



City & Guilds NPTC Level 2 Award in the Safe Mixing and Transferring of Pesticides (PA8) (601/5147/X)

Version 1.0 (February 2024)

Qualification Handbook

Qualification at a glance

Subject area	Pesticides
City & Guilds number	0216
Age group approved	16+
Entry requirements	Candidate must meet minimum age requirements, Completion of unit 049
Assessment	To gain this qualification, candidates must successfully achieve the following assessments: <ul style="list-style-type: none"> • One to one practical assessment with oral questioning by an NPTC City & Guilds approved assessor
Grading	Met/Not Met
Approvals	Full Centre approval required
Support materials	Qualification Handbook (candidates). Assessment materials (approved assessment Centers only).
Registration and certification	Consult the Walled Garden/Online Catalogue for last Registration and Certification dates.

Title and level	City & Guilds qualification number	Regulatory reference number	GLH	TQT
City & Guilds Level 2 Award in the Safe Mixing and Transferring of Pesticides (PA8)	0216-56	601/5147/X	54	60

Version and date	Change detail	Section
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1 Introduction

This document tells you what you need to do to deliver the **City & Guilds Level 2 Award in the Safe Mixing and Transferring of Pesticides (0216-56)**:

Area	Description
Who is the qualification for?	<p>This is an Independently Assessed qualification (PA8)</p> <p>Type of Learner: If your job involves applying pesticides in a commercial role then you are legally required by the Plant Protection Products (Sustainable Use) Regulations (2012) to take this qualification.</p> <p>Qualification Overview: This qualification is designed specifically for those who wish to use either self propelled, mounted or trailed horizontal boom sprayers as part of their daily role. The award will supersede the old 0216 (PA2) unit.</p> <p>What you need to do: Candidates to undertake an oral and practical assessment</p>
What does the qualification cover?	<p>This qualification covers the requirements for the safe mixing and transferring of pesticides.</p> <p>Please refer to the Qualification Handbook for more detail.</p>
What opportunities for progression are there?	<p>Pre-requisite – 0216-49 City & Guilds Level 2 Principles of Safe Handling and Application of Pesticides</p> <p>Recommended progression onto 0216-63 – City & Guilds Level 3 Award in Responsible Pesticide Management.</p> <p>Once a candidate has successfully completed this qualification, they are able to legally apply pesticides using the methods and equipment identified within this qualification.</p>

Area	Description
Who did we develop the qualification with?	Developed with the Health and Safety Executive, Chemical Regulation Division, Voluntary Initiative and practicing industry stakeholders, DEFRA, Environment Agency.

Is it part of an apprenticeship framework or initiative? No

Assessment Guidance for the Candidate

A list of registered Assessment Centres is available from City & Guilds NPTC. (www.nptc.org.uk)

Assessment is a process by which it is confirmed that the candidate is competent in the unit(s) within the award to which the assessment relates. It is the process of collecting evidence about the candidates capabilities and judging whether that evidence is sufficient to attribute competence.

The Candidate must be registered through the City & Guilds approved Assessment Centre for this qualification prior to the assessment.

Structure

To achieve the City & Guilds Level 2 Award in The Safe Mixing and Transferring of Pesticides (0216-56) learners must achieve:

City & Guilds unit number	Unit title	GLH
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Pre-Requisite unit from 2016-49:

Learners must have achieved **this** mandatory unit prior:

101	Principles of safe handling and application of pesticides	26
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Mandatory unit:

Learners must achieve **the following unit**:

171	Mixing and transferring pesticides	28
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Total Qualification Time (TQT)

Total Qualification Time (TQT) is the number of notional hours which represents an estimate of the total amount of time that could reasonably be expected for a learner to demonstrate the achievement of the level of attainment necessary for the award of a qualification.

TQT comprises of the following two elements:

- 1) the number of hours that an awarding organisation has assigned to a qualification for guided learning
- 2) an estimate of the number of hours a learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by – but, unlike guided learning, not under the immediate guidance or supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

Title and level	GLH	TQT
City & Guilds Level 2 Award in The Safe Mixing and Transferring of Pesticides (0216-56)	54	60

2 Centre requirements

Approval

Full approval

To offer this qualification, new centres will need to gain both centre and qualification approval. Please refer to the document **Centre Approval process: Quality Standards** for further information. Please email **qasupport@cityandguilds.com** for further information on the approval process.

