

## Issue Status

Issue	Issue Date	Page	Amendments	Authorised By
7	11.01.22	4	5a Clarification that PT team reserve the right to withdraw or not score a sample	MJ
8	17.02.22	2/3/4/5/8	Quantitative references removed	MJ
8	17.02.22	10	Quantitative scoring system explanation removed	MJ

**Note:** Latest issue supersedes all previous issues.

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## 1. Purpose of the Scheme

The Low Asbestos Content Scheme (LACS) is an international inter-laboratory proficiency testing (PT) scheme, intended to assess and improve the performance of laboratories analysing different materials with low asbestos content. The scheme is not designed to assess the ability of laboratories to identify all six regulated asbestos types and sample matrices will be restricted to powders and non-typical solid materials. The scheme provides an externally verified indication of performance that analysts can use to satisfy themselves, their organisation, and their clients that their analyses are of the appropriate standard and level of quality.

The scheme is intended to be self-regulatory so that initiatives for improving analytical performance are taken by the individual laboratory and not imposed by an outside body. As the scheme alone cannot ensure day-to-day quality, each laboratory should devise its own internal quality system which will take into account other factors not included in the scheme, such as the choice of sampling location, the sampling method used and test method used, any of which may also affect the outcome of the test result.

## 2. Management of the Scheme

LACS is managed by the Science Division of the Health and Safety Executive (SD HSE). The Fibre Proficiency Testing Steering Committee (FPTSC) oversees the operation of LACS and acts as an appeal panel in cases of dispute. The FPTSC committee has representatives from laboratories in the industry specialising in asbestos analysis, independent experts, HSE and UKAS. In order to ensure confidentiality, each laboratory is identified by a code known only to them and to the PT Team (PT Laboratory number). Participation in LACS does not constitute recognition or approval of a laboratory by HSE.

There are three areas where the PT scheme are subcontracted to external bodies, these are:

- Sample Distribution
- PT Software design, maintenance and development
- Sample Validation

## 3. Overview

LACS operates as follows:

- There are three rounds per year – approximately every four months.
- There is one sample in each round. The sample is suitable for qualitative analysis.
- The deadline for results submission is given on the results sheet despatched with samples (also available on the website) and laboratories have approximately twenty working days to analyse the samples.
- Results received after the round deadline may not be processed. Laboratory results are processed by the PT Team and individual and group reports are produced. Reports are made available approximately one month after the results deadline.

## 4. Membership

LACS is open to any laboratory involved in the identification of asbestos, using any method. However, it is **not** intended that LACS is an alternative to the AIMS scheme as the asbestos types and matrices will be more restricted. The membership fee covers 1 year (financial year April to March) and includes 3 rounds. New participants joining the scheme part way through the year pay only for the remaining rounds in that year on a pro rata basis. Participants may withdraw from the scheme at any time by informing the PT Team in writing. The membership fee is non-refundable. Current participants are sent a renewal subscription form before the end of each financial year. It is the participants' responsibility to ensure all details are filled in correctly on the subscription form and that payment is promptly made in full. **Failure to pay scheme fees**

may result in samples and reports being withheld, and ultimately exclusion from scheme participation.

## 5. Operation of the Scheme

### a. Samples

Samples are despatched to participants by courier service according to the schedule published on the website; this may be subject to change at the discretion of the PT Team. Participants should contact the PT Team if they have not received their samples within 10 days of the published despatch date.

The LACS samples are packaged in 2 sealed plastic bags, labelled and then placed inside a heat-sealed foil bag that is packaged inside a foam lined cardboard box. It is recommended that the foil bag should be opened in a fume cupboard fitted with a HEPA filter. The samples themselves should only be handled in a HEPA filtered fume cupboard.

The LACS samples are made individually and are a mixture of solid and powder samples manufactured by the PT Team. A LACS round consists of 1 sample. Occasionally, a sample may contain one of the more rare forms of asbestos.

All samples are visually examined by the PT Team to assess homogeneity e.g. colour, shape, size etc. All samples go through a preparation, screening and validation process and at least 10% of the prepared samples are fully analysed and validated by a team of experienced analysts (some from overseas labs and some from UK labs) using various analytical techniques.

The PT Team reserves the right to withdraw LACS samples, change sample scores or to not score a sample following investigation at any time.

