

WIPE/TAPE, Test Code 1051-Direct Microscopic Exam

Direct microscopic examination of bulk materials allows for the characterization of the fungal spores, fruiting structures, hyphal elements and other fungal fragments in addition to pollen grains, elevated levels of bacteria, and identification of select non-biological materials. This total fungal characterization allows identification of fungi that may be both viable upon culture and those that would not be viable upon culture. Identifications of the fungi are not dependent on its viability. Fungal spores remain allergenic and can produce mycotoxins whether viable or not. The advantages of direct reads are that it can be performed quickly, it is useful as a general screening tool in a pre-assessment setting and as an assessment tool for post-verification.

Locations appropriate for tape or swab direct read are HVAC systems, registers, wood material (tape is preferable as opposed to swab), VCT, concrete, wall material. Fabric and carpet (i.e. porous) are not suitable surfaces for tape or swab sampling. Bulk or vacuum samples would be more appropriate. See Test Code 1050.

The direct exam can be performed on either a sterile swab or double sided tape. If double sided tape is not available single sided clear tape can be used. **DO NOT USE FROSTED TAPE.**

DOUBLE-SIDED TAPE

1. Using clear adhesive double-sided tape, firmly touch one side of the tape to the surface to be sampled. Hold the tape by the edges only
2. **Place the tape sample-side up on a clean glass microscope slide.** Label the slide. **If using single-sided tape, place sample-side down on the slide. Do not place tape in Ziploc bag. If no slide is available, place GENTLY in bag.**
3. Insert the slide into a slide box, package the slide box with packing material and send to the laboratory.

SWAB

1. If using a swab, moisten the swab from the transport material at the base of the swab.. Rub the moisten swab across the surface vigorously.
2. Place swab back into swab holder and label sample.
3. Ship swab to lab within 24 hours to ensure accurate results in a cooler. Swabs should be refrigerated until submission.

References:

Dillon, H. Kenneth, L. Hung, J. Miller, Field Guide for the Determination of Biological Contaminants in Environmental Samples., 5.2.6.6:61, 7.1: 141-143 (2005).
Macher, Janet, Sc.D., M.P.H., Bioaerosols , 7.4.1.2, 18.1.4.2 (1999).