Centre staffing

Staff delivering these qualifications must be able to demonstrate that they meet the following requirements:

- be technically competent in the areas in which they are delivering
- be able to deliver across the breadth and depth of the content of the qualification being taught
- have recent relevant teaching and assessment experience in the specific area they will be teaching, or be working towards this
- demonstrate continuing CPD.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before delivering a course programme.

Physical resources

Centres must be able to demonstrate that they have access to the equipment and technical resources required to deliver this qualification and its assessments.

Assessment Guidance for the Assessor

Staff assessing these qualifications must be approved Certificate of Competence City & Guilds NPTC Assessors and must be independent and cannot have been involved with the training of the Candidate. This qualification can only be assessed by an Assessor who is suitably qualified and meets the requirements of the awarding body.

Certificate of Competence City & Guilds NPTC Assessors must meet the following requirements:

- show competence and provide evidence of industry expertise in the qualification/s they wish to assess
- hold the qualification as a candidate and have been technically evaluated as an Assessor
- be up to date with their verification and relevant first aid
- demonstrate continuing technically relevant CPD Compliance with these requirements is a pre-requisite for Assessors remaining on the list of approved Assessors.

Verification is a process of monitoring assessment; it is an essential check to confirm that the assessment procedures are being carried out in the way City & Guilds has laid down. The overall aim of verification is to establish a system of quality assurance that is acceptable in terms of both credibility and cost effectiveness and approved Assessors will be subject to a regular visit by the Verifier at a time when assessments are being undertaken.

A selection of assessment reports completed by the Assessor will be evaluated by a City & Guilds approved Quality Consultant.

Safe Practice

Appropriate PPE must be worn at all times All equipment must be operated in such a way that the Candidate, Assessor, other persons, animals or other equipment are not endangered.

If these conditions are not observed this will result in the Candidate not meeting the required standard.

Validation of Equipment

Any item(s) equipment used for the assessment must comply with current legal requirements.

Additional information may be sought from the relevant manufacturer's instruction book, operators' manual, product label/database or any other Government/Government Agency publication.

Appeals and Equal opportunities

Centres must have their own auditable, appeals procedures. If a Candidate is not satisfied with the examination conditions or a Candidate feels the opportunity for examination is being denied, the Centre Manager should, in the first instance, address the problem. If, however the problem cannot be resolved, City & Guilds will arbitrate and a Principal Verifier may be approached to offer independent advice.

All appeals must be clearly documented by the Centre Manager and made available to the Principal Verifier or City & Guilds if advice is required.

Should occasions arise when Centres are not satisfied with any aspect of the verification process, they should contact the Quality Assurance Manager at City & Guilds NPTC, 5-6 Giltspur Street, London, EC1A 9DE, UK.

Access to the qualification is open to all, irrespective of gender, race, creed or special needs. Subject to H&S restrictions the Centre Manager should ensure that no learner is subjected to unfair discrimination on any grounds in relation to access to assessment and to the fairness of the assessment. QCA requires City & Guilds to monitor centres to check whether equal opportunities policies are being adhered to.

Quality assurance

Approved centres must have effective quality assurance systems to ensure optimum delivery and assessment of qualifications. Quality assurance includes initial centre approval, qualification approval and the centre's own internal procedures for monitoring quality. Centres are responsible for internal quality assurance and City & Guilds is responsible for external quality assurance. All external quality assurance processes reflect the minimum requirements for verified and moderated assessments, as detailed in the Centre Assessment Standards Scrutiny (CASS), section H2 of Ofqual's General Conditions. For more information on both CASS and City and Guilds Quality Assurance processes visit: the [What is CASS?](#) and [Quality Assurance Standards](#) documents on the City & Guilds website.

Learner entry requirements

As part of the assessment for this qualification, learners must have achieved PA1 0216-49 Principles of Safe Handling and Application of Pesticides prior to completing this qualification.

Age restrictions

This qualification is approved for learners aged 16 or above.

Access arrangements and reasonable adjustments

Access arrangements are adjustments that allow candidates with disabilities, special educational needs, and temporary injuries to access the assessment and demonstrate their skills and knowledge without changing the demands of the assessment. These arrangements must be made before assessment takes place.

