

## **Formative Practical Assessment — Guidance for Tutors and Candidates**

### **P401 – Identification of Asbestos in Bulk Samples (PLM)**

#### **1 Overview**

Candidates taking the P401 – Identification of Asbestos in Bulk Samples (PLM) module are required to have the requisite skills to safely manipulate samples and to prepare slides for identification purposes.

The formative practical assessment is designed to enable candidates to demonstrate that they have achieved the relevant skills by carrying out a number of practical tasks. All candidates must undertake the tasks at an appropriate time during the course under the supervision of the course tutor. The tutor may be assisted by other appropriately qualified and experienced people if necessary.

The assessment is open-book and candidates are permitted to access written reference materials and written procedures during the tasks but not electronic databases.

The course tutor is permitted to support candidates who are experiencing difficulties in carrying out one or more of the tasks, for example by providing verbal feedback or by demonstrating correct techniques. However, to complete the assessment, candidates must demonstrate a satisfactory level of proficiency in all tasks independently and without support.

Candidates who do not complete the tasks are permitted to take the written and practical examinations but will not be awarded the module. Candidates are permitted to re-sit the assessment with a training provider.

#### **2 The Practical Requirements**

Candidates must demonstrate proficiency in all of the following areas:

- safely operate at a fume cupboard with the appropriate tools and use a stereo microscope to examine samples,
- undertake all required pre-treatment of samples to allow extraction of fibres,
- correctly prepare slides with the appropriate RI liquid,
- set up and use a polarising microscope.

#### **3 Equipment**

Equipment required for the assessment includes:

- microscopes (stereo and polarised light),
- fume cupboards,
- sample pre-treatment reagents,
- appropriate tools,
- RI liquids, microscope slides and cover slips.

#### **4 Marking and Reporting**

The course tutor who assesses the candidates must complete a Formative Practical Assessment Report Form for each candidate, attached at the end of this document. The Report must clearly show if each candidate has achieved a satisfactory or unsatisfactory level of proficiency for each assessment element.

Candidates are required to achieve a satisfactory level of proficiency for each element to complete the assessment.

A copy of the relevant Report may be given to the candidate.

## **5 Results**

The results for each candidate must be sent to BOHS within five working days of the end of the course.

## **6 Quality Assurance**

The assessment is a mandatory part of the assessment and examination process for P401 and is subject to BOHS external quality assurance arrangements, to ensure compliance with requirements and to promote consistency and continuing improvement.

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#### **Assessment Elements**

The following six elements must be included in the formative practical assessment.

##### **1 Sample handling**

- understanding of fume cupboard characteristics,
- safe opening of sealed bags or containers inside fume cupboard,
- initial visual examination of samples.

##### **2 Pre-treatment of samples and extraction of fibres**

- use of tools to break samples and/or extract fibres,
- use of dilute acids to dissolve inorganic binders,
- use of solvents to remove organic binders.

##### **3 Use of stereo microscope**

- aim of stereo microscopy,
- use of tools to separate different fibrous components,
- knowledge of asbestos fibre morphology.

##### **4 Preparation of slides for polarising light microscopy**

- selection of RI mounting liquid,
- preparation of microscope slides for PLM examination,
- procedure for samples that showed no fibres under stereo microscope.

##### **5 Set up of polarising light microscope**

- adjustment to give Köhler illumination,
- stage centring,
- insertion of polariser and analyser.

##### **6 Use of polarising light microscope**

- observation of fibre morphology, colour and pleochroism,
- observation of birefringence and extinction characteristics,
- determination of sign of elongation,
- assessment of fibre RI by dispersion staining.

## Formative Practical Assessment Report

### P401 – Identification of Asbestos in Bulk Samples (PLM)

<b>Training Provider</b>			
<b>Course Start Date</b>		<b>Course End Date</b>	
<b>Location of Course</b>			

<b>Name of Candidate</b>		<b>Date of Birth</b>	
<b>Date of Assessment</b>			

<b>Assessment Element</b>		<b>Tutor Comment on Level of Proficiency<sup>1</sup></b>
<b>1</b>	<b>Sampling handling</b>	
<b>2</b>	<b>Pre-treatment and extraction</b>	
<b>3</b>	<b>Use of stereo microscope</b>	
<b>4</b>	<b>Preparation of slides for PLM</b>	
<b>5</b>	<b>Set up of PLM</b>	
<b>6</b>	<b>Use of PLM</b>	

I certify that the above candidate has been assessed in accordance with BOHS requirements and has achieved the level of proficiency for each element as shown.

<b>Name of tutor</b>		<b>Signature of tutor</b>	
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<sup>1</sup>Tutor must enter 'Satisfactory' or 'Unsatisfactory' for each element, with additional comments if necessary relating to the candidate's ability and expertise in that element.