

## **Level 2 Award in Using Aluminium Phosphide Safely for the Management of Vertebrate Pests**

**April 2018**

**Guided Learning Hours 12 hours**

**Total Qualification Time 22 hours**

Ofqual Qualification Number: 601/0601/3

### **Description:**

The objective of this qualification is to enable the learner to demonstrate their competence in the safe use of aluminium phosphide for vertebrate pest management and to fulfil the requirements of the Plant Protection Products (Sustainable Use) Regulations 2012.

Successful candidates will be able use their certificate as evidence that they can use aluminium phosphide safely and purchase the chemical for their use.

This qualification will provide learners with an understanding of why the use of aluminium phosphide is controlled, the health and safety requirements relating to its use and procedures for its safe transport, use and disposal.

Practical elements of the qualification include what to do before using aluminium phosphide, how to use it safely and what to do after treatment is finished.

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## **Unit 1: Understand the safe use of aluminium phosphide for vertebrate pest management**

Guided Learning: 7 hours

Unit Level: 2

Unit reference number: F/505/3171

### **Summary of Learning Outcomes:**

**To achieve this qualification a candidate must:**

- 1. Understand the need to control the use of aluminium phosphide, by being able to meet the following assessment criteria:**
  - 1.1 State the hazards and risks of using aluminium phosphide, including those relevant to the:
    - Operator
    - General public
    - Environment
    - Non-target speciesand the risk of obtaining and using counterfeit products
  - 1.2 Outline the legislative requirements governing the use of aluminium phosphide
  - 1.3 Explain the record-keeping requirements for the use of aluminium phosphide.
  
- 2. Know the health and safety requirements for the safe use of aluminium phosphide, by being able to meet the following assessment criteria:**
  - 2.1 State the PPE and RPE requirements for the use of aluminium phosphide
  - 2.2 Outline the requirements for risk assessments prior to the use of aluminium phosphide
  - 2.3 Describe symptoms of aluminium phosphide poisoning
  - 2.4 State the emergency procedures necessary in the event of aluminium phosphide poisoning.
  
- 3. Know the biology of target vertebrate pest species that is relevant to them being controlled by aluminium phosphide, by being able to meet the following assessment criteria:**
  - 3.1 Explain why the target species need to be controlled
  - 3.2 Outline the features of the target species' biology and habitat that facilitate their control by aluminium phosphide
  - 3.3 Describe how the presence of the target species can be determined at a site.

**4. Understand procedures for the safe use of aluminium phosphide in the management of vertebrate pests, by being able to meet the following assessment criteria:**

- 4.1 State the requirements of a site survey prior to the use of aluminium phosphide
- 4.2 Outline methods for the application of aluminium phosphide pesticides
- 4.3 Outline the use of aluminium phosphide pesticides for the management of vertebrate pests
- 4.4 State the requirements of post-treatment procedures.

**5. Understand the requirements for the safe transport, storage and disposal of aluminium phosphide pesticides, by being able to meet the following assessment criteria:**

- 5.1 State the disposal arrangements for aluminium phosphide pesticide residues
- 5.2 Outline requirements for the cleaning and disposal of equipment and containers used for aluminium phosphide pesticides
- 5.3 State the requirements for the transport and storage of aluminium phosphide pesticides.

## Content:

### 1 Understand the need to control the use of aluminium phosphide.

- 1.1 *Hazards and risks:* Production of flammable gas (phosphine) when in contact with moisture and is toxic by inhalation and ingestion. Operators are particularly at risk of exposure unless properly trained, appropriate safety procedures employed and recommended PPE and RPE are worn. Can cause serious harm or death at relatively low concentrations.

General public will be at risk of exposure if they are in the vicinity of pest management operations involving the use of aluminium phosphide, or exposed in some other way, eg by coming to the aid of someone suffering from exposure to aluminium phosphide or close to the accidental release of aluminium phosphide (eg following the crash of a pest controller's vehicle).

Aluminium phosphide is toxic to the environment.

Aluminium phosphide will be lethal to non target organisms, aquatic organisms particularly at risk.

Counterfeit products: Risk of obtaining and using counterfeit products; importance of using authorised suppliers.

