

**1. Module details****Module name****Safe use of Herbicides for Powerline Clearance Operators****Module duration**

It is expected that students with the appropriate entry knowledge and skills will successfully complete this module in 18 - 20 hours.

**Module code**

NUE274

**Discipline code**

1101530

**2. Module purpose**

The purpose of this module is to provide skills in the understanding and safe use of chemical herbicide for the Powerline Clearance industry. The module focuses on the reading, interpretation of Material Safety Data Sheets and chemical container labels and the practical application of information during selection, handling and use of herbicides at the workplace/ work site. Application techniques in this module are limited to by cut and paint or stem injection (drill and fill) techniques and foliar application to woody weeds using non-powered spray equipment.

**3. Prerequisites**

NBB002 Occupational Health and Safety.  
 NUE258 First Aid.  
 Tree and Plant Knowledge 1.

**4. Relationship to competency standards**

NES101, NES450, NES604, NES601, NES606, RUH HRT201

**5. Content**

**Occupational Health and Safety laws, Pest Control regulations, Local Government requirements**

**Consultation and signage requirements**

**Reading and interpreting Material Safety Data Sheets and chemical herbicide product labels**

**Application of Material Safety Data Sheet information to work site use of chemical herbicides**

**Correct selection and use of personal protective equipment**

**Selection of chemical herbicide**

**Calculation of herbicide quantities**

**Mixing and handling**

## 6. Assessment strategy

### Assessment methods

**Calibration of equipment**

**Application of herbicides**

**Spillage clean-up and disposal procedures**

**Transportation and storage of chemical herbicides**

**First Aid responses**

The learning outcomes of this modules may be assessed by written and oral testing in conjunction with practical demonstration. More than one learning outcome may be assessed at once. Learning outcomes in this module may be assessed in conjunction with learning outcomes in other modules

The testing of competence must fulfil the requirements of the licensing authority/ies. In addition to theoretical testing, it is preferable that learners be able to demonstrate competence in a work context by showing the practical application of skills and knowledge, safely and confidently

Learners are required to demonstrate competence in the reading and interpretation of Material Safety Data Sheets and related chemical container labels for four chemical herbicides commonly used in the Powerline Clearance Industry

Successful attainment of competence in learning outcomes in this module entitles the learner to gain credit through Recognition of Prior Learning in identical topics covered in the Pest Operators course (Vic.)

The content and assessment criteria of this module have been designed to achieve equivalence with similar modules currently delivered on a State by State basis. Mutual recognition of training and licensing arrangements applies between some States and Territories. Further details should be sought from relevant State/Territory Government authorities

### Conditions of assessment

Assessment conditions must be appropriate to both off-the-job based testing and practical demonstration in the field. Practical demonstrations must be conducted under the direct supervision of a experienced practitioner, in a safe environment. Non-toxic die markers may be used as substitutes for chemicals  
Written work, oral presentation, group discussion

**7. Learning outcome details**

**Learning outcome 1**

**Interpret relevant aspects of Occupational Health and Safety legislation, Pest Control Regulations, and Local Government regulations and codes.**

**Assessment criteria**

- 1.1 Identify and record the names of laws, regulations and codes which regulate the use of chemicals at State/Local levels.
- 1.2 Explain the rights and responsibilities of the employer and employees to use chemicals safely as defined in legislation, regulations and codes relevant to the participants State/Territory.
- 1.3 Describe the notification, consultation and signage requirements for use of chemicals in public areas.
- 1.4 Discuss and record practices designed to minimise exposure to the public and environmental damage of herbicide use.

**Learning outcome 2**

**Read chemical labels using Material Safety Data Sheets.**

**Assessment criteria**

- 2.1 Identify where and how to access Material Data Safety Sheets at the workplace/work site.
- 2.2 Locate copies of Material Safety Data Sheets with details about herbicide chemicals used at the workplace/work site.
- 2.3 Ensure each MSDS contains sheets headed: Identification; Health Hazard Use; Precautions for Use; Safe Handling Information.