### UK Definition of Asbestos

The current HSE publication (L143), 'Work with materials containing asbestos, Control of Asbestos Regulations' defines 'Asbestos' as follows,

Asbestos is the general term for the fibrous silicates listed in the definition in regulation 2.

### b. Analysis

LACS samples should be analysed in the same manner as any other routine laboratory asbestos samples of this type. Labs should choose a method with appropriate analytical sensitivity.

All samples used in LACS that contain asbestos, will have relatively low levels of asbestos fibres present (typically between 0.01-0.1percent)

**Laboratories should always analyse the sample in its entirety to ensure detection of the asbestos present.**

### c. Reporting of Results

Laboratories have approximately **20 working days** to analyse the samples and to report the results. Participants are required to report qualitative results. Only one set of results are processed and reported for each laboratory subscription.

LACS results are submitted using the PT online data entry system (PT ODES). A unique user name and password is issued to each participating laboratory, along with a web link to the webpage (via the PT ODES). Laboratories should enter their results as indicated on screen for each sample. It is the participants' responsibility to submit their results correctly and to ensure their details are **fully** completed. It is important to note that for any one sample if all the asbestos type boxes are ticked, the score will default to 32.

Participants who have paid subscriptions and have been assigned to a round of LACS, but do not submit any results, will receive a 'void' marking for that particular round. It is participants' responsibility to inform the

PT Team if they wish to miss a round before the LACS round deadline. Participants may change or amend their results up to the date of the deadline indicated on the results entry screen. Following the deadline date, the round automatically shuts down and no further results or amendments can be made by participants. **Please note: deadline dates will be strictly adhered to and extensions will only be granted in exceptional circumstances at PT Team's discretion.**

Any queries regarding reporting of results should be sent in writing to the following email address; [proficiency.testing@hse.gov.uk](mailto:proficiency.testing@hse.gov.uk)

#### d. Processing of Results

Analytical results from laboratories are automatically processed as entered into the LACS section of the PT ODES by each participant. If a participant is unable to enter their own results (for example, if they encounter problems with computer access) data can be entered or amended by the PT Team on their behalf. This will only be carried out with written (email) consent from the participant affected. No changes can be made to the results submitted and received after the deadline date has passed, unless there is a technical accessibility or technical data processing problem. In this instance PT Team will inform the LACS participants by email.

Participant performance is assessed as described in section 12 and Annex 1 'LACS Scoring System'. Essentially, laboratories receive a score for each error in identification, for each sample analysed, in each LACS round. Participating laboratories will receive a round score for qualitative analysis.

#### 6. Records and Confidentiality

Paper and computer records are maintained and include information such as laboratory name, laboratory contact name, accounts contact name, e-mail address, postal address, and telephone numbers. It is the responsibility of the participant to notify the PT Team of any changes of any contact details that are required. This also includes any changes which may be required regarding online data entry user names and passwords. Participants requiring change of contact details should contact the PT Team who will administer a '**Change of Contact Details Form**', which should be fully completed and promptly returned to the PT Team.

Results and participant details are submitted to the scheme administrators in confidence and are not revealed to any third party except where required to do so by law, for example in association with a criminal prosecution or where accreditation bodies are informed of unsatisfactory performance.

**Participant laboratory numbers or passwords will not be published by the PT Team at any time;** this information is held confidentially by the PT Team and the participant.

#### 7. Collusion and Falsification of Results

Laboratories must not submit results, which are false reflections of the performances of those laboratories' individual analysts, whether by collusion within or between laboratories, or by any other means. Falsification of results is regarded as an extremely serious matter. The following disciplinary procedures may be applied whenever there is clear documentary evidence of falsification of results or improper collusion.

- The relevant accreditation body will be informed
- The membership of the laboratory may be suspended, subject to review by FPTSC.

Reinstatement after suspension for falsifying results

Lab must satisfy UKAS, or the relevant accreditation body, that appropriate corrective and preventive actions have been put in place to prevent recurrence. Evidence must be supplied to the PT Team, which will be reviewed by FPTSC.