- 1.2 *Legislative requirements:* Requirements of the following legislation as they apply to the purchase, use, storage and disposal of aluminium phosphide.  
Health and Safety at Work etc Act 1974; Management of Health and Safety at Work Regulations 1999; The Health and Safety (first aid) Regulations, 1981; Plant Protection Products (Sustainable Use) Regulations 2012; Wildlife and Countryside Act 1981; Poisons Act 1972 and Poisons Rule 1982; Control of Substances Hazardous to Health Regulations 2002; Food and Environment Protection Act 1985, The Control of Pesticides Regulations 1986(amended 1997); EU Biocides Regulation 528/2012 (EU BPR)
- 1.3 *Record-keeping requirements:* Records relating to training, environmental and risk assessments, COSHH assessments, health surveillance, storage, certification, RPE inspection, treatment, purchase, stock and disposal.

### 2 Know the health and safety requirements for the safe use of aluminium phosphide.

- 2.1 *PPE and RPE requirements:* Use of coveralls, gloves and footwear, approved respirator and filters; filter life; importance of face fit tests; factors affecting wearing of RPE; need to ensure PPE and RPE is in good condition and is cleaned and inspected after use; testing of filters;

occupational exposure limits and threshold limit values.

- 2.2 *Requirements for Risk assessments:* Why assessments required; factors to consider; consideration of use of preventative management, other control methods and pesticides; importance of environmental conditions such as wind speed and direction, presence of moisture / water, likelihood of rain, presence of non-target species.
- 2.3 *Symptoms of aluminium phosphide poisoning:* Nausea, vomiting, diarrhoea, headache, fatigue, chest pains, coughs, itching, blistering and reddening of skin; watering and redness of eyes.
- 2.4 *Emergency procedures:* Use of 112 in mobile phone; need to immediately inform emergency services if someone exposed to aluminium phosphide, informing them of circumstances; avoid risk to self; first aid procedures as detailed in manufacturers' safety data sheets; ensure members of public kept away from areas where aluminium phosphide is in use; reporting procedures for incidents involving aluminium phosphide.

### **3 Know the biology of target vertebrate pest species that is relevant to them being controlled by aluminium phosphide.**

- 3.1 *Why target species need to be controlled:* Damage caused by target species to the environment, crops, humans, pets, amenities.
- 3.2 *Features of the target species' biology and habitat that facilitate their control by aluminium phosphide:* Underground in burrows which can be effectively sealed with the animal inside prior to gassing; structure and characteristics of tunnel / burrow systems of target organisms; likelihood of target organism being present in burrow system.
- 3.3 *How the presence of the target species can be determined at a site:* Signs which indicate a burrow is occupied such as droppings, paw prints, hair, smell; evidence of pest activity in the vicinity.

### **4 Understand procedures for the safe use of aluminium phosphide in the management of vertebrate pests.**

- 4.1 *Requirements of a site survey:* Need for a site survey to include checking for presence of non-target species, confirmation of presence of pest, location of harbourage and all pest access points to harbourage; distinguishing target pest burrow from earths / burrows made by non-target species such as foxes and badgers; check for factors that may prohibit use of aluminium phosphide such as proximity to buildings and water courses and presence of non-target pests in burrows; previous history of site, extent of pest activity; environmental risk assessments, importance of protected areas established under

Articles 6 and 7 of Directive 2000/60/EC or subsequent Articles and Directives.

- 4.2 *Methods for the application of aluminium phosphide pesticides:* Type of applicators available for use with aluminium phosphide, advantages and disadvantages of different applicators, loading, using and unloading an applicator; safety precautions.
- 4.3 *Use of aluminium phosphide pesticides for the management of vertebrate pests:* Environmental conditions required for safe and effective use of aluminium phosphide; sealing of burrow system to prevent escape of target species and leakage of fumigant; use of safety and exclusion signs; depth and duration of application; period for which released phosphine remains effective; monitoring of phosphine levels during treatment; how to deal with spillages during use.
- 4.4 *Requirements of post-treatment procedures:* Reasons for follow up visits; how to check effectiveness of treatment; removal and safe disposal of carcasses; removal of safety and exclusion signs; need to ensure the concentration of phosphine is at or below the threshold limit value before allowing general access to the site..