- 2.4 Using Material Safety Data Sheet 1 (Identification): locate the Date of Issue details and check the currency of the MSDS information; locate and make a record of the chemical manufacturers name and contact details for emergency and routine situations; check the product name on the MSDS corresponds with the product name on the chemical container label; using the Use description of the chemical, check the recommended methods and options for the chemical and identify whether the chemical is appropriate for use at the work site; using the Flash Point information and identify the risks of chemical ignition; using the Vapour Pressure descriptions, identify the level of vapours given off by the chemical; identify the ingredients in the chemical and the poison and toxicity rating of the chemical; identify whether the chemical is acidic or alkali and whether it reacts when mixed with other substances.
- 2.5 Using Materials Safety Data Sheet 2 (Health Hazard Use): identify the Acute Health effects; identify the Chronic Health effects of long term exposure; identify the four major routes of exposure; identify the First Aid procedures related to each route of exposure.
- 2.6 Using Material Safety Data Sheet 3 (Precautions for Use): Identify recommended measures to prevent exposure to the chemical including: engineering controls and personal protective measures to protect against inhalation, skin absorption, eye exposure, and ingestion; Identify the ventilation requirements of the chemical and other safety requirements to protect against ignition and fire.
- 2.7 Using Material Safety Data Sheet 4 (Safe Handling Information): Identify how the product should be stored and transported safely, including any special storage facilities; Identify the practices required to minimise spills, spillage clean-up procedures, precautions, and disposal methods.

**Learning outcome 3**

**Select and maintain associated personal protective equipment and apparel.**

**Assessment criteria**

- 3.1 With reference to information supplied on Materials Safety Data Sheets, select and don personal protective equipment required to protect against major routes of exposure.
- 3.2 Describe correct maintenance procedures for equipment and apparel.
- 3.3 Explain reporting procedures for the replacement, repair, disposal of damaged/worn out protective equipment.
- 3.4 Describe safe cleaning procedures for equipment and apparel.

**Learning outcome 4**

**Mix, handle and apply herbicides safely.**

**Assessment criteria**

- 4.1 With reference to information provided on the Material Safety Data Sheets, describe procedures for correct transport and storage of chemicals.
- 4.2 Explain consequences of wrong site handling and off target contamination.
- 4.3 Classify chemicals according to their chemical groupings, toxicology and modes of action.
- 4.4 Select appropriate chemicals in accordance with weed type, effectiveness, toxicity, safety, and formulation.
- 4.5 Calculate the quantity of chemical required for application for given situations.
- 4.6 Select the appropriate application procedures according to weed type, application effectiveness, site and weather conditions.
- 4.7 Check application equipment for damage.
- 4.8 Check equipment is correctly calibrated and calibrate if required.
- 4.9 Check store for safe entry.
- 4.10 Report any adverse conditions.
- 4.11 Remove chemical container to open ventilated space.
- 4.12 Conduct visual test of the chemical and compare with

the Appearance description appearing on the Material Safety Data Sheet 1.

	<p>4.13 Mix, dilute and fill vessel according to manufacturers instructions.</p> <p>4.14 Demonstrate correct application techniques using cut and paint, and/or stem injection, and/or hand powered spraying.</p> <p>4.15 Rinse mixing containers and equipment, drain and store.</p> <p>4.16 Return container to appropriate location in store.</p> <p>4.17 Record details of materials and quantities used.</p>
<p><b>Learning outcome 5</b></p> <p><b>Assessment criteria</b></p>	<p><b>Handle chemical container leaks, spills and clean up.</b></p> <p>5.1 Select and don safety equipment.</p> <p>5.2 Clear area of bystanders.</p> <p>5.3 Refer to Material Safety Data Sheet for recommended clean up and disposal procedures.</p> <p>5.4 Apply recommended clean up procedures.</p> <p>5.5 Contain spillage.</p> <p>5.6 Decant leaking containers.</p> <p>5.7 Report spillage to the appropriate authority.</p> <p>5.8 Remove and wash protective clothing and store.</p>
<p><b>8. Delivery of the module</b></p> <p><b>Delivery strategy</b></p>	<p>This module must be delivered using a combination of on- and off-the-job delivery modes. Participants must be provided with access to an off-the-job delivery environment suitable for delivery of the reading and comprehension of Material Safety Data Sheets and chemical labels, and discussion/identification of on-the-job practices referenced to safe use of chemicals. Development of practical skills should occur in a real of simulated work environment particularly in the assessment of work site conditions, weed types and selection of appropriate chemicals and chemical application techniques. Non-toxic die markers may be used as substitutes for chemical herbicides during the development of practical skills in chemical application</p>
<p><b>Resource requirements</b></p>	<p>Herbicide handling and storage units which comply with OH &amp; S Legislation and regulations. These may include: knapsack spray units, granular dispensers, ultra low volume spray units. Application tools may also include: brushes, stem injectors.</p>

