

A70 - Checklist for Asbestos Fibre Counting Revision 1.8 - June 2011

Laboratory Name: _____

Appendix Name: _____

Appendix Number: _____

Assessor: _____

Date: _____



CALA
Laboratory Accreditation

A. EQUIPMENT I.D.

<u>Instrument Description</u>	<u>Manufacturer</u>	<u>Model No.</u>
<u>Phase Contrast Microscope</u>	_____	_____
_____	_____	_____
_____	_____	_____
Microscope Accessories:		
<u>Stage Micrometer Scale</u>	_____	_____
<u>HSE/NPL resolution test slide</u>	_____	_____
<u>Walton-Beckett graticule</u> <u>(100 µm field of view)</u>	_____	_____
<u>Reference slides with different types of</u> <u>asbestos and man-made mineral fibres</u>	_____	_____
_____	_____	_____
<u>Supporting Equipment</u>		
<u>Acetone evaporator</u>	_____	_____
_____	_____	_____
_____	_____	_____

B. ANALYST I.D. (Section 5.2 of ISO/IEC17025)

	Primary Analyst	Back-up Analyst
Name	_____	_____
Position	_____	_____
Degree/Diploma	_____	_____
Years Analytical Experience*	_____	_____
Training**	_____	_____
Analyst Proficiency ***	_____	_____
Check if interviewed	_____	_____

* Years of analytical experience related to the appendix being assessed.

** Please record the date that the analyst was deemed competent to perform the appendix

*** Record the date that he/she last successfully participated in Proficiency Testing (PT)

Item	Clause	Requirement	Document review			Implementation		
			1	2	3	1	2	3
01		DOCUMENT CONTROL						
01	4.3	<p>Document review: is there a documented method?</p> <p>Implementation: Verify that the current authorized test method and necessary supporting work instructions are available to the analyst.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
02		TEST METHOD VALIDATION						
01	5.4	<p>Document review: verify that there are method validation results, and a statement that the method is fit for the intended use for detection limit, precision, accuracy and recovery (as applicable).</p> <p>Implementation: Records of method validation.</p> <ul style="list-style-type: none"> • Duplicate counts - precision • PT • Appropriate number of samples (reference slides , field samples, PT, relocatable slides) for each analyst to establish initial method precision (intra- and inter-counter) 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
03		TEST METHOD						
01	4.2.1 5.4.1	<p>Test Procedure</p> <p>Verify that all necessary successive steps in the test procedure (including details on recording results, reagent preparation, storage and shelf life, equipment, supplies, etc.) are 1) documented in the test method 2) appropriate and implemented.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Item	Clause	Requirement	Document review			Implementation		
			1	2	3	1	2	3
04		SAMPLING						
01	5.7	<p>Verify that sample history requirements are 1) either included or referenced in the test method and 2) appropriate and implemented; e.g.,</p> <ul style="list-style-type: none"> Field filtration; Chemical preservation; Sample containers; Storage conditions; Holding time; Sample pre-treatment (removal of unwanted material, homogenization, sub-sampling). 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
05		CALIBRATION						
01	5.4.5 5.6.2.2 5.6.3	<p><u>Method Calibration</u> Verify that method calibration is 1) either included or referenced in the test method and 2) appropriate and implemented.</p> <ul style="list-style-type: none"> Check microscope alignment; Check magnification; 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Item	Clause	Requirement	Document review			Implementation		
			1	2	3	1	2	3
		CALIBRATION (continued)						
		<ul style="list-style-type: none"> • Check resolution; 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<ul style="list-style-type: none"> • adequate number of reference slides (e.g., chrysotile, amosite, manmade mineral fibres); 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<ul style="list-style-type: none"> • analysis of reference slides to monitor accuracy; 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<ul style="list-style-type: none"> • control charting where appropriate (see P07); 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<ul style="list-style-type: none"> • criteria to identify calibration nonconformances. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
06		METHOD QUALITY CONTROL						
01	5.9	<p><u>Method Quality Control</u> Verify that method quality control is 1) either included or referenced in the test method, and 2) appropriate and implemented; e.g.,</p> <ul style="list-style-type: none"> • duplicates to monitor precision (prepare slides for 10% of samples); • record fibres and fields examined; • method blanks (or field blanks as available) to monitor contamination; • recount the same fields to monitor precision; • 5% appropriate slides of known counts for each analyst for ongoing intra- and inter-counter precision 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			_____	_____	_____	_____	_____	_____
			_____	_____	_____	_____	_____	_____
			_____	_____	_____	_____	_____	_____
			_____	_____	_____	_____	_____	_____

Item	Clause	Requirement	Document review			Implementation		
			1	2	3	1	2	3
		METHOD QUALITY CONTROL (continued)						
		<ul style="list-style-type: none"> plot control charts of standard deviation (according to NIOSH 7400 or the use of relocatable slides) or other parameters vs. date to monitor precision (for each analyst and laboratory)*; 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<ul style="list-style-type: none"> criteria to identify method nonconformances; 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<ul style="list-style-type: none"> participation in a proficiency testing program *** 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*** if CALA PT is not offered for a parameter, labs shall demonstrate technical competence as per P02-03 - Proficiency Testing Policy for Accreditation.

