

# SGS Forensic Laboratories – Microbial Sampling Guide\*

## Viable (Culturable) Samples<sup>A</sup> (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 <sup>3</sup> cfu/m <sup>3</sup>
Wall Cavity (fungi only)	*Wall-check™ kit *Calibrated high volume pump *Filter cassette	1-2 minutes @10 lpm	MCE or PVC cassette	cfu/m <sup>3</sup>
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 <sup>2</sup>
Dust/Surface	*Micro-vacuum kit	Vacuum all surface dust Vacuum known area	MCE or PVC cassette MCE or PVC cassette	cfu/g cfu/in <sup>2</sup>
Water Sample (bacteria only)	*Sterile container	Collect 500 ml of water Transport to lab within 24 hrs.	Sterile Container	ml
<p><sup>A</sup> Culturable samples are incubated for 7-14 days to allow fungi/bacteria growth needed for species identification and sample quantification.</p> <p><sup>B</sup> 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.</p>				

## Non-viable (non-culturable) Samples/Direct Examination<sup>C</sup> (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 <sup>3</sup> Spores/m <sup>3</sup>
Wall Cavity	*Wall-check™ kit *Calibrated high volume pump	30 seconds–2 minutes @15 lpm	Air-O-Cell™	Spores/m <sup>3</sup>
Bulk Sample				
Bulk	*Sealed container	Collect 2 sq. inches	N/A	T, M, M, A <sup>D</sup>
Bulk/Dust	*Forensic tape lift kit	1-2 cm <sup>2</sup>	Tape lift slide	T, M, M, A <sup>D</sup>
<p><sup>C</sup> Direct examination of a sample can provide faster results, but does not provide species and certain genus identification, or quantification for bulk samples.</p> <p><sup>D</sup> Trace, Minor, Major, Abundant</p>				

\*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.