Forensic Analytical Laboratories – Microbial Sampling Guide*

Viable (Culturable) Samples[A] (Includes fungi and bacteria)

Sample Type	Field Equipment	Suggested Sampling	Media	Units
Air Sample	*Andersen or Aerotech	2-5 minutes @28.3 lpm	MEA, CMA, DG18, CEL (fungi)	cfu/m^3
Air	single or multistage sampler		TSA, NA, MCTA (bacteria)	cfu/m^3
	*Calibrated high volume pump			
	*Agar plates			
Wall Cavity (fungi only)	*Wall-check™ kit	1-2 minutes @10 lpm	MCE or PVC cassette	cfu/m^3
	*Calibrated high volume pump			
	*Filter cassette			
Bulk Sample				
Bulk	*Bulk sampling kit	Collect ~ 2 sq. inches	Sterile Container	cfu/g
Swab	*Sterile swab kit	Wipe (1-4) square inch	Culturette II	cfu/in^2
Dust/Surface	*Micro-vacuum kit	Vacuum all surface dust	MCE or PVC cassette	cfu/g
		Vacuum known area	MCE or PVC cassette	cfu/in^2
Water Sample (bacteria only)	*Sterile container	Collect 500 ml of water Transport to lab within 24 hrs.	Sterile Container	ml

[A] Culturable samples are incubated for 7-14 days to allow fungi/bacteria growth needed for species identification and sample quantification.
[B] ACGIH recommends a 3 plate sampling plan (eg MEA, CMA,DG18) for every sample, but does not specify media. Contact Forensic for additional help in selecting appropriate media.

Non-viable (non-culturable) Samples/Direct Examination[C] (Includes Fungi Only)

Sample Type	Field Equipment	Suggested Sampling	Media	Units
Air Sample	*Calibrated high volume pump	10 minutes @15 lpm	Air-O-Cell™	Spores/m^3
Air	& Zefon Cassette			
	*Burkhardt or Allergenco samplers	Varies	Greased slides	Spores/m^3
Wall Cavity	*Wall-check™ kit	30 seconds–2 minutes@15 lpm	Air-O-Cell™	Spores/m^3
	*Calibrated high volume pump			
Bulk Sample				
Bulk	*Sealed container	Collect 2 sq. inches	N/A	T, M, M, A[D]
Bulk/Dust	*Forensic tape lift kit	1-2 cm^2	Tape lift slide	T, M, M, A[D]

[C] Direct examination of a sample can provide faster results, but does not provide species and certain genus identification, or quantification for bulk samples.
[D] Trace, Minor, Major, Abundant

*These are suggested techniques based on generally accepted industry practices. At this time, there are no published regulatory methods relating to sampling or analysis. Each investigation may require a combination of these or other available techniques based on site conditions being evaluated.

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