DATASHEET

Determination of bacterial count by sampling and analysis by an accredited labora-tory in accordance with ISO 8573-7:2003 and DIN EN ISO 62222

Bacterial count by sampling and analysis by an accredited laboratory in accordance with ISO 8573-7:2003 and DIN EN ISO 62222

All measurements can be carried out directly by you as a specialist company. We will provide you with the necessary measuring equipment and informative operating instructions.

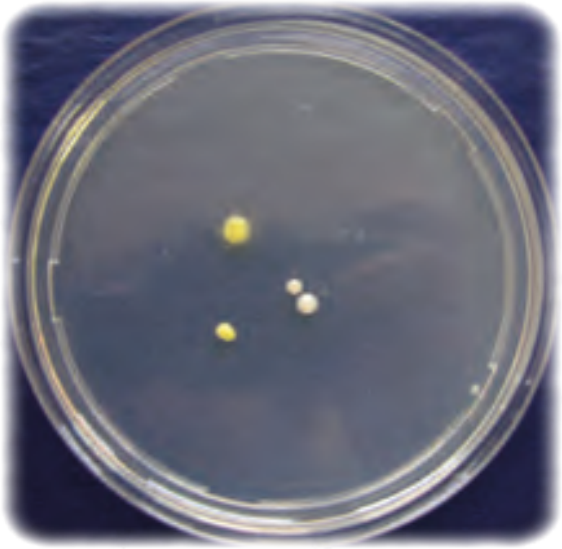
The measurement results are evaluated accordingly by our affiliated certified chemical laboratory and sent to you in a summarized report.

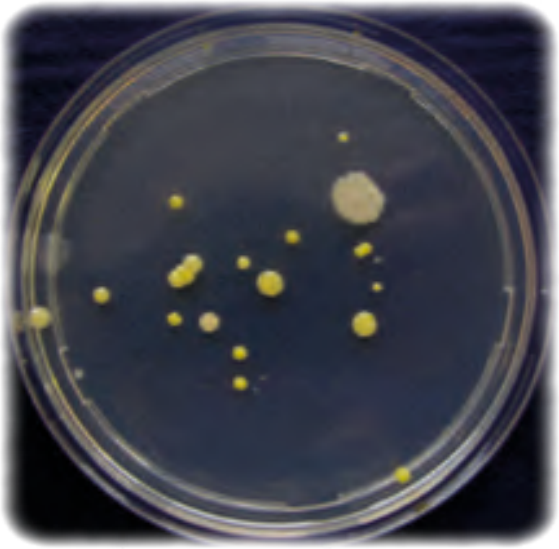
These results can be used by you or your customers at any time as the basis for a corresponding quality audit.

Determination of the total bacterial count in compressed air

The method for determining the total number of microorganisms.

The main importance of colony count determination lies in the detection of unexpected changes, based on frequent and long-term monitoring.
The sampling kit for hire from Pro Air GmbH enables compressed air users to carry out colony count sampling themselves, carry out microbial sampling themselves. The individual sampling steps are explained in detail. All the components required for precise and safe measurement are included in the rental set: the specially developed, pressure-stable filter holder, a sterile membrane filter, all connections and hoses, a measuring device for determining the ambient parameters and even gloves and safety goggles.
After connection to the mains supply, predefined parameters flow through the test tube and any germs (microorganisms) present accumulate in the filter housing on the sterile 0.45 µm membrane filter. The enclosed packaging material is used to pack the filter housing with the internal filter and protect it against further contamination. The complete set is then sent directly to the connected accredited laboratory to save time. Here, the filter is placed on a culture medium and stored in an incubator for the incubation period specified in the DIN standard. The colony-forming units (CFU) are then counted.





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Background information

In microbiology, the bacterial content or bacterial count is the content of microorganisms in a material. microorganisms, i.e. their number in relation to the volume or mass of the material.
The unit of measurement is usually ml-1 or g-1 (reference value 1 milliliter or 1 gram). This refers to microorganisms in the active or dormant stage, not just microorganism germs (as the name might suggest).

The terms microbial content and microbial count are due to the fact that they are usually determined by the colony count. This means that a certain amount of the material is distributed in a gel-shaped culture medium in such a way that all microorganisms are isolated, then incubated under suitable conditions and the microorganism colonies formed counted. Ideally, a colony would develop from one microorganism would form a colony and the number of colonies would be equal to the number of microorganisms in the sample.

As this ideal case is practically never given, it is better to speak of colony count rather than germ count.
With this method, only living, reproducible individuals are recorded, from which colonies emerge through their reproduction, i.e. which are germs for colony formation.

If the bacterial content (bacterial count) is determined by the colony count, selective culture conditions (composition of the culture medium and atmosphere, incubation temperature, lighting), a selection of the microorganisms recorded can be achieved.

In contrast, the selectivity of the culture conditions can be limited as far as possible, to cover as broad a spectrum of different microorganisms as possible. This is referred to as the total microbial count.

Standards

The following standards are relevant in the field of microbial count determination:

ISO 8573-7:2003 Test method for viable microbiological contamination

DIN EN ISO 6222 Quantitative determination of cultivable microorganisms

The original text of the standards mentioned can be obtained from Beuth Verlag in Berlin.

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How does the measurement work in practice?

The customer receives a complete sampling system with informative operating instructions.

The compressed air is extracted (in accordance with the instructions) e.g. via a clean compressed air coupling or an oil-free ball valve.

The air to be measured is "sampled" via the supplied filter regulator in the following integrated membrane filter with filter housing.
membrane filter with filter housing.

According to DIN, the "sampling time" depends on the flow time set on the flowmeter (2000 - 5000 ml/min) and is therefore between 4 and 9 hours. (exact instructions can be found in the enclosed manual).

The complete system is then packaged accordingly and sent to our laboratory as quickly as possible for analysis. laboratory as quickly as possible and analyzed.

Special filter holder with sampling

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What does the evaluation look like?

The customer receives a complete evaluation in accordance with DIN ISO 8573-7:2003 and DIN EN ISO 62222.

The evaluation certifies and documents the exact traceability of the test results and the test equipment used.

The quantitative result is given in CFU's/m^3 and contains the listing according to:

Bacteria	ISO 8573-7 mod (2003-05)
Yeasts	ISO 8573-7 mod (2003-05)
Molds	ISO 8573-7 mod (2003-05)
Enterobacteria	ISO 8573-7 mod (2003-05)