



Group Report



Round 11
March 2021

LOW ASBESTOS CONTENT SCHEME

Round 11 Sample Details

BACKGROUND

This report covers Round 11 of the Low Asbestos Content Scheme (LACS). Round 11 was open to laboratories worldwide. Laboratory participation was as follows: 5 UK and 130 Non UK.

135 laboratories subscribed to this round, with 132 submitting results.

SAMPLES

One sample was circulated as follows: Sample LACS011 – This sample was diatomaceous earth with 0.05% UICC crocidolite.

SCREENING & VALIDATOR INFORMATION

The sample was prepared for circulation following our normal internal screening process of samples with representative sub-samples scanned using stereo-zoom and polarised light microscopy and transmission electron microscopy to assess homogeneity and suitability. Approximately 10% of the total number of samples despatched were validated by 10 independent laboratories.

INFORMATION SUBMITTED BY LABORATORIES

Laboratories used the PT online data entry system to submit their results for this round. Results were submitted as asbestos type (s) present and for the Quantitative element, the total % asbestos.

ERRORS

Of the 132 laboratories who submitted results three reported crocidolite and amosite, one reported amosite and four reported no asbestos.

LACS QUALITATIVE RESULTS

Sample LACS011

One hundred and twenty-four laboratories correctly reported crocidolite
Three laboratories reported crocidolite and amosite
One laboratory reported amosite
Four laboratories reported no asbestos

These results are presented graphically in Charts 1 and 2.

LACS QUANTITATIVE RESULTS

The median of quantitative results submitted was 0.03%. For the purposes of the z score we are using 40% of the median - 0.012%. Seventy-four laboratories submitted quantitative results;

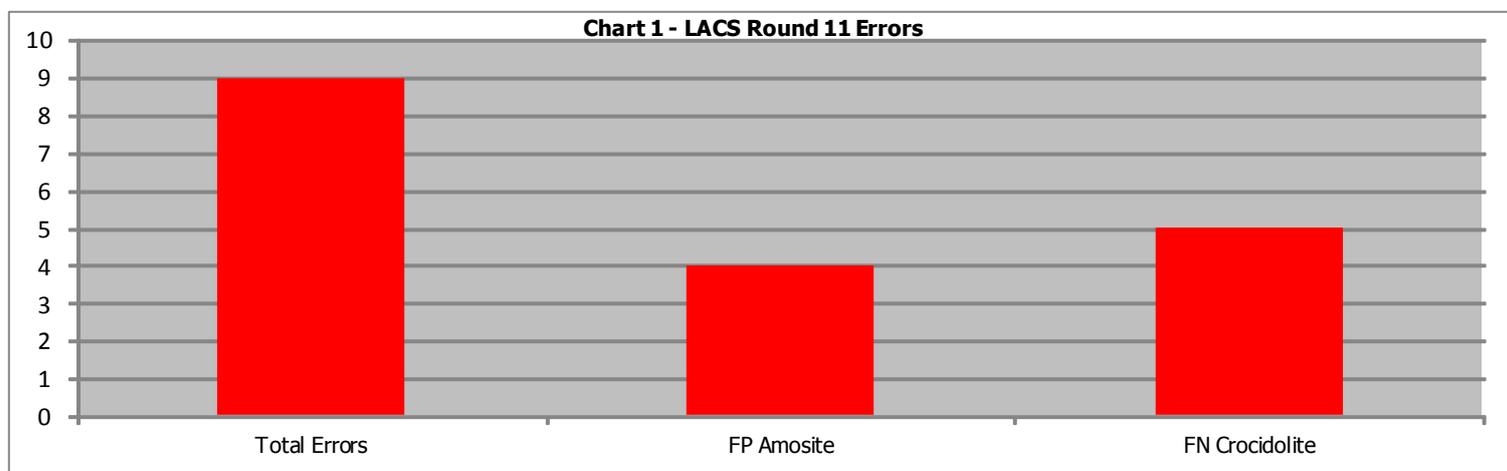
- 25 (34%) laboratories achieved a z-score of $< \pm 2$, this is normally considered to represent “Satisfactory” performance
- 18 (24%) laboratory achieved a z-score of between $\pm 2 - \pm 3$, this is normally considered to represent “Questionable” performance
- 31 (42%) laboratories achieved a z-score of $> \pm 3$, this is normally considered to represent “Unsatisfactory” performance.

These results are presented graphically in Charts 3-5.



