

**SKILLS FRAMEWORK FOR FOOD MANUFACTURING
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Quality Management					
TSC	Laboratory Data Analysis					
TSC Description	Analyse laboratory data					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		FMF-QUA-2031-1.1	FMF-QUA-3031-1.1	FMF-QUA-4031-1.1		
		Support laboratory data analysis by collecting, calculating and reporting test data	Analyse test data and present laboratory data analysis reports	Review laboratory data analysis reports and recommend improvements		
Knowledge		<ul style="list-style-type: none"> Types of data collection tools used in a laboratory setting Methods of organising data Principles of data integrity Types of scientific and technical terminology Basic concepts of mathematics and statistics Types of numerical analysis software for computer aided calculations Units of measurement for different parameters Standard procedures in data reporting 	<ul style="list-style-type: none"> Principles of mathematical and statistical calculations Use of scientific notation, convert units involving multiples and submultiples Preparation and interpretation of process control charts Calculations and interpretation of absolute and percentage uncertainties Methods of transposing and evaluating formulae Preparation of tables, graphs and charts Interpretation of trends Procedures for communicating laboratory data 	<ul style="list-style-type: none"> Principles of data integrity preservation and verification Procedures for reviewing laboratory data analysis New and emerging data analytics and statistical tools Presentation techniques for communicating laboratory data to stakeholders 		
Abilities		<ul style="list-style-type: none"> Collect test data using applicable measuring and testing equipment Verify the integrity of test data collected Troubleshoot data anomalies Perform calculations on test data to obtain results 	<ul style="list-style-type: none"> Store laboratory data using appropriate application software Verify the accuracy and integrity of laboratory data analysis reports Review calculations and results against estimations and expectations 	<ul style="list-style-type: none"> Provide technical expertise on laboratory data analysis Develop guidelines and best practices in preserving and verifying laboratory data integrity Introduce new and improved data analysis and statistical tools to enhance data integrity and insights generated 		

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		<ul style="list-style-type: none"> • Apply specified formulae to calculate statistical values • Record calculation results using appropriate units and number of significant figures • Present test data and calculation results in a standard template or format 	<ul style="list-style-type: none"> • Analyse trends from test data and calculation results • Interpret results of data analyses to draw key insights • Present data analyses in appropriate formats to display key trends and findings 	<ul style="list-style-type: none"> • Review laboratory data analysis reports to provide recommendations for improvement • Identify implications of laboratory data analysis • Present business insights and implications of laboratory data analysis to stakeholders 		
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