## **5 Understand the requirements for the safe transport, storage and disposal of aluminium phosphide pesticides.**

- 5.1 *Disposal arrangements for aluminium phosphide pesticide residues:* Reasons why residues should not be left in application equipment, procedures for safe disposal of residues.
- 5.2 *Requirements for the cleaning and disposal of equipment and containers:* Classification of containers as hazardous waste; emptying of containers; disposal requirements for containers; recording of disposal; emptying and cleaning of application equipment; guidance on use of water for cleaning equipment.
- 5.3 *Requirements for the transport and storage of aluminium phosphide pesticides:* Precautions to take for storage and transport of aluminium phosphide pesticides; requirements for pesticide stores containing aluminium phosphide to include construction, location and signage; hazards and risks of storing and transporting aluminium phosphide.

### **Assessment:**

Attainment of the Learning Outcomes for this unit will be assessed by a written examination provided by RSPH. The examination will be marked by the centre and assessment decisions will be subject to external verification by RSPH. In the event that candidates do not achieve all of the learning outcomes for this unit in the written examination, centres can ask supplementary questions during the assessment of

Unit 2 to compensate for this. Centres should refer to the *Assessment Guidance for the RSPH Level 2 Award in Using Aluminium Phosphide Safely for the Management of Vertebrate Pests* in the resources section of the centre area of the web-site [www.rsph.org.uk/centrearea](http://www.rsph.org.uk/centrearea) .



## **Unit 2: Carry out procedures for the use of aluminium phosphide in the management of vertebrate pests**

Guided Learning: 5 hours

Unit Level: 2

Unit reference number: J/505/3172

### **Summary of Learning Outcomes:**

**To achieve this qualification a candidate must:**

- 1. Be able to carry out procedures prior to using aluminium phosphide for vertebrate pest management, by being able to meet the following assessment criteria:**
  - 1.1 Conduct a site survey to determine the presence and location of the vertebrate pest and the suitability of the site for the use of aluminium phosphide pesticides.
  - 1.2 Carry out health and safety, COSHH and environmental risk assessments for the use of aluminium phosphide pesticides at the site.
  - 1.3 Select and put on appropriate PPE and RPE.
  
- 2. Be able to use aluminium phosphides safely for managing vertebrate pests, by being able to meet the following assessment criteria:**
  - 2.1 Prepare the site for application of aluminium phosphide pesticides
  - 2.2 Prepare aluminium phosphide pesticide for use
  - 2.3 Apply aluminium phosphide pesticide to manage vertebrate pests
  
- 3. Be able to carry out post-operational procedures following the use of aluminium phosphide for vertebrate pest management, by being able to meet the following assessment criteria:**
  - 3.1 Clean and store equipment used for the application of aluminium phosphide pesticides
  - 3.2 Dispose of pesticide residues safely
  - 3.3 Complete application records.
  
- 4. Be able to explain procedures for the safe use of aluminium phosphide, by being able to meet the following assessment criteria:**
  - 4.1 Explain the reasons for pre-treatment procedures when using aluminium phosphide
  - 4.2 Explain the actions required when using aluminium phosphide
  - 4.3 Explain the reasons for post-operational procedures

## Content:

### **1 Be able to carry out procedures prior to using aluminium phosphide for vertebrate pest management.**

- 1.1 *Conduct a site survey:* Site survey is carried out appropriately; presence of pest identified; extent of pest activity and damage to site and surrounding area assessed; site checked for presence of non-target species that may affect use of aluminium phosphide; location of burrows and access points identified; presence of any feature that may affect decision to use aluminium phosphide noted.
- 1.2 *Carry out health and safety, COSHH and environmental risk assessments:* Suitable risk assessments for the use of aluminium phosphide carried out; hazards and risks noted; appropriate control methods and safe operating procedures proposed; alternative exclusion and control methods considered; environmental risk assessment considers risk of aluminium phosphide entering water courses and drains, damage to non-target species, crops and amenities, vicinity of buildings and significance of protected areas established under Articles 6 and 7 of Directive 2000/60/EC or subsequent Articles and Directives.
- 1.3 *Select and put on appropriate PPE and RPE:* Appropriate PPE and RPE for use of aluminium phosphide selected, checked for faults and worn/used correctly; cartridge of respirator checked before use.