## 8. Queries

If participants have routine administrative or PT ODES entry queries these should be directed to the PT Team. To ensure a prompt response the preferred method of enquiry is by email, however enquiries may also be submitted by telephone or letter format. **Participants must quote their 'PT laboratory number' in all correspondence to ensure a prompt and efficient response.**

Queries of a non-administrative nature (which may affect a laboratory's participation or performance in the scheme) must be written, either in email or letter format and should be sent to the email/postal address given in annex 2 Contacts & Advice.

Any query regarding round scores for LACS must be received by the PT Team within **10 working days** of the date of issue of participants individual round reports. Queries received after this **will not be accepted**. All queries will be dealt with on an individual basis and will be considered and acted upon in the first instance by the PT Team. If the PT Team is unable to resolve the query it will be forwarded to the FPTSC. For example some of the different categories of queries are outlined below:

### a. Query About Asbestos Content / Contamination of Samples and the Resulting Scoring

Any query concerning the asbestos content of a sample, after the results have been published, should be sent in the appropriate format as outlined above. Initial investigations following receipt of written queries will be carried out by the PT team. Appeals against penalty scores are investigated in the first instance by the PT team and an acknowledgement response sent in writing by email to the participant. To fully investigate a sample query regarding asbestos contents, the sample **must** be returned to the PT Team at the participants own cost. Instructions will be sent to participants who query asbestos sample content, including the relevant documentation to be completed in order to initiate the sample return and investigation process. It is **strongly recommended** that any samples returned for investigation are sent using a courier that is licensed to carry hazardous materials.

Examples of asbestos content queries are:

False Negative – Non-identification of a component that is present.

False Positive - Identification of a component that is not present.

The outcome of all investigations will be brought before the FPTSC. Any decisions regarding participant scores will be sent to the relevant participant(s) as appropriate.

### b. Accreditation

Any query regarding participant accreditation; i.e. round scores or 'missing a round' should be taken up with the participants appropriate accreditation body.

### c. Extensions

Extensions will not normally be considered. If samples are despatched later than published, then the same approximately 20 working day reporting period will be used and all participants will be contacted by email and given the revised deadline date. The website will also be amended to display the revised deadline date.

### d. Sample Despatch/Delivery

It is the participants' responsibility to provide the PT team with an up-to-date receipt location/address and contact details, and to inform whoever receives their samples when the LACS samples are expected. If participants wish to change contact or company details, a request should be sent by email to the PT Team. A 'Change of Contact Details Form' will be issued which must be fully completed and promptly returned.

Where necessary, participants must ensure any required paperwork is in place to allow transit of LACS samples through customs. Any additional charges incurred from couriers will be passed onto the participant. If samples are returned to the PT Team by the courier and have to be re-despatched to a different address to that originally given on the order form or on a 'Change of Contact Details Form', then a charge may be levied.

### e. Return of Samples/Charges

Any samples returned to the PT Team for investigation regarding asbestos content, contamination or penalty scores **must** be sent via a courier, at the participants own expense. It is **strongly recommended** that any courier used is licensed to carry hazardous materials. Samples returned for investigation will be despatched back to participants with the next available round of LACS samples. The process is summarised below;

- (i) Contact PT Team
- (ii) Form Sent to Participant to Complete
- (iii) Courier Sample & Request Form Back to the PT Team
- (iv) Investigation Undertaken
- (v) Outcome Delivered
- (vi) Sample Returned to Participant

### f. Timescales for Queries & Appeals

#### Sample Scoring Query

The PT team must be advised of the query, by email, within 10 working days from the issue date on the individual report. If the sample is to be returned to the PT Team for further investigation, this must be received within 20 working days from the issue date on the individual report (see section 8a).

#### Appeal to FPTSC

If an appeal (see section 8) to the final decision of the PT team is requested, participants have 10 working days from the date of the PT Teams final decision to notify the PT Team by email.

If no further communication from the participant has been received by the PT Team within the agreed timescales, the matter will be deemed completed.

### g. Re-issue of Reports

All reports will be available to download at any time from the PT Online data-entry system.

## 9. Complaints and Appeals Procedure

Complaints **must** be in writing and will be forwarded to and considered by the FPTSC. The complaint will be acknowledged and the participant informed of receipt and date for consideration. The decision of the FPTSC will be sent to the participant as soon as possible.

