STANDARD APPLICATION

FOOD ANALYSIS / MILK AND DAIRY PRODUCTS

The use of HettCube incubators and cooled incubators to quantify micro-organisms in milk and dairy products

Micro-organisms can metabolise the constituents of milk and thereby modify its taste, as well as impacting the processing and shelf life of milk and dairy products. Milk and dairy products are therefore tested to ensure that limit values are not exceeded. The presence of micro-organisms is of particular importance in foods for infants and small children. Manufacturers must therefore determine the number of micro-organisms present in their products every month.

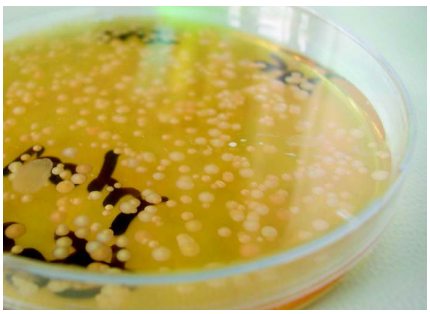

Fig. 1: Bacterial colonies growing on agar

Methods of detection

DIN EN ISO 4833 describes a method for the enumeration of micro-organisms. Decimal dilutions of the sample are pipetted into sterile Petri dishes and mixed with colony-counting medium that is liquefied and cooled to 44 °C to 47 °C. As soon as the mixture has solidified it is incubated. No more than six Petri dishes can be stacked on top of one another during incubation. The dishes are evaluated under diffuse light and a magnifying glass used for counting if necessary to avoid confusion between colonies and other particles.

Importance of quantifying micro-organisms in milk and dairy products

Under dairy product regulations the number of micro-organisms present in milk and dairy products must be determined at regular intervals. The controls are required at intervals ranging from every 12 weeks to every 2 weeks, depending on the susceptibility of the product to spoilage.

Incubation conditions according to DIN EN ISO 4833:

Temperature	Duration
30 ± 1 °C	72 ± 3 h

Advantages of HettCube incubators

- Maximal validated usable space on a small footprint
- 4.3 inch touch display for intuitve operation
- Very homogeneous and stable temperature, as well as precise temperature control
- True "one-hand-operation" and flexible positioning of the shelves
- Minimal energy consumption of < 0.06 kW/h at 37 °C
- Low noise level of ≤ 44 dB(A)
- Optimized loading capacity through unique accessories and options

Hettich solution

Model	Cat. No.
HettCube 200	62000
HettCube 400	64000
HettCube 600	66000
HettCube 200 R	62005
HettCube 400 R	64005
HettCube 600 R	66005

Model without IVD	Cat. No.
HettCube 200	62001
HettCube 400	64001
HettCube 600	66001
HettCube 200 R	62006
HettCube 400 R	64006
HettCube 600 R	66006

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