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WIPE, Test Code 1006-Total Bacterial Count w/ Identification

Several health conditions are related to exposure to bacteria, bacterial antigens, endotoxins and by-products. Bacterial antigens can be found in the outdoor air, in settled dust, active indoor reservoirs and humidifiers and other water related sources.

Some of the conditions related to exposure to bacteria are asthma, building-related symptoms (BRS), humidifier/inhalation fever, hypersensitivity diseases (allergy), infectious diseases, Legionnaire's diseases and pneumonia.

Surface areas may be directly sampled to indicate the fungal population of a particular area. **Wipe 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. Surface samples may also be taken to validate the effectiveness of a microbial abatement.

Sample areas with suspected or visible signs of microbial growth by swabbing the area with a sterile swab. Sampling from inappropriate areas may lead to false negative cultures. The primary objective of sampling is to identify the source of microorganisms so that effective corrective action may be undertaken. Moist areas such as window sills, cove base, flooring, cooling coils, condensate pans or humidifiers may be sampled. In addition, seemingly dry areas, such as air diffusers or internal duct work, may also be cultured.

A bacterial culture can be performed on a surface by using a sterile transporter swab or wipe. In addition to moist areas, dry areas can be sampled using a Stuarts transporting swab. For specific target organisms, contact the laboratory to discuss analytical methods.

1. Crush the ampoule in the bottom of the sterile tube and place swab in tube to moisten.
2. Remove both swabs of the double system and sample the affected surface by rolling both swabs vigorously over the area. Indicate on the chain of custody the surface area sampled in either in² or cm². Assessment samples should be no larger than a 4 x 4 area. Post abatement samples may be larger.
3. Label all samples appropriately and submit to the laboratory for analysis in a timely manner. *Swabs should be refrigerated if the samples are not immediately sent to the lab. A cold pack and cooler should be used during the warm months.

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).

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