

BULK, Test Code 1050-Direct Microscopic Examination

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 if they are 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.

Bulk samples are indicated when obvious microbial growth is apparent and when enumeration of the organisms may be relevant in cases of workplace-related illness. The assessment of microorganisms may be useful in evaluating the hygienic status of a particular environment. A direct microscopic exam can be valuable when determining the type of fungi growing on bulk material. Materials can be from pooled dust, drywall, insulation, carpet tack strips, sub-flooring and other building material.

1. Samples should be collected when the material is porous and swabbing is not practical.
2. 25 to 50 grams is the preferred amount needed for the culture. The sample can be placed in a Ziploc® bag for transportation.
3. Bulk samples can be shipped overnight, ground and by regular mail. In warmer months, place in cooler with ice pack.

References:

Dillon, H. Kenneth, L. Hung, J. Miller, Field Guide for the Determination of Biological Contaminants in Environmental Samples., 5.2.6.1: 57-58 (2005).

Macher, Janet, Sc.D., M.P.H., Bioaerosols , 12.1-12.1.4.2 (1999).