

Forensic Analytical Laboratories – Microbial Sampling Guide*

Viable (Culturable) Samples^A (Includes fungi and bacteria)

Sample Type	Field Equipment	Suggested Sampling	Media	Units
Air Sample Air	*Andersen or Aerotech single or multistage sampler *Calibrated high volume pump *Agar plates	2-5 minutes @28.3 lpm	MEA, CMA, DG18, CEL (fungi) TSA, NA, MCTA (bacteria)	cfu/m ³ cfu/m ³
Wall Cavity (fungi only)	*Wall-check™ kit *Calibrated high volume pump *Filter cassette	1-2 minutes @10 lpm	MCE or PVC cassette	cfu/m ³
Bulk Sample Bulk Swab Dust/Surface	*Bulk sampling kit *Sterile swab kit *Micro-vacuum kit	Collect ~ 2 sq. inches Wipe (1-4) square inch Vacuum all surface dust Vacuum known area	Sterile Container Culturette II MCE or PVC cassette MCE or PVC cassette	cfu/g cfu/in ² cfu/g 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 Air	*Calibrated high volume pump & Zefon Cassette *Burkhardt or Allergenco samplers	10 minutes @15 lpm Varies	Air-O-Cell™ Greased slides	Spores/m ³ Spores/m ³
Wall Cavity	*Wall-check™ kit *Calibrated high volume pump	30 seconds–2 minutes@15 lpm	Air-O-Cell™	Spores/m ³
Bulk Sample Bulk Bulk/Dust	*Sealed container *Forensic tape lift kit	Collect 2 sq. inches 1-2 cm ²	N/A Tape lift slide	T, M, M, A ^D 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.