If the participant wishes to appeal following a sample query investigation, then this also must be in writing and should be sent to the PT Team. The appeal will then be considered at the next meeting of the FPTSC or during a convening of FPTSC members by email/teleconference at the discretion of the FPTSC chairperson. The participant will be informed of the outcome by the chairperson of the FPTSC.

## 10. Advertising by Participants

It is recommended that any publicity and advertising material should describe the laboratory undertaking LACS as an, 'LACS Participant'. Participants may wish to describe their level of performance but should state the year in which they achieved this status.

## 11. Quality Control and Training Products

A laboratory may wish to obtain extra samples, for example, for training purposes or to add to their internal quality control samples. If requested, these samples will be supplied as a set two samples. We are also able

to provide a wide range of asbestos quality control and training products/materials, information on which can be found on the website or by contacting the PT Team.

## 12. LACS Scoring System

The LACS scoring system is designed to meet the requirements of the UK HSE asbestos guidance and is orientated towards assessing the seriousness of the analytical error obtained by participants.

Both types of error, false positives (identification of an asbestos type that was not present) and false negatives (non-identification of an asbestos type that was present), are assessed and the scores are additive.

### a. Types of Error

Points are allocated to a participant for each analytical error made and the magnitude of the score is dependent on the seriousness of the error. For example, the failure to identify the asbestos component in a 'single asbestos matrix' would score higher, than incorrectly identifying the asbestos type in a sample where one asbestos type is present. 3 types of error are considered:

**A supercritical error-** An error which is analytically unacceptable and which would have serious consequences if committed in reality; such an error might be the failure to detect a single asbestos component in a matrix **scores 20 points**.

**A critical error-** an error which is analytically unacceptable but which might not have significant consequences if committed in reality; such an error might be a failure to detect one asbestos component in the presence of an already detected asbestos, **scores 12 points**.

**A non-critical error-** an error which is analytically unacceptable but would have no significant consequences if committed in reality; such an error might be a false positive identification of one or more asbestos types in the presence of an already detected asbestos component, or the identification of Tremolite or Anthophyllite as Actinolite, or vice versa, **scores 7 points**.

**NB** – the identification of Tremolite as Anthophyllite, or vice versa, **scores 0 points**

The scoring system is described in more detail in Annex 1.

### b. Participant Reports

Participants round results and reports are available by accessing the PT ODES. Previous and current reports can be accessed from the first screen following logon. Hard copies of LACS round reports can be printed off following the accessing of each individual round. Results can only be obtained when rounds have been scored and the results released by the PT Team. Failure to pay scheme fees will result in access to results and reports being withdrawn until fees have been paid in full.

**Annex 1**  
**LACS Scoring System**

Sample Score	No Asbestos	1 Asbestos Type	2 Asbestos Types	3 Asbestos Types
0	No Asbestos Reported	Correct type reported	Both correct types reported	All correct types reported
7		Correct type reported + one or more types not present reported*	Both correct types reported + one or more types not present reported	All correct types reported + one or more types not present reported
12		Correct type not reported + one type not present reported	One correct type reported	Two correct types reported
14		Correct type not reported + where Actinolite is reported as Tremolite/ Anthophyllite (or vice versa) + one or more types not present reported	One correct type reported correctly + Actinolite is reported as Tremolite/ Anthophyllite (or vice versa) + one or more types not present reported	Two correct types reported correctly + Actinolite is reported as Tremolite/ Anthophyllite (or vice versa) + one or more types not present reported
19		Correct type not reported + 2 or more types not present reported	One correct type reported + one or more types not present reported	Two correct types reported + one or more types not present reported
20	Asbestos Reported	No Asbestos Reported		
24				One correct type reported
26			No correct type reported + Actinolite reported as Tremolite/ Anthophyllite (or vice versa) + one or more types not present reported	One type reported correctly + Actinolite reported as Tremolite/ Anthophyllite (or vice versa)
31				One correct type reported + one or more types not present reported
32	Ticked all asbestos types	Ticked all asbestos types	No Asbestos Reported <b>OR</b> No correct types reported <b>OR</b> Ticked all asbestos types	No Asbestos Reported <b>OR</b> No correct types reported <b>OR</b> Ticked all asbestos types

\* Note that the identification of Tremolite or Anthophyllite as Actinolite, or vice versa, **scores 7 points**. Also see Section 12a.