### **2 Be able to use aluminium phosphide safely for managing vertebrate pests.**

- 2.1 *Prepare the site:* Safety and exclusion signs positioned appropriately; access points to burrows sealed and marked; exclusion zone set up; risk areas identified; presence of target species below ground in treatment area confirmed; absence of non-target species confirmed; vegetation cleared from area as required.
- 2.2 *Prepare Aluminium phosphide for use:* Identify product to be used; instructions on product label and manufacturers' safety data sheets checked; aluminium phosphide prepared for use in accordance with product label and other safety instructions; correct applicator for the product and formulation selected; account taken of wind direction before pesticide container opened; applicator loaded in accordance with manufacturer's instructions; appropriate PPE and RPE worn throughout operation and control measures with regard to individual, other people, non-target species and the environment as stated in the risk assessment are complied with.
- 2.3 *Apply Aluminium phosphide:* Applicator used correctly to apply aluminium phosphide to target area; aluminium phosphide only applied in appropriate conditions and to control target animal, pesticide applied

at a rate appropriate for the target animal; amount of pesticide applied appropriate for the size of the area treated; concentration of phosphine gas monitored appropriately during application to point at which general access to site is permitted; requirement to use entire flask.

### **3 Be able to carry out post-operational procedures following the use of aluminium phosphide for vertebrate pest management.**

- 3.1 *Clean and store equipment:* Application equipment and containers vented of any remaining aluminium phosphide safely; vented containers are packaged and labelled appropriately for later disposal as hazardous waste; application equipment inspected after cleaning for wear and damage; application equipment and packaged used containers are secured appropriately in vehicle.
- 3.2 *Dispose of pesticide residues safely:* Aluminium phosphide residues deactivated and disposed of in accordance with guidance in safety data sheets or recognised codes of practice.
- 3.3 *Complete application records:* Appropriate application records and treatment records completed correctly; copy of records left with appropriate person on site.

### **4 Be able to explain procedures for the safe use of aluminium phosphide.**

- 4.1 *Reasons for pre treatment procedures:* Learner is able to explain actions that he/she takes when carrying out pre-treatment procedures.
- 4.2 *Actions required when using aluminium phosphide:* Learner is able to explain actions that he/she takes when using aluminium phosphide.
- 4.3 *Reasons for post-operational procedures:* Learner is able to explain actions that he/she takes when carrying out post-operational procedures.

#### **Assessment:**

Attainment of the Learning Outcomes for this unit will be assessed by tutors at the centre by observation and oral questioning / discussions and completion of relevant tasks, risk assessments and documentation. An evidence portfolio of internally assessed work should be compiled for each candidate for submission to the External Verifier.

Evidence for all learning outcomes for this unit must come from performance in a realistic work environment, but aluminium phosphide must **NOT** be used during any part of the assessment, its use should be assessed by simulation only. There must

be valid, authentic and sufficient evidence for all the assessment criteria.  
Assessment guidance for this unit is available in the resources section of the centre area of the web-site [www.rsph.org.uk/centrearea](http://www.rsph.org.uk/centrearea).

## Learner Guidance:

### Recommended Prior Learning:

Learners should have practical expertise in the management of pests. This qualification is not suitable for individuals who are new to pest management.

### Useful Websites:

The Register of Accredited Metallic Phosphide Standards in the United Kingdom [www.ramps-uk.org/](http://www.ramps-uk.org/)

Health and Safety Executive [www.HSE.gov.uk/](http://www.HSE.gov.uk/)

Health Protection Agency [www.hpa.org.uk](http://www.hpa.org.uk)

### Recommended Reading:

British Pest Management British Pest Management Manual

Defra Publications Code of practice for using plant protection products

HSE Information sheet: Agriculture Information Sheet No. 22 Gassing of rabbits and vertebrate pests

HSE Information sheet: Agriculture Information Sheet No. 16 Guidance on storing pesticides for farmers and other professional users.

Health Protection Agency Aluminium Phosphide: General Information.

