



Australian Government

Department of Education, Employment and Workplace Relations

RTE2507A Recognise raw materials, production processes and products on a composting site

Release: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor

This unit of competency specifies the outcomes required to recognise raw materials and products, their characteristics, potential contamination, site location, and handling and management requirements; and recognise the function and relative location of key production processes. It also covers carrying out basic site maintenance.

The unit involves identifying the nature of enterprise processes and products in order to carry out day-to-day work responsibilities, including site maintenance.

Application of the Unit

Application of the unit

Composting is used as a general expression for the processing of organic materials; with this unit being relevant for aerobic and anaerobic composting and vermiculture technologies.

This unit of competency applies to an employee of an enterprise engaged in commercial-scale composting operations. Tasks are likely to be performed by a yard hand or general hand under supervision of an operations team leader or site foreman. Work is likely to be performed as a part of a team.

This unit must be read in conjunction with the National Guidelines for Occupational Health and Safety Competency Standards for Operation of Load-Shifting Equipment and Other Types of Specified Equipment [NOHSC: 7019 (1992)].

Where work requires the use of load-shifting equipment, appropriate training/certification must be provided according to state and territory safety and licensing requirements.

Licensing/Regulatory Information

Refer to Application of the Unit

Pre-Requisites

Not applicable.

Employability Skills Information

Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Where **bold italicised** text is used, further information is detailed in the required skills and knowledge and/or the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

Elements and Performance Criteria

Element	Performance Criteria
1 1 Recognise, handle and locate raw materials on site.	1.1 Raw materials are identified for potential purpose. 1.2 Characteristics of raw materials, including handling risks and potential or common contaminants, are compared to site operating guidelines. 1.3 Potential hazards in handling raw materials are identified and reported to supervisor. 1.4 Initial handling requirements, stockpiling location and arrangement on site are confirmed from site operating guidelines. 1.5 Visible or physical contaminants present in raw materials are identified and recorded. 1.6 Physical contaminant handling, stockpiling location and arrangement on site are confirmed from site operating guidelines.
2 2 Recognise and locate key processes and technologies.	2.1 Composting technologies and methods, key process control steps and technologies are identified and locations on site are confirmed from site map. 2.2 Windrows or vessels are identified by reference to batch or code numbers.

- 2.3 **Machinery, plant and equipment** and their functional uses are confirmed from site operating guidelines.
- 3 **3 Recognise, handle and locate compost and other products on site.**
 - 3.1 Compost and other **products** are identified for their intended use.
 - 3.2 Characteristics of products, including handling risks and potential or common contaminants, are compared to site operating guidelines.
 - 3.3 Potential hazards in handling products are identified and reported to supervisor.
 - 3.4 Handling requirements, stockpiling location and arrangement on site are confirmed from site operating guidelines.
 - 3.5 Potential for contamination of products is identified and action is taken according to enterprise procedures.
 - 3.6 Batching sheets or other product formulas are matched to end product.
 - 3.7 Visible or physical contaminants present in products are identified and reported to supervisor.
 - 3.8 Physical contaminant handling, stockpiling location and arrangement on site are identified.
- 4 **4 Identify and carry out site maintenance requirements.**
 - 4.1 **Site maintenance** requirements are identified and carried out according to enterprise procedures.
 - 4.2 Traffic access routes and site traffic/pedestrian safety rules are identified from site operating plan and maintained according to enterprise and occupational health and safety (OHS) procedures.
 - 4.3 Vehicle access routes on site are maintained according to enterprise procedures.
 - 4.4 Machinery and site security requirements are identified and maintained according to enterprise procedures.

Required Skills and Knowledge

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

Required skills include:

- applying communication skills including active listening, questioning and asking for clarification from supervisor
- applying literacy and numeracy skills sufficient to read and follow enterprise policies and procedures
- identifying and handling physical contaminants
- identifying and handling raw materials and products
- recognising and complying with site traffic and security requirements.

Required knowledge includes:

- characteristics of a range of raw materials
- company policies and procedures, including OHS requirements
- key process control stages critical to consistent quality in compost production
- overview of systems and technologies used in compost production, particularly as relevant to workplace
- range and characteristics of products
- risks associated with movement of vehicles and machinery on site
- safety risks to self and product posed by contaminants in raw materials and products
- standard risk control measures used in the industry to minimise risk associated with handling raw materials and products.

