



Australian Government

MSTAT4024 Select dyes and develop dye specifications and recipes

Release: 1

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Modification History

Release 1. Unit Code, Title and Application changed. Elements and Performance Criteria simplified with Element 1 removed. Foundation Skills field populated. Range of Conditions removed with relevant information moved to Knowledge Evidence. Assessment Requirements clarified with generic foundation skills statements moved to appropriate section and duplication with Performance Criteria removed. Supersedes and is equivalent to MSTTX4004 Select dyes and develop dye specification and recipe for production.

Application

This unit describes the skills and knowledge required to select, develop and test dyes, chemicals and auxiliaries, and to create a dye specification and recipe for textile production. It may include dyes for yarns, fibres, fabrics or finished products.

This unit applies to individuals working in any textiles, clothing and footwear sector where judgement is required in planning and selecting processes to achieve production outcomes.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Pre-requisite Unit

Nil

Competency Field

Apparel and Textile Production

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Determine dye requirements	1.1 Confirm specifications and sample of textile material product with originator 1.2 Determine end use and performance standards expected of finished product from 1.3 Analyse sample and determine type and composition using appropriate techniques

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
2. Perform dye tests	2.1 Identify and follow environmental requirements and workplace procedures in testing processes 2.2 Select dyes, chemicals and auxiliaries with reference to specifications and or previous product dyeing references 2.3 Identify expected textile production and reproduction processes based on preliminary dye selection 2.4 Determine preliminary dye selection for sample and trial preliminary recipe and specifications 2.5 Set and calibrate testing equipment in accordance with manufacturer instructions 2.6 Select and use appropriate sampling and testing techniques 2.7 Evaluate dye performance and make final selection based on test results
3. Confirm final dye specification and recipe	3.1 Seek approval of dye specifications and recipe from originator 3.2 Test samples from bulk production run using appropriate techniques 3.3 Analyse results and review, modify and retest dye according to test results 3.4 Develop, check and file dye specification and recipe in accordance with workplace procedures 3.5 Prepare reports and documentation in accordance with job requirements 3.6 Monitor dye specification and recipe to ensure continuity and repeatability of colour and test results

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret potentially detailed and technical information on dye specifications
- Writing skills to complete factual reports on dye tests
- Numeracy skills to make estimates and calculations associated with specifications and recipes.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Supersedes and is equivalent to MSTTX4004 Select dyes and develop dye specification and recipe for production.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a203ec5c-de7d-406b-b3e1-8f1a9b76e92e>

Assessment Requirements for MSTAT4024 Select dyes and develop dye specifications and recipes

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- develop and confirm final dye formula and specifications for at least two different yarns, fibres, fabrics or finished products.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- work health and safety and environmental requirements when working with dyes, including handling of chemicals and dangerous substances
- relevant Australian Standards
- international testing standards
- fibres, yarns and end products and their properties
- dye stuffs and classes
- chemistry of dyes and relevance to processing and fastness properties
- dyeing processes and dyeing machinery
- relationship between dye machinery and selection of dye stuffs and classes
- tests applicable to the dyeing of textiles, including colour fastness and shrinkage
- types of dye testing equipment, including:
 - laboratory equipment
 - pad mangles
 - rota dryers
 - mini jets
 - pilot production plants
- dye specification and recipe requirements, including:
 - dye formulas
 - application properties
 - fastness properties and reproducibility

- suitability for production and application methods
- environmental and safety factors
- application of dyes in laboratory and production process
- recording and reporting practices for dye specification and testing.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - fibres, yarns or products for testing
 - dyes, chemicals and auxiliaries
 - dye testing equipment.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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