The Equality Act 2010 requires City & Guilds to make reasonable adjustments where a disabled person would be at a substantial disadvantage in undertaking an assessment.

It is the responsibility of the centre to ensure at the start of a programme of learning that candidates will be able to access the requirements of the qualification.

Please refer to the JCQ access arrangements and reasonable adjustments and Access arrangements - when and how applications need to be made to City & Guilds for more information. Both are available on the City & Guilds website:

<http://www.cityandguilds.com/delivering-our-qualifications/centre-development/centre-document-library/policies-and-procedures/access-arrangements-reasonable-adjustments>

3 Delivering the qualification

Initial assessment and induction

An initial assessment of each learner should be made before the start of their programme to identify:

- if the learner has any specific training needs
- support and guidance they may need when working towards their qualification.
- any units they have already completed or credit they have accumulated which is relevant to the qualification
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the learner fully understands the requirements of the qualification, their responsibilities as a learner and the responsibilities of the centre. This information can be recorded on a learning contract.

Support materials

The following resources are available for this qualification:

Description	How to access
Candidate Handbook	www.nptc.org.uk
Assessment Pack (available only to assessors)	www.nptc.org.uk

4 Assessment

Assessment of the qualification

Candidates must:

- have a completed practical observation with oral questioning for each optional unit.

Assessment types			
Unit	Title	Assessment method	Where to obtain assessment materials
171	Mixing and transferring pesticides	Practical observations with oral questioning. Centres may use the materials provided by City & Guilds.	www.nptc.org.uk

Assessment strategy

City & Guilds has written the practical observations with oral questioning for each optional unit to use with this qualification, live assessment materials can be downloaded by the assessor via the Assessment Pack from the NPTC website.

Time constraints

The following must be applied to the assessment of this qualification:

Candidates must finish their assessment within 24 months of date of initial registration.

Assessments should take no longer than 1.5 – 3 hours.

Qualification registration is valid for two years.

Summary of responsibilities in the assessment process		
Centre responsibilities	Candidate responsibilities	Assessor responsibilities
A suitable site is made available for the assessment to take place		Ensuring that the site provided is suitable for the assessment to take place
Machinery, equipment and materials are available to enable assessment of all the activities to take place	To be familiar with the machinery/equipment being used for the assessment	Ensuring that the machinery, equipment and materials provided satisfy the assessment requirements
	To bring appropriate Personal Protective Equipment (PPE) to the assessment	Ensuring that candidate's PPE complies with the requirements of the assessment
	To bring relevant training materials (including calibration sheet if applicable)	
	To bring a product label appropriate for the assessment	To ensure that the product label is appropriate for the assessment (or provide a suitable alternative)

5 Units

Structure of the units

These units each have the following:

- City & Guilds reference number
- title
- level
- guided learning hours (GLH)
- unit aim
- assessment type
- learning outcomes, which are comprised of a number of assessment criteria

Guidance for delivery of the units

This qualification comprises a number of **units**. A unit describes what is expected of a competent person in particular aspects of their job.

Each **unit** is divided into **learning outcomes** which describe in further detail the skills and knowledge that a candidate should possess.

Each **learning outcome** has a set of **assessment criteria** (performance and knowledge and understanding) which specify the desired criteria that must be satisfied before an individual can be said to have performed to the agreed standard.

Unit 171

Mixing and transferring pesticides

Level:	2
GLH:	28
Assessment type:	Practical Observation with Oral Questioning
Aim:	The aim of this unit is for the candidate to safely mix and transfer pesticides.

Learning outcome

The learner will:

LO1 Know the legislative and safety regulations relating to Mixing and transferring pesticides (**Criteria 1.1 – 1.2**)

Assessment criteria

The learner can:

AC1.1 Describe the legal requirements relating to Mixing and transferring pesticides

AC1.2 Describe how to mix and transfer pesticides following industry best practice

Topic 1.1

May include:

- all required guards are in place and equipment complies with legal requirements
- comply with all relevant road traffic regulations when operating or transporting on the public highway
- comply with The Plant Protection Products (Sustainable Use) Regulations 2012
- the operator must hold the appropriate certification for the equipment they are using

Topic 1.2

Operator safety regulation

- comply with Pesticide Codes of Practice
- adopt industry best practice
- be aware of any safety implications imposed by Risk/COSHH Assessment and comply with the requirements