1. Type Of Errors Obtained

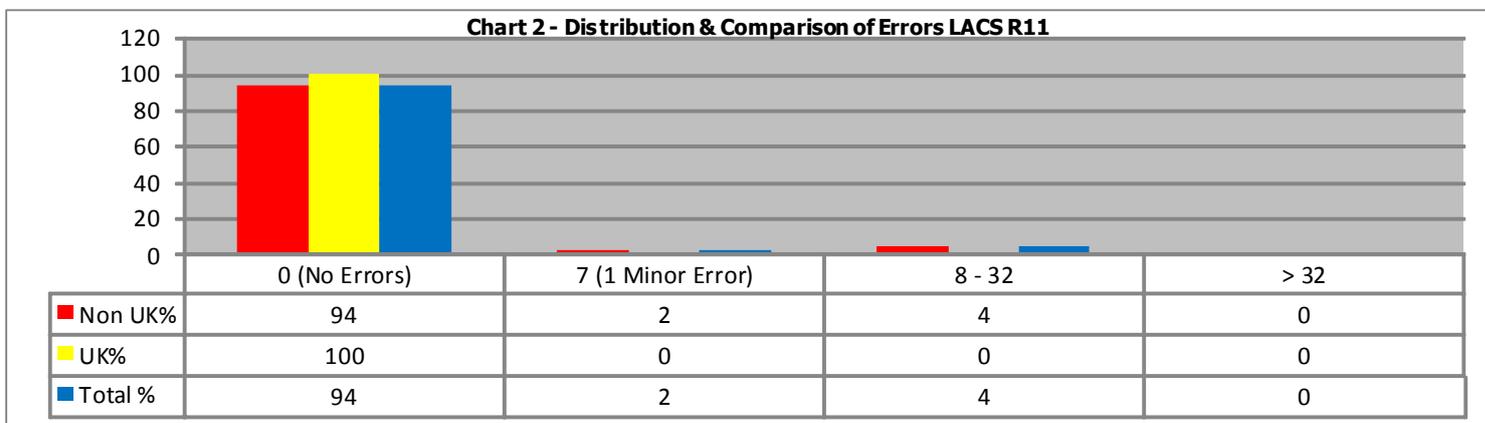
Chart 1 illustrates the errors made by participating laboratories. Nine errors were made by laboratories on sample LACS011. Three laboratories reported amosite and crocidolite, one laboratory reported amosite only and four laboratories reported no asbestos.



False Negative = Component has been missed. False Positive = Component has been incorrectly identified as present.

2. Errors for UK & Non-UK Laboratories

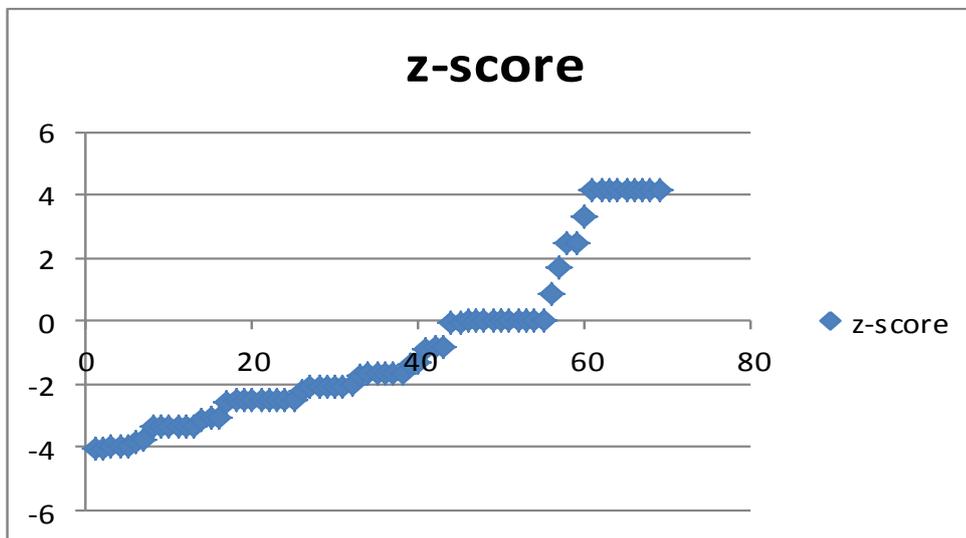
Chart 2 illustrates the distribution of scores for all participating laboratories. 124 (94%) laboratories obtained a score of zero in this round, indicating that these laboratories had not made any errors. The distribution of scores obtained by UK (United Kingdom) and Non-UK laboratories is also compared; 5 (100%) UK laboratories and 119 (94%) Non-UK laboratories obtained a score of zero for the round.



3. Quantitative Results - z scores

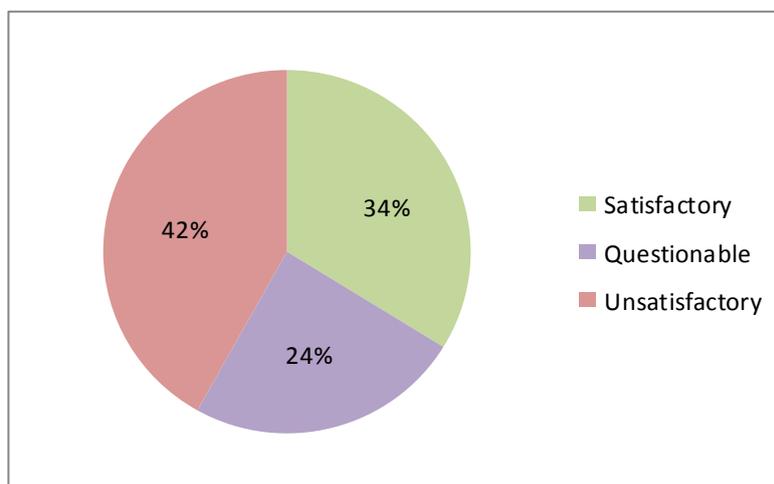
Chart 3

Scatter graph of z scores (five z scores ranging between 8.42 and 37.5 were removed as outliers) for the 74 laboratories who submitted a quantification result.



4. Quantitative Results

Chart 4 illustrates that of the 74 laboratories who submitted a quantification result, 25 laboratories (34%) achieved a satisfactory result i.e. a z score of $< \pm 2$. 18 laboratories (24%) achieved a questionable result with a z score of between ± 2 and ± 3 . 31 laboratories (42%) achieved an unsatisfactory result with a z score of $> \pm 3$.



5 Quantitative Results by analytical method

The following charts illustrate the z-score results by method of the 74 laboratories who submitted a quantification result. The number of labs using each method were as follows: 42 labs used SEM/EDX; 29 labs used TEM/EDX/ED and 3 labs used PLM/PCM.