## **Annex 2**

### **Contacts and Advice**

For all LACS enquiries please contact:

By email: [proficiency.testing@hse.gov.uk](mailto:proficiency.testing@hse.gov.uk)

By Telephone: 00 44 (0) 203 028 3382

By Post:

Proficiency Testing Team

HSE Science & Research Centre

Harpur Hill

Buxton

Derbyshire

SK17 9JN

Website page:

<http://www.hsl.gov.uk/proficiency-testing-schemes/aims>

PT on-line data entry (PT ODES) web link;

<https://xnet.hsl.gov.uk/aims/>

## **Annex 3**

### **Glossary of Terms**

**AIMS** - Asbestos In Materials Scheme

**LACS** – Low Asbestos Content Scheme

**Cumulative Score** – 3 round rolling total score (the total of the last 3 rounds participated in)

**Despatch Day** – The working day that samples or reports are despatched by the PT Team

**False Positive** – Identification of a component that is not present

**False Negative** – Non-identification of a component that is present

**FPTSC** – Fibre Proficiency Testing Steering Committee

**HEPA** – High Efficiency Particulate Air

**HSE** – Health & Safety Executive

**PT Laboratory Number** – Laboratory identification number (unique and applied across all individual asbestos PT schemes, formerly known as QuAD number)

**PLM** – Polarised Light Microscopy

**PT** – Proficiency Testing

**PT ODES** – Proficiency Testing Online Data Entry System

**QC** – Quality Control

**Round Score** – Laboratory score for one round of LACS

**Sample Score** – Individual sample score for one sample in a round of LACS

**UKAS** – United Kingdom Accreditation Service

**Working Day** – A day other than a public holiday in the UK or a Saturday or Sunday

## Annex 4

### Responsibilities, Terms & Conditions

HSE will operate the Proficiency Testing (PT) schemes in accordance with its obligations as set out in the relevant Scheme Information Book for Participants, available on our website.

Participants must abide by the rules and responsibilities of the scheme set out in the information book and in particular as detailed below.

Participants should comply with the HSE's standard conditions of business, a copy of which is available upon request.

### Participant Responsibilities

Participant responsibilities are outlined below:

- Your PT Laboratory Number **must be quoted in all correspondence**.
- All queries should be directed to the proficiency testing email address and the PT Team will respond as soon as possible.
- To ensure participants are kept up to date with important information it is the participants' responsibility to inform the PT Team of any changes to contact details.
- Participants must ensure that any required paperwork / permits are in place to allow samples through national border controls / customs (additional charges from the courier will be passed on to participant should there be further fees payable). Failure to do so may result in delays or detainment of sample shipment and hence participation in the round.
- Participants must use the Proficiency Testing Online Data Entry System (PT ODES) to subscribe to the scheme.
- Samples **will not** be despatched until full payment has been received.
- The preferred method of payment is via Worldpay (online credit/ debit card system). A full VAT receipt is available immediately after the payment has been processed.
- If an invoice is required, the participant needs to allow 4-6 weeks for it to be issued and must pay, in full, within 30 days of the invoice date. An invoice shall not be regarded as paid until funds (GBP) are received into a UK sterling bank account operated by Health and Safety Executive.
- It is the participants' responsibility to ensure that scheme round results are submitted by the defined deadline dates. Participants must have access to certain mandatory IT facilities such as Microsoft Word and Excel, an email account and a web access facility in order to participate.
- Participants must submit round results via the PT ODES for each scheme. The PT Team reserves the right to refuse results submitted on reporting formats alternative to the online data entry system provided.
- Transcription errors and / or errors in reporting results in the correct format by participants is considered by the PT Team to be part of the proficiency testing assessment process. As such, the PT Team will not amend or correct any submitted results if requested. Participants can however, change their results, provided that any amendments are made by the close of the round and the before the predefined reporting deadline.

- For a copy of HSE's standard conditions of business, or for any queries regarding AIMS please email [proficiency.testing@hse.gov.uk](mailto:proficiency.testing@hse.gov.uk) or visit the website at <http://www.hsl.gov.uk/proficiency-testing-schemes>
- For urgent queries, please call 00 44 (0) 203 028 3382. Please remember to quote the allocated PT laboratory number in all correspondence.