

WATER, Test Code 1007-Total Bacterial Count w/ ID

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.

Non-potable water such as that from humidifiers, water treatment plants, and cooling towers may harbor high levels of microorganisms with potential for aerosolization. Industrial type water can contain high levels of gram-negative rods and gram-positive rods and cocci. Amplification of gram-negative rods and subsequent cellular components can release endotoxins into the air, producing flu-like symptoms. For sampling for specific target organisms, such as *E. coli* or *Legionella*, see separate test codes and sampling protocols. Obtain a sterile container from Aerobiology.

1. Collect a 100 ml of water from the tap or reservoir in the sterile container making sure the inside of the container is not contaminated by the collector.
2. Keep the water in a cooler and an ice pack for transportation to the laboratory.
3. The water sample **must** reach the laboratory within 24 hours of collection or the sample will be deemed invalid.

References:

Dillon, H. Kenneth, L. Hung, J. Miller, Field Guide for the Determination of Biological Contaminants in Environmental Samples., 6.2.4: 134-135 (2005).

Eaton, Andrew D., Lenore S. Clesceri, Eugene W. Rice, Arnold E. Greenberg, Standard Methods for the Examination of Water and Wastewater., 9-21 (2005).