Safe driving on a public highway

- independent brakes coupled together
- travelling at high speed makes vehicle unstable
- valves secured
- all equipment securely stowed
- all pesticides securely stowed

Learning outcome

The learner will:

LO2 Be able to assess the environmental factors relating to the mixing and transferring site
(**Criteria 2.1 – 2.2**)

Assessment criteria

The learner can:

AC2.1 Identify risks to the environment

AC2.2 Explain how to minimise risks to the environment

Topic 2.1

May include:

- ground conditions
- water courses
- environmental margins/strips/areas
- drains
- boreholes
- wildlife
- sensitive crops/areas
- hedgerows
- housing
- public access
- other risks particular to the site

Topic 2.2

May include:

- suitable mixing / transfer site
- safe filling procedure
- safe transfer procedure
- containment of spillage
- safe storage of pesticide

Learning outcome

The learner will:

LO3 Be able to read and interpret product information (**Criteria 3.1 – 3.2**)

Assessment criteria

The learner can:

AC3.1 Read product information

AC3.2 Interpret product information

Topic 3.1 – 3.2

The following to be provided:

- product name
- active substance(s) (ingredient(s))

Important information:

- field of use
- crop/target
- maximum individual dose
- specific product precautions/warnings
- operator protection
- environmental protection

Crop specific information:

- crop/target
- dose rate
- water volume
- filling
- mixing
- additional label information
- compatibility

Learning outcome

The learner will:

LO4 Be able to prepare the mixing and transferring equipment (Criteria 4.1 – 4.2)

Assessment criteria

The learner can:

AC4.1 Identify the equipment components and controls

AC4.2 Carry out pre-use and operational checks to the equipment

Topic 4.1

May include:

- main tank
- pump
- ancillary power source
- filling control and devices
- agitation control
- on/off control
- filters
- tank wash system
- clean water tank
- tank drain
- other components/controls specific to the equipment

Topic 4.2

May include all/some of the following as applicable to the equipment:

Mechanical defects

- seized, worn or damaged controls/components

Equipment lubrication:

- identification of lubrication points
- visual inspection of lubrication points
- visual inspection of levels (if applicable)

Security of attachment:

- fasteners tight
- straps inspected and adjusted if necessary
- drawbar pin secured (if applicable)

Remove, clean and refit a filter

- remove and clean using appropriate method
- contain spillage
- check for defects
- refit

Part fill equipment

- suitable site selected
- fill by usual on-site method, following approved procedures
- clean water supply

Learning outcome

The learner will:

LO5 Be able to operate the mixing and transferring equipment (**Criteria 5.1 – 5.5**)

Assessment criteria

The learner can:

AC5.1 Interpret instructions from the sprayer operator

AC5.2 Measure the required quantities and add to the equipment

AC5.3 Demonstrate safe and accurate transfer procedures

AC5.4 Carry out all activities protecting human health and the environment

AC5.5 Complete records

Topic 5.1

To include:

- identification of correct instructions
- correct interpretation of instructions

Topic 5.2

To include:

- correct selection and use of PPE (as required by the product label and/or COSHH/Risk Assessment)
- suitable site selected
- fill by usual on-site method, following approved procedures
- clean water supply
- accurate measurement of water
- accurate measurement of pesticide
- correct filling procedure

- use of filling device if fitted
- avoidance of spillage
- observance of pesticide manufacturers instructions for mixing and agitation

Topic 5.3

To include:

- determine requirement from instructions
- correct amount transferred
- safe procedure
- avoidance of spillage

Topic 5.4

To include:

- prevention of personal injury and contamination through correct selection and use of PPE (as required by the product label and/or COSHH/Risk Assessment)
- prevention of public/bystander contamination
- safe filling/transferring procedure
- avoidance of spillage

Topic 5.5

Completion of the mixing/transferring record must be:

- accurate
- legible (if handwritten)

Learning outcome

The learner will:

LO6 Know how to carry out post-operational procedures (Criteria 6.1 – 6.3)

Assessment criteria

The learner can:

AC6.1 Explain how to manage surplus pesticide and dispose of waste materials

AC6.2 Explain how to clean and decontaminate the mixing and transferring equipment

AC6.3 Describe the storage requirements for the mixing and transferring equipment