Evidence Guide

Overview of assessment

This unit of competency could be assessed on its own or in combination with other units of competency relevant to the job function such as:

RTC2701A **Follow OHS procedures**

RTC2702A **Observe environmental work practices**

RTE2608A **Set up, operate and maintain a water delivery system.**

Critical aspects for assessment and evidence required to demonstrate competency in this unit

The critical requirements for this unit of competency as a whole are listed below.

Assessment must confirm one's ability to:

identify, confirm, locate, handle and maintain raw materials, products and physical contaminants on site

maintain site arrangement and segregation of materials and products to avoid contamination

recognise and locate key process control stages of production cycle and associated machinery on site

maintain site and machinery security requirements

read and follow batch numbers and codes, and site operating plan

implement site machinery and traffic management plans.

Context and specific resources for assessment

Assessment for this unit of competency is to be largely practical in nature and must be assessed in a commercial-scale composting facility or in a situation that reproduces and/or simulates operational conditions.

For valid assessment, one should have opportunities to participate in exercises, case studies and other real and simulated practical and knowledge assessments that demonstrate the skills and knowledge specified in this unit.

The candidate should also have access to the following resources:

personal protective equipment

commercial-scale compost piles

raw materials and products for recognition and handling

access to a commercial-scale compost facility with documented management system and batch documentation.

Guidance information for assessment

To ensure consistency in performance, competency should preferably be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances and operational contexts, and where possible, over a number of assessment activities.

The skills and knowledge required to demonstrate competency must allow for application in a broad industry context, and should be transferable to a range of work environments. For example, this could include work within commercial-scale composting operations of varying size; a range of different raw materials; a range of different composts and value-added products manufactured to meet the demands of different markets; location (i.e. urban or rural context); varying environmental constraints; and using various equipment, practices, technologies and management systems.

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 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.

Raw materials may include:

animal mortalities
biosolids such as sewage sludge
crop residuals
dairy waste
fats and oils
food organics such as:
food waste
kitchen waste
food processing waste
forestry residuals
manures
organic sludges
paper mill wastes
paper-based materials
plant materials such as:
garden organics
green organics
green waste
yard waste
sewage facility grit and screenings
wood and timber (not treated)
other organic waste or by-product of processing.

OHS hazards:

may include:
biological hazards
compressed air and water
dusts
ergonomic hazards associated with manual handling
hazards to pedestrians
hot or cold weather conditions
mechanical hazards such as:
grinders
hammer mills
shredders
noise
physical hazards such as:
mobile machinery
vehicles

sharps or other physical contaminants in
materials
underfoot conditions
must be addressed by observing enterprise
and OHS procedures for:
hazard identification
risk assessment
risk control.

Physical **contaminants** observed may include:

binding and rubble
glass
metals
plastics
sharps
stone and soil
other non-biodegradable materials.

Composting technologies and methods may include:

aerated static pile
agitated bay
in-vessel composting technologies
rotating drum
turned pile
vermiculture beds
windrow.

Machinery, plant and equipment may include:

conveyor belts and associated attachments
such as magnetic and blower or suction
separators
elevators
excavators
first-response firefighting equipment
front-end loaders
gantry cranes
hoppers, bins and other containers for
contaminant disposal
personal protective equipment such as:
dust mask
 earmuffs
hard hats
protective clothing
reflector high visibility vests
respirators
safety footwear
safety glasses and gloves
power or trommel screen
safety and road signs
size reduction machinery for grinding or
chipping
static machinery, such as weighbridges
windrow turners.

Products may include:

additives blended with recycled organic
products after composting such as:
inorganic fertilisers
lime and gypsum
organic fertilisers
sand

soil
wetting agents

recycled organic products such as:
composts
landscaping soils and materials
mulches
potting mixes
soft fall products
soil conditioners
vermicast.

Site maintenance activities may include:

implementation of site machinery and traffic
access and circulation plans
location and management of compost piles,
and recipe or batch blends
location of material during curing processes
placement and management of raw materials,
products and other inputs or material for
disposal.

Unit Sector(s)

Not applicable.