

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

<b>TSC Category</b>	Health, Safety and Environment					
<b>TSC</b>	Hazard and Risk Identification and Management					
<b>TSC Description</b>	Implement a systematic approach for hazard identification and risk assessment to manage hazards that may occur within biopharmaceutical manufacturing facilities					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
		<b>BPM-HSE-2004-1.1</b>	<b>BPM-HSE-3004-1.1</b>	<b>BPM-HSE-4004-1.1</b>		
		Follow relevant Health, Safety and Environment (HSE) legislations and relevant industry codes of practice to aid in hazard identification and control at the workplace	Conduct risk identification and recommend control measures to mitigate risk exposure	Develop robust hazard and risk management plans, oversee risk control measures and evaluate their effectiveness		
<b>Knowledge</b>		<ul style="list-style-type: none"> <li>HSE, legal and other requirements relevant to safe work practices in the biopharmaceutical manufacturing industry</li> <li>Common mechanical, electrical, fire, chemical and biological HSE hazards and their associated risks</li> <li>Preventive and control measures against HSE hazards</li> <li>Types and uses of Personal Protective Equipment (PPE) and safety devices</li> <li>Types of atmospheric monitoring equipment</li> <li>Types and interpretation of safety signs</li> <li>Procedures for reporting HSE hazards</li> <li>Procedures for disposing waste</li> </ul>	<ul style="list-style-type: none"> <li>Principles of and methodologies for risk assessment</li> <li>Health, Safety and Environment (HSE) checklists for designated work areas</li> <li>Methods of conducting job safety analysis to identify HSE risks</li> <li>Means of implementing risk control measures</li> <li>Management of HSE documentation</li> </ul>	<ul style="list-style-type: none"> <li>Health, Safety and Environment (HSE) management programmes</li> <li>Elements of HSE management systems</li> <li>Means of obtaining updates on amended or new HSE legal requirements</li> <li>Workplace communication channels</li> <li>Causes and types of lapses in HSE control measures</li> <li>Methods for evaluating risk control measures</li> </ul>		
<b>Abilities</b>		<ul style="list-style-type: none"> <li>Identify hazards by conducting HSE checks on work areas, safety signs, safety devices and equipment</li> </ul>	<ul style="list-style-type: none"> <li>Identify risks in the workplace</li> <li>Implement HSE checks on work areas, safety signs, safety devices, equipment, machines,</li> </ul>	<ul style="list-style-type: none"> <li>Develop plans for addressing risks in the workplace</li> <li>Communicate risks and control measures to stakeholders according</li> </ul>		

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		<ul style="list-style-type: none"> <li>• Report any abnormalities and problems encountered in complying with HSE requirements</li> <li>• Follow measures to prevent and control hazards when working in confined spaces or a potentially dangerous environment</li> <li>• Use gas detection instruments and other monitoring equipment when working in a potentially dangerous environment</li> <li>• Follow organisational procedures to collect and store hazardous waste for disposal</li> <li>• Collect data on the outcomes of hazard and risk management measures</li> </ul>	<p>materials and chemicals used at the workplace</p> <ul style="list-style-type: none"> <li>• Conduct job safety analysis and identify safety and health hazards associated with the jobs or tasks</li> <li>• Analyse the level of risks involved for identified hazards</li> <li>• Complete risk assessment forms</li> <li>• Implement risk control measures according to organisational procedures</li> <li>• Propose ideas to improve the control of HSE risks in accordance with the hierarchy of control</li> <li>• Maintain HSE-related documentation for specific operational processes</li> </ul>	<p>to organisational procedures</p> <ul style="list-style-type: none"> <li>• Implement hazard identification guidelines within the organisation</li> <li>• Implement risk assessment frameworks for evaluating safety risks on the job</li> <li>• Evaluate the effectiveness of the organisation's hazard management and risk control measures or procedures</li> <li>• Report outcomes of risk control measures to relevant stakeholders</li> <li>• Provide consolidated insights and recommendations for the formulation of HSE risk management practices</li> <li>• Implement HSE-related documentation procedures across operational processes</li> </ul>		
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