Health Protection Agency Aluminium Phosphide: Incident Management

The Register of Accredited Metallic Phosphide Standards in the United Kingdom The RAMPS UK Code of Good Practice

### Progression:

Learners who achieve this qualification can progress to

- RSPH Level 2 Award in Pest Management
- RSPH Level 2 Certificate in Pest Management

## **Centre Guidance:**

### **Registration of Candidates:**

Candidates must be registered with RSPH and have a candidate number before any work can be submitted for external verification.

Candidate registration forms can be downloaded from the Centre Area of the Qualifications section of the RSPH web-site [www.rsph.org.uk/centrearea](http://www.rsph.org.uk/centrearea) . Please note that there is a specific candidate registration form for this qualification which must be used. This is to enable details of successful candidates to be passed on to RAMPS (Register of Accredited Metallic Phosphide Standards in the UK). Candidates can withhold their permission for this.

### **Assessment Requirements:**

RSPH **must** be notified of the time and venue for practical assessments at the time of registration of the candidates and at least ten working days before the assessment is to take place, by using the booking form available in the centre area. This is to ensure that RSPH can arrange for a spot check of the assessment activities if it decides to do so. Failure to provide this information will disqualify the candidates and no certificates will be awarded.

### **Submission of Evidence of Assessment:**

Evidence of assessment should be submitted to the external verifier with an *Evidence Portfolio Front Sheet* signed by the candidate and a completed *Candidate Assessment Summary Form* for unit 2 of the qualification (Carry out procedures for the use of aluminium phosphide in the management of vertebrate pests), detailing where the evidence for each of the learning outcomes and assessment criteria can be found in the candidate's evidence portfolio. Evidence Portfolio Front Sheets and Candidate Assessment Summary Forms can be downloaded from the Centre Area of the Qualifications section of the RSPH web-site ([www.rsph.org.uk/centrearea](http://www.rsph.org.uk/centrearea) ). Specific and generic guidance on centre assessment is also available here.

### **Special Assessment Needs:**

Centres that have candidates with special needs should consult The Society's Reasonable Adjustments and Special Consideration Policy. This is available from the Centre Area of the Qualifications section of the RSPH web-site.

### **How to apply to offer this qualification:**

To become a centre approved to offer this qualification, please complete the 'Centre Application Form' and the Supplementary Application Information Form for this qualification which can be found on our website in the Qualifications and Training section <http://www.rsph.org.uk/en/qualifications/qualifications/i-want-to-become-a-rsph-registered-centre.cfm> . If you are already an approved centre, please complete

the 'Add an additional qualification form' in the Centre area on the website and the Supplementary Application Information Form. The Supplementary Application Information Form requires the centre to submit details of the training and experience of all centre tutors and assessors in the use of aluminium phosphide. Please ensure that you include details of your quality assurance procedures. You will need to attach a CV to this application. Centres should have appropriate facilities for candidates to carry out practical activities related to the control of vertebrate pests by aluminium phosphide. Please contact the Qualifications Department at [centreapproval@rsph.org.uk](mailto:centreapproval@rsph.org.uk) if you need any assistance.

### **Recommended Qualifications and Experience of Tutors and Assessors:**

RSPH recommends that tutors and assessors have teaching experience and a qualification in a relevant subject area, but recognises that experienced teachers can often compensate for a lack of initial subject knowledge, or experienced practitioners for a lack of teaching experience.

Tutors and assessors will be expected to have received training in the use of aluminium phosphide to control vertebrate pests.

Centres should use the Supplementary Application Information Form to provide evidence of their tutors' / assessors' suitability for the delivery and assessment of this qualification.

Potential assessors and tutors may be required to attend workshops organised by RSPH which will cover assessment methods for this qualification and also determine the ability of assessors and tutors to use aluminium phosphide pesticides safely.

### **Other Information:**

All RSPH specifications are subject to review. Any changes to the assessment or learning outcomes will be notified to Centres in advance of their introduction. To check the currency of this version of the specification, please contact the Qualifications Department or consult the RSPH website.

Centres must be registered with RSPH.

Any enquiries about this qualification should be made to:

The Qualifications Department,  
Royal Society for Public Health,  
John Snow House,  
59 Mansell Street,  
London E1 8AN

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