



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **LMTTX3007B Prepare dyes for textile production**

**Revision Number: 1**

## **LMTTX3007B Prepare dyes for textile production**

### **Modification History**

Not applicable.

### **Unit Descriptor**

**Unit descriptor** This unit covers the skills and knowledge to prepare dyes for use in textile production.

## Application of the Unit

### Application of the Unit

The unit applies to selecting and preparing dyes to be used in the dyeing of textiles. Judgement may be required in planning and selecting appropriate processes or procedures for self and others.

Work may include liaison with specialist technicians from within the workplace and from external suppliers.

Work may be conducted in small to large scale enterprises and may involve individual and team activities.

The application of this unit is according to OHS practices of the enterprise and workplace practices, which may include:

- requirements prescribed by legislation, awards, agreements and conditions of employment
- standard operating procedures
- work instructions
- oral, written and visual communication
- quality practices, including responsibility for maintenance of own work quality and contribution to quality improvement of team or section output
- housekeeping
- tasks related to environmental protection, waste disposal, pollution control, and recycling

This unit requires the application of skills associated with planning and organising for the safe and efficient handling and preparation of dyes. This unit also requires problem solving ability to conduct tests and evaluate dyes and specifications. Communication skills are required to access and apply workplace documentation and dye specifications. Self management skills are applied to ensure workplace and quality standards are achieved.

## Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

### Prerequisites

## **Employability Skills Information**

**Employability Skills** This unit contains employability skills.

## **Elements and Performance Criteria Pre-Content**

Not applicable.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify properties of textile	1.1 Specifications and or sample of <i>textile material or product</i> are confirmed with originator or client. 1.2 End use and performance standards expected of finished product are clarified with appropriate personnel. 1.3 Sample is analysed to determine type and composition using appropriate techniques, if required.
2 Perform preliminary selection and evaluation of dyes	2.1 Preliminary selection of dyes and chemicals and auxiliaries is undertaken with reference to specifications and or previous product dyeing references. 2.2 Expected textile production or reproduction processes are identified based on preliminary dye selection and appropriate personnel advised. 2.3 Preliminary dye selection is determined for the sample of textile. 2.4 Dye selections and <i>specification or recipe</i> are trailed using laboratory-based production facilities and results evaluated against requirements of originator or client. 2.5 Dye selection or recipe is reviewed and retested as required. 2.6 Approval of preliminary dye specification by originator or client is sought before implementing limited production run.
3 Perform final selection and evaluation of dyes and specification or recipe	3.1 <i>Sampling and testing techniques</i> are selected appropriate to evaluation of product during limited production run. 3.2 <i>Tests</i> are implemented using quality standards and <i>OHS practices</i> . 3.3 Results are analysed and preliminary dye selection/recipe reviewed and retested as required. 3.4 Dye selection checked against original client specifications and requirements and workplace production process and requirements. 3.5 Approval of colour specification by originator or client is sought before implementing bulk production run. 3.6 Environmental requirements and procedures concerned with waste, pollution, storage and recycling of materials are correctly applied at all stages of the process.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Demonstrates knowledge of:

- fibres, yarns and end products and their properties
- dyestuffs and classes
- chemistry of dyes and relationship with processing and fastness properties
- dyeing processes and dyeing machinery
- relation between dyeing machinery and selection of dyestuffs/classes
- tests applicable to the dyeing of textiles
- Australian and international testing standards
- application of dyes in laboratory and production process
- quality standards and practices
- OHS practices, including hazard identification and control measures
- workplace practices
- recording and reporting practices

Demonstrates skills to:

- use test equipment effectively
- analyse and interpret results
- perform colour matching
- safely handle and dispose of dyes, chemicals and effluent
- communicate effectively with individuals, work groups and supervisors
- select, interpret and apply procedures and processes
- prepare and present reports and information in appropriate formats
- read, interpret and follow information on work specifications, standard operating procedures and work instructions, and other reference material
- maintain accurate records
- communicate within the workplace
- sequence operations
- meet specifications
- clarify and check task-related information
- carry out work according to OHS practices

## Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

<b>Critical aspects of evidence to be considered</b>	Demonstrates skills and knowledge to: <ul style="list-style-type: none"><li>• identify textile characteristics</li><li>• establish and confirm criteria for tests</li><li>• develop and plan tests</li><li>• ensure tests are conducted against quality standards</li><li>• collate, analyse and interpret tests</li><li>• apply dye formulas and specifications</li><li>• communicate effectively with design team, customers, etc.</li><li>• maintain accurate records</li></ul>
<b>Consistency in performance</b>	Consistently applies skills and knowledge when: <ul style="list-style-type: none"><li>• organising work</li><li>• completing tasks according to instructions</li><li>• working systematically with attention to detail</li><li>• identifying improvements and avoiding damage</li><li>• using workplace practices</li><li>• using OHS practices</li><li>• recording and reporting accidents and incidents</li><li>• assessing operational readiness of equipment</li><li>• recognising and adapting to cultural differences in the workplace, including modes of behaviour and interactions</li></ul>
<b>Resource implications</b>	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
<b>Context for assessment</b>	Assessment may occur on the job or in an appropriately simulated environment.
<b>Interdependent assessment</b>	This unit may be assessed independently or in combination with other relevant units.

## Range Statement

### RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the Performance Criteria, is detailed below. Add any essential operating conditions that may be present with training and assessment depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts.

Legislative/regulatory requirements	All work must comply with relevant Federal and State or Territory legislative or regulatory requirements.
Textile material or product may include	<ul style="list-style-type: none"> <li>• fibres, including polyester, cotton, wool, viscose rayon</li> <li>• yarns, including ring spun, open-ended spun, air jet spun, friction spun</li> <li>• fabrics</li> <li>• finished products, including socks, sweaters, towels, sheets, blankets, carpets, rope and twine, mops and industrial textiles</li> </ul>
Dye specification or recipe may include	<ul style="list-style-type: none"> <li>• application properties, fastness properties, reproducibility, suitability for production, application methods, environmental and safety factors</li> </ul>
Sampling and testing techniques may include	<ul style="list-style-type: none"> <li>• use of laboratory equipment, pad mangles, rota dryers, mini-jets, pilot production plants</li> </ul>
Tests may include	<ul style="list-style-type: none"> <li>• those associated with product or process development, and may include colour fastness testing and shrinkage testing</li> </ul>
OHS practices	<p>OHS practices include hazard identification and control, risk assessment and implementation of risk reduction measures specific to the tasks described by this unit, and may relate to:</p> <ul style="list-style-type: none"> <li>• manual handling techniques</li> <li>• standard operating procedures</li> <li>• personal protective equipment</li> <li>• safe materials handling</li> <li>• taking of rest breaks</li> <li>• ergonomic arrangement of workplaces</li> <li>• following marked walkways</li> <li>• safe storage of equipment</li> <li>• housekeeping</li> <li>• reporting accidents and incidents</li> <li>• environmental practices</li> </ul>



## **Unit Sector(s)**

**Sector**                      Textile Production