Topic 6.1

Surplus concentrate pesticide

- return to temporary mobile store
- return to fixed store

Containers:

- triple rinsed
- placed in secure storage until disposal
- returned to supplier

- collected by licensed waste contractor

Packaging:

- thoroughly emptied
- placed in secure storage until disposal
- collected by licensed waste disposal contractor

Surplus dilute pesticide

- transfer to applicator for application back on to site as long as it is below the maximum dose rate
- transfer to applicator for use on another approved crop/target
- treated by specialist treatment facility on site (e.g. a lined bio bed)
- collected by licensed waste disposal contractor

Topic 6.2

May include:

- select and use appropriate PPE
- appropriate site
- thorough washing with water and suitable additive if required
- internal and external surfaces
- use of in-built wash systems if provided
- care to ensure contamination 'hot-spots' are clean
- thorough flushing of systems
- safe disposal of contaminated washings (usually transferred to applicator for disposal)
- when cleaning should take place
- safe procedures followed

Topic 6.3

May include:

- ensure the equipment is clean and dry
- inspect for wear and damage
- replace any worn or damaged parts
- ensure system is drained and any valves left in appropriate positions
- frost protection measures implemented
- lubricate as required
- store undercover and out of direct sunlight
- store in a secure area

Unit 171 Mixing and Transferring Pesticide

Supporting information

Evidence requirements

Assessment carried out by oral questioning and practical observation.

Unit guidance

Candidates must successfully achieve all assessment activities in their chosen unit(s).

Safe Practice

The Assessor and Candidate must wear Personal Protective Equipment (PPE) when appropriate.

The Assessor must ensure that a Site Specific Risk Assessment is carried out.

All equipment must be operated in such a way that the Candidate, Assessor, other persons and the environment are not endangered. Failure to operate safely and comply with these requirements will result in the Candidate not meeting the required standard.

A breach of Health and Safety that puts any person at risk during the assessment process will result in the assessment being terminated and the Candidate not meeting the required standard. The Assessor may stop the assessment on the grounds of safety at any time at their discretion.

Candidates who undertake this assessment and have met the requirements are reminded of their legal obligation to receive/undertake appropriate additional training in the use of any equipment that differs from that used during the assessment, but which they are nevertheless qualified to use.

Suggested learning resources

Code of Practice for Using Plant Protection Products.

This is available from www.hse.gov.uk

Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the [Centre document library](#) on www.cityandguilds.com or click on the links below:

Centre Handbook: Quality Assurance Standards

This document is for all approved centres and provides guidance to support their delivery of our qualifications. It includes information on:

- centre quality assurance criteria and monitoring activities
- administration and assessment systems
- centre-facing support teams at City & Guilds/ILM
- centre quality assurance roles and responsibilities.

The Centre Handbook should be used to ensure compliance with the terms and conditions of the centre contract.

Centre Handbook: Quality Assurance Standards

This document sets out the minimum common quality assurance requirements for our regulated and non-regulated qualifications that feature centre-assessed components. Specific guidance will also be included in relevant qualification handbooks and/or assessment documentation.

It incorporates our expectations for centre internal quality assurance and the external quality assurance methods we use to ensure that assessment standards are met and upheld. It also details the range of sanctions that may be put in place when centres do not comply with our requirements or actions that will be taken to align centre marking/assessment to required standards. Additionally, it provides detailed guidance on the secure and valid administration of centre assessments.

Access arrangements: When and how applications need to be made to City & Guilds

provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **Centre document library** also contains useful information on such things as:

- conducting examinations
- registering learners
- appeals and malpractice.

Useful contacts

Please visit the Contact us section of the City & Guilds website, **Contact us**.

City & Guilds

For over 140 years, we have worked with people, organisations and economies to help them identify and develop the skills they need to thrive. We understand the life-changing link between skills development, social mobility, prosperity and success. Everything we do is focused on developing and delivering high-quality training, qualifications, assessments and credentials that lead to jobs and meet the changing needs of industry.

We partner with our customers to deliver work-based learning programmes that build competency to support better prospects for people, organisations and wider society. We create flexible learning pathways that support lifelong employability because we believe that people deserve the opportunity to (re)train and (re)learn again and again – gaining new skills at every stage of life, regardless of where they start.

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