Four examples of Material Safety Data Sheets and chemical labels.

Protective equipment and apparel appropriate to chemical use.

Hand powered herbicide application equipment.

Non-toxic dye markers.

Examples of public warning signage.

This module has high literacy and numeracy content. Learners identified as having literacy and numeracy needs may require support in achieving competency, through concurrent delivery with the module: Literacy and Numeracy Support

**References**

- Manual of Industrial Personal Protection*, Australian Standards Association, ISBN 0726243116
- Storage and Handling of Chemicals – A health and safety Handbook for The Building and Construction Industry*, Operative painters and Decorators Union of Australia, Vic Branch, 1993
- Epoxy Resin Product – Health & Safety Handbook for the Building and Construction Industry*, Operative Painters and Decorators Union, Vic. Branch, 1993
- Safety Manual – Is It Safe?*, Construction, Forestry, Mining and Engineering Union, 3<sup>rd</sup> edition
- Outdoor Worker Safety*, 3 video tapes, Workplace Video Productions.
- Queensland *Agricultural Chemicals Distribution Control Act* (1966)
- Sections 3, 4 7 5, *Pesticide Application Manual*, Queensland Department of Primary Industries publication
- South Australia *Controlled Substances Act* (1984)
- South Australian *Controlled Substances Regulations* (1988)
- West Australian *Health Pesticides Regulations* (1956)
- Tasmanian *Agricultural and Veterinary Chemical (Control of Use) Act* (1995)
- Northern Territory *Poisons and Dangerous Drugs Act* (1983), since revised
- NSW *Dangerous Goods Act* (1975)
- NSW *Hazardous Substances Regulation*
- Victorian *Occupational Health and Safety Act* (1988)
- Agricultural and Veterinary Chemicals (Control of Use) Act* 1992 (Vic.)
- Agricultural and Veterinary Chemicals (Control of Use) Regulations* 1996 (Vic.)
- Agricultural and Veterinary Chemicals (Amendment) Regulations* 1998
- Agricultural and Veterinary Chemicals Control of Use Act* 1992 (Vic.) **ORDER REGULATING THE USE OF AGRICULTURAL CHEMICAL PRODUCTS BY AUTHORISED PERSONNEL**
- Agricultural and Veterinary Chemicals Control of Use Act* 1992 (Vic.) **ORDER TO PROHIBIT SPECIFIED AGRICULTURAL SPRAYING IN CHEMICAL CONTROL AREAS**
- Agricultural and Veterinary Chemicals Control of Use Act* 1992 (Vic.) **PROHIBITED USES OF AGRIBULTURAL CHEMICAL PRODUCTS**

**Occupational health  
and safety requirements**

*Agricultural and Veterinary Chemicals (Infringement Notices) Regulations 1994 and Amendments: 1995, 1995, 1997, 1998*

*Code of Practice for Farm Chemical Spray Applications (Vic.)*, Chemical Information Service, Department of Natural Resources and the Environment, Ph: 03 9412 4527

*Do it Right. Use Agricultural Chemicals Responsibly in Victoria*, Chemical Information Service, Department of Natural Resources and the Environment, Vic

*Using Vegetation as a Barrier to Reduce Spray Drift*, Chemical Information Service, Department of Natural Resources and the Environment, Vic

Local Government codes and by-laws pertaining to chemical use

A level 2 First Aid Certificate Officer must be available. Supervision must be provided by an experienced operator with, preferably, a current Pest Operators certificate or equivalent.

All handling and application exercises must be conducted in accordance with OH & S and Agricultural Acts and Regulations relevant to the participant's State/Territory