Item	Clause	Requirement	Document review			Implementation		
			1	2	3	1	2	3
07		TEST METHOD CONTENT						
01	5.4.1 5.5.2 5.5.6	Other Work Instructions/Procedures Verify that all necessary supporting work instructions are either 1) included or referenced in the test method and 2) available to the analyst; e.g., <ul style="list-style-type: none"> • glassware cleaning procedures; • equipment instruction manuals; • requisite reference texts; • computer software related procedures. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Item	Clause	Requirement	1 2 3
08		CONDUCT OF TESTING	
01	5.4.1 4.2.1	Verify that the test procedure and all supporting work instructions are performed as documented.	_____ _____ _____ _____
09		EQUIPMENT	
01	5.5.1 5.5.4 5.5.12	Verify that all instruments required for the test procedure are available, uniquely identified, functioning properly (including stability of reference slides*), and safeguarded from adjustments that would invalidate results. *Samples mounted by acetone-triacetin are not stable and degrade	_____ _____ _____ _____ _____
02	5.5.1	Verify that all support equipment* required for the test procedure is available and functioning properly. *includes computers	_____ _____ _____ _____
03	5.5.7 5.5.9	Verify that out of service equipment is clearly isolated or clearly labeled or marked as being out of service, and that equipment is checked and validated before return to service.	_____ _____ _____ _____
04	5.5.8	Verify that all equipment requiring calibration (including reference slides) is labeled to indicate calibration status, including the date last calibrated and expiry criteria, or date when re-calibration is due. * not required for equipment checked daily or as-used.	_____ _____ _____ _____ _____

Item	Clause	Requirement	1 2 3
10		SUPPLIES	
01	4.6.2 5.5.1	<p><u>Availability</u> Verify that all supplies required for the test procedure are available and meet requisite requirements and/or specifications.</p> <p>NB: For records of reference standard/material certificates, cite B.05.03 in A02.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
	5.3	<p><u>Storage</u> Verify that all supplies are stored under appropriate conditions (e.g. 1-4 degrees C) and in a manner which satisfies requirements for safety, security, separation of incompatible materials, and ease of retrieval.</p> <p>NOTE: For records of storage temperatures, cite B.02.03 in A02.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
03	4.13.2	<p><u>Labeling</u> Verify that all reagents and media are labeled with material, concentration or purity, date prepared and/or expiry date.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
04	4.13.2	<p><u>Test Organism I.D.</u> N/A for asbestos testing</p>	
05	5.5.1	<p><u>Labware</u> Verify that all labware is adequately cleaned and, where required, labware quality control incorporates analytical testing.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
11		RECORD KEEPING	
01	4.13.2 4.9 4.13.2 5.5.5 5.6	<p>Maintain records related to the performance of the test method; e.g.,</p> <ul style="list-style-type: none"> analyst worksheet or notebook (1); 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Item	Clause	Requirement	1	2	3
		<ul style="list-style-type: none"> record of nonconformances and actions taken (2); reagent preparation log (3); equipment maintenance log (4); 			
		RECORD KEEPING (continued)			
		<ul style="list-style-type: none"> records of gravimetric traceability (6); records of volumetric traceability (7); records of temperature traceability (8). 			

- (1) includes, as appropriate, calibration data, test date (including QC data), experimental variables (e.g., temperature, etc.); analyst ID; sample ID; equipment ID; test organism lot no.; test method ID; date and time of test.
- (2) includes, as appropriate, nonconformances related to: test method variances; sample history; method performance; interferences; and data validation.
- (3) includes, as appropriate, supplier, grade, batch no.; dates of preparation or verification; measurement of weights, volumes, time intervals, temperatures and related calculations; relevant processes (e.g., pH adjustment, sterilization); verification results; discard date.
- (4) includes, as appropriate, inventory no.; manufacturer, model, serial no.; condition when received, checks that equipment complies with laboratory specifications, modifications; date commissioned; repair and maintenance history; calibration history; performance history; location.
- (5) includes, as appropriate, species, age, source, lot no.; arrival date; arrival condition; vessel I.D; acclimation history; culture and/or holding history including loading density, temperature, illumination and water quality; feeding history; health history including disease, treatment and mortality; disposal date.
- (6) includes, as appropriate, traceability of balance and/or weights to a national standard and daily or as-used checks (see A61- CALA Traceability Policy).
- (7) includes, as appropriate, traceability of auto pipettes, dilutors, etc. that play a defining role in analytical accuracy, and daily or as-used checks (see A61- CALA Traceability Policy).
- (8) includes, as appropriate, traceability of working thermometers to a national standard for those working thermometers that measure temperatures that play a defining role in analytical uncertainties (see A61-CALA Traceability Policy).