

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

TSC Category	Health, Safety and Environment					
TSC	Health, Safety and Environment Procedures Implementation					
TSC Description	Implement Health, Safety and Environment procedures in accordance with legislative requirements to ensure a safe work environment					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		BPM-HSE-2005-1.1	BPM-HSE-3005-1.1	BPM-HSE-4005-1.1		
		Apply Health, Safety and Environment (HSE) procedures relevant to the biopharmaceuticals manufacturing industry to ensure the safety of oneself and others at work	Implement and ensure that Health, Safety and Environment (HSE) procedures are in place	Oversee and evaluate the performance of Health, Safety and Environment (HSE) activities, and formulate improvements		
Knowledge		<ul style="list-style-type: none"> Importance of HSE procedures Principles of the HSE framework Types and uses of Personal Protective Equipment (PPE) Types of safety signs and instructions Types of safety devices and emergency equipment The importance of Permit-to-Work (PTW) systems and types of permits Duties and responsibilities for working safely in confined spaces Duties and responsibilities for working safely at heights 	<ul style="list-style-type: none"> HSE, legal and other requirements relevant to safe work procedures in the biopharmaceutical manufacturing industry The organisation's HSE Codes of Practice HSE duties and responsibilities in order to supervise activities in a in biopharmaceutical manufacturing industry Applications and uses of Personal Protective Equipment (PPE) in various scenarios and environments Permit-to-Work (PTW) systems and its purpose Procedures and objectives of safety and health inspections Procedures of incident investigations and report writing 	<ul style="list-style-type: none"> Organisational policies and procedures relating to HSE Industry Codes of Practice and Singapore Standards related to biopharmaceuticals manufacturing Workplace Safety and Health (WSH) regulations Requirements and tools for monitoring workplace environment safety Methods of measuring and evaluating implementation success of HSE strategies and plans Workplace procedures for reporting HSE issues 		
Abilities		<ul style="list-style-type: none"> Apply safe work procedures in daily work activities Carry out proper use of equipment in 	<ul style="list-style-type: none"> Monitor work performed in a biopharmaceutical manufacturing environment to ensure 	<ul style="list-style-type: none"> Keep abreast of changes to industry HSE regulations and other related legislation 		

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

		<p>accordance with HSE guidelines</p> <ul style="list-style-type: none"> • Maintain and store PPE provided in accordance with organisational and HSE procedures • Interpret and follow safety signs and instructions at the workplace • Comply with safe work procedures and control measures when working in potentially dangerous environments • Comply with safe work procedures when working in a cleanroom environment • Apply the correct methods for handling and storing chemicals and biological materials • Use Lock-Out-Tag-Out (LOTO) • Identify and raise unsafe acts or conditions in the workplace to relevant parties • Assist with preparing documents for permit application 	<p>alignment with HSE guidelines</p> <ul style="list-style-type: none"> • Implement HSE training and education programmes • Recommend corrective actions to management to improve work place safety • Assist in preparing and submitting PTW applications • Check for compliance to PTW systems according to legal and organisational requirements • Perform safety and health inspections according to legislations and the organisation's guidelines, and document findings • Conduct incident investigations and prepare reports 	<ul style="list-style-type: none"> • Communicate HSE procedures and risk control measures to stakeholders • Manage the performance of day-to-day HSE activities • Coordinate work schedules and operations to facilitate HSE inspections • Measure implementation success of HSE strategies and plans • Evaluate proposed corrective measures to address lapses in WSH • Formulate improvements to organisational HSE procedures • Oversee incident reporting and investigations in accordance with organisational procedures and legislative requirements • Supervise programmes to ensure emergency equipment is identified, available and maintained • Identify training needs for production teams in accordance with HSE requirements 		
--	--	--	---	---	--	--