

**Modification history**

Release	Comments
Release 1	This version released with PPM Pulp and Paper Manufacturing Training Package Version 3.0.

<b>PPMCPR3XX</b>	<b>Operate chemical systems</b>
<b>Application</b>	<p>This unit of competency describes the skills and knowledge required to prepare for, startup, monitor and shut down chemical systems.</p> <p>This unit applies to production operators who operate chemical in a paper manufacturing facility, and respond to contingencies that occur working with complex integrated equipment and continuous operations.</p> <p>No licensing or certification requirements exist for this unit at the time of publication. Relevant legislation, industry standards and codes of practice relating to chemical preparation and use must be applied.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Chemical Preparation (CPR)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to use chemical system	1.1 Identify chemical system work tasks and safe work requirements from work instructions and work health and safety, environmental and housekeeping procedures 1.2 Identify risks and hazards associated with chemical systems and identify control measures according to workplace procedures 1.3. Prepare self, work area and plant and equipment according to workplace and work health and safety procedures
2. Inspect and prepare chemical system	2.1 Inspect chemical system according to work health and safety, environmental procedures, and workplace procedures 2.2 Remove isolations according to operating procedures 2.3 Conduct visual check of delivery systems 2.4 Use electronic control systems to confirm operational suitability of delivery systems 2.5 Prepare and mix additives according to specifications and work health and safety and workplace procedures 2.6 Conduct quality checks on chemical product as required 2.7 Follow procedures for accidents and emergencies in the event of chemical spill
3. Start, monitor and maintain chemical system	3.1 Coordinate and implement start up procedures for chemical system 3.2 Conduct process tests and adjust process to ensure product quality 3.3 Maintain records on system activity and report hazardous situations 3.4 Identify, repair or replace faulty equipment as required
4. Implement and conduct shutdown procedures for chemical systems	4.1 Plan shutdown procedures according to workplace procedures 4.2 Organise and conduct shutdown procedures in accordance with productivity requirements, workplace procedures 4.3 Implement isolation requirements according to operating procedures and housekeeping requirements 4.4 Record production and quality data and system operation information according to workplace procedures

<b>Foundation Skills</b>	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
<b>Skill</b>	<b>Description</b>
Reading:	<ul style="list-style-type: none"> <li>Interpret information on labels, workplace documentation and procedures</li> </ul>
Writing	<ul style="list-style-type: none"> <li>Record test results and rectifications accurately and legibly using clear language and industry terminology</li> </ul>
Oral communication	<ul style="list-style-type: none"> <li>Provide information about start up and shut down operations, problems or variations with production, quality and system using clear language and industry terminology</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Calculate ratios and use measuring equipment to accurately measure and mix chemicals for system</li> <li>Interpret numerical information on instruments, gauges and data recording equipment</li> </ul>

<b>Unit Mapping Information</b>			
<b>Code and title current version</b>	<b>Code and title previous version</b>	<b>Comments</b>	<b>Equivalence status</b>
PPMCPR3XX Operate chemical systems	PPMCPR210 Prepare chemical products	Changes to unit title, element, performance criteria and foundation skills, performance and knowledge evidence. Assessment conditions updated.	Equivalent

<b>Links</b>	
	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93</a>

<b>TITLE</b>	<b>Assessment requirements for PPMCP3XX Operate chemical systems</b>
<b>Performance Evidence</b>	
<p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has prepared and coordinated, and safely started up and shut a chemical system for at least two operational intervals, including for each operational interval:</p> <ul style="list-style-type: none"> <li>• determined and monitored process control points</li> <li>• monitored, assessed causes and adjusted systems to rectify variations from specifications</li> <li>• used and interpreted electronic control systems during operations</li> <li>• applied safe use and handling of chemicals and materials</li> <li>• recorded and reported accurate operational data</li> </ul>	
<b>Knowledge Evidence</b>	
<p>An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:</p> <ul style="list-style-type: none"> <li>• workplace and legislative health and safety requirements relevant to operating chemical systems, including emergency procedures, handling chemical and hazardous substances, high risk load shifting, licensing requirements, plant clearance and permit systems</li> <li>• relevant workplace and legislative environmental sustainability requirements and practices for operating chemical systems, including workplace biotechnological applications and processes</li> <li>• methods used to identify and manage hazards and risks that apply to chemical systems</li> <li>• chemical system layout, chemical preparation processes and systems</li> <li>• chemical plant and machinery functions and operations</li> <li>• sampling and testing process for plant and system operations, and process monitoring - purpose, standards and procedures as per site agreements</li> <li>• cause and effects of operational equipment faults and appropriate rectification action</li> <li>• types, causes and effects of shutdowns and appropriate responses</li> <li>• required responses to all unplanned shutdowns, including power outage, mechanical breakdown, blockages, jamming, air supply and control system failure, to ensure safety quality and productivity</li> <li>• process and procedures for plant shutdowns and unplanned shutdowns</li> <li>• electronic and other control systems, operation and application to make appropriate adjustments.</li> </ul>	
<b>Assessment Conditions</b>	
<p>Assessment of the skills in this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions: <ul style="list-style-type: none"> <li>• skills must be demonstrated in a pulp or paper manufacturing facility or an environment that accurately represents workplace conditions</li> </ul> </li> <li>• resources, equipment and materials: <ul style="list-style-type: none"> <li>• chemical product and systems</li> <li>• electronic control systems which include digital control system, touch screens or robotics used in dry end systems</li> <li>• personal protective equipment required for preparing chemical products and operating system</li> <li>• recording keeping system</li> </ul> </li> <li>• specifications: <ul style="list-style-type: none"> <li>• workplace and standard operating procedures relating to chemical preparation and operating chemical systems including health and safety, risks and hazards identification, plant isolation, quality, housekeeping and environmental requirements.</li> </ul> </li> </ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=12998f8d-d0ac-40bc-a69e-72a600d4fd93</a>

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