Incident Investigation Management	Level 3			
	Laboratory Data Reporting and Analysis Management	Level 5			
	Laboratory Equipment Maintenance and Calibration Management	Level 5			
	Laboratory Operations Management	Level 5			
Non-Conformance Management	Level 4				

Skills & Competencies	Procurement Management	Level 4	
	Product Testing Management	Level 5	
	Project Management	Level 5	
	Quality Assurance Management	Level 4	
	Quality Control Management	Level 4	
	Sample Management	Level 5	
	Technical Presentation	Level 5	
	Technical Report Writing	Level 4	
	Training, Coaching and Assessment Management	Level 3	
	Workplace Safety and Health Framework Development and Implementation	Level 4	
	Workplace Safety and Health Hazard Identification and Risk Control Management	Level 4	
	Yield Analysis	Level 4	
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.