

**SKILLS FRAMEWORK FOR ENERGY AND CHEMICALS  
SKILLS MAP - LABORATORY TECHNICIAN/TECHNOLOGIST**

|  |   |  |  |       |
|--|---|--|--|-------|
| <b>Sector</b>  | Energy and Chemicals  |  |  |       |
| <b>Track</b>   | Quality Assurance and Quality Control (QA&QC)   |  |  |       |
| <b>Occupation</b>  | Technician  |  |  |       |
| <b>Job Role</b>  | Laboratory Technician/Technologist  |  |  |       |
| <b>Job Role Description</b>  | The Laboratory Technician/Technologist executes day-to-day laboratory operations, such as performing basic calibration and simple troubleshooting on a range of laboratory equipment and/or on-line analysing devices, as well as laboratory consumable inventory checks. He/She handles, stores and transports hazardous substances and dangerous goods in accordance with Workplace Safety and Health (WSH) and Environmental Management System (EMS) requirements, and helps to respond to chemical spillages and emergencies. |  |  |       |
|  | The Laboratory Technician/Technologist performs routine and non-routine product and in-process analyses, in accordance with documented test methods, to ensure that product quality is as per specifications. He records and maintains up-to-date sample testing results in the laboratory information management system (LIMS). He also contributes to organisational development by supporting continuous improvement projects.   |  |  |       |
|  | The Laboratory Technician/Technologist usually works in a team, on either a day or rotating shift, in the laboratory. He is meticulous, and is able to work independently as well as interact effectively with others.  |  |  |       |
| <b>Critical Work Functions and Key Tasks</b>                                   | <b>Critical Work Functions</b>  |  | <b>Key Tasks</b>                               |       |
|  | Administer Workplace Safety and Health (WSH) and Environmental Management Systems (EMS)   | Comply with WSH and EMS systems  |  |       |
|  |   | Handle, store and transport hazardous substances and dangerous goods, in accordance with WSH and EMS standards and practices |  |       |
|  |   | Participate in activity-based risk assessments   |  |       |
|  |   | Perform good housekeeping in the workplace   |  |       |
|  |   | Respond to chemical spillages and emergencies  |  |       |
|  | Perform laboratory operations   | Follow Standard Operating Procedures (SOPs) for laboratory operations  |  |       |
|  |   | Label samples  |  |       |
|  |   | Perform laboratory consumable inventory checks and identify purchasing requirements  |  |       |
|  |   | Prepare stock solutions and reagents   |  |       |
| Provide technical support on formulation, prototyping and product applications |   |  |  |       |
| Manage sample collection and analyses  | Support basic calibration and simple troubleshooting on a range of laboratory equipment and/or on-line analysing devices  |  |  |       |
|  | Apply emerging technologies to perform product and in-process sampling, and laboratory data management  |  |  |       |
|  | Perform inspections on samples for contamination, foreign matter and/or defects   |  |  |       |
|  | Perform routine and non-routine product and in-process sample analyses, according to documented test methods  |  |  |       |
| Manage Quality Assurance and Quality Control (QA&QC)                           | Record sample testing results into the laboratory information management system (LIMS)  |  |  |       |
|  | Generate Certificates of Analysis (COA)   |  |  |       |
| Administer staff and organisational development                                | Support continuous improvement projects   |  |  |       |
| <b>Skills &amp; Competencies</b>   | <b>Technical Skills and Competencies</b>  |  | <b>Generic Skills and Competencies (Top 5)</b> |       |
|  | Analytical Method Validation  | Level 2  | Teamwork                                       | Basic |
|  | Continuous Improvement Management   | Level 2  | Communication                                  | Basic |
|  | Data and Statistical Analytics  | Level 2  | Sense Making                                   | Basic |
|  | Environmental Management System Framework Development and Implementation  | Level 2  | Interpersonal Skills                           | Basic |
|  | Incident Investigation Management   | Level 2  | Problem Solving                                | Basic |
|  | Laboratory Data Reporting and Analysis Management   | Level 2  |  |       |
|  | Laboratory Equipment Maintenance and Calibration Management   | Level 2  |  |       |
|  | Laboratory Operations Management  | Level 2  |  |       |
|  | Materials Qualification   | Level 2  |  |       |
|  | Non-Conformance Management  | Level 2  |  |       |
|  | Product Testing Management  | Level 2  |  |       |
|  | Quality Assurance Management  | Level 2  |  |       |
|  | Quality Control Management  | Level 2  |  |       |
|  | Sample Management   | Level 2  |  |       |
|  | Technical Services Management   | Level 2  |  |       |
| Workplace Safety and Health Framework Development and Implementation           | Level 2   |  |  |       |

|                                  |   |         |  |
|----------------------------------|---|---------|--|
| <b>Skills &amp; Competencies</b> | Workplace Safety and Health Hazard Identification and Risk Control Management   | Level 2 |  |
| <b>Programme Listing</b>         | For a list of Training Programmes available for the Energy and Chemicals sector, please visit: <a href="http://www.skillsfuture.sg/skills-framework/energyandchemicals">www.skillsfuture.sg/skills-framework/energyandchemicals</a> |         |  |

The information contained in this document serves as a guide.