Sector: Energy and Chemicals  
Track: Quality Assurance and Quality Control (QA&QC)  
Occupation: Chemist  
Job Role: Laboratory Chemist

Job Role Description:
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.

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.

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.

Critical Work Functions and Key Tasks:

**Critical Work Functions**

- 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
- Manage non-conformance by identifying standard deviation and product failure data from the laboratory information management system (LIMS)
- Support investigations into inconsistent quality processes and non-conformance issues

**Key Tasks**

- 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

- Analytical Method Validation: Level 4
- Change Management: Level 4
- Continuing Professional Development Management: Level 4
- Continuous Improvement Management: Level 3
- Data and Statistical Analytics: Level 3
- 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

### Generic Skills and Competencies (Top 5)

- Problem Solving: Advanced
- Sense Making: Advanced
- Leadership: Intermediate
- Developing People: Intermediate
- Communication: Intermediate
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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.