Livsmedelsverket
Swedish Food Agency

INSTRUCTION

17 September 2022 Dnr 2017/02895

Science Division
Department of Biology

Reference material RM Food 2017:P-CS

This reference material is designed for internal quality control of analytical work at food microbiology laboratories. After reconstitution, the test material can be used for control of quantitative food microbiology analyses, as well as for direct or indirect quality control of microbiological media.

Designation:	**RM Food 2017:P-CS**
Date of production:	2017-08-23
Manufacturer:	Swedish Food Agency, Sweden
Storage:	-18 °C or lower (but not lower than -55 °C)
Expiry date:	31 December, 2023

Table 1. Microorganisms included in the material

Microorganism	Strain*	Parameter
Campylobacter jejuni	SLV-540	Thermotolerant *Campylobacter*
Salmonella Enteritidis	SLV-436	*Salmonella*
Staphylococcus saprophyticus	SLV-013	Background flora
Escherichia coli	SLV-165	Background flora

* Internal strain identification number, National Food Agency

Quality control

The reference material is tested for homogeneity and stability at regular intervals at the Swedish Food Agency.

Preparation of sample

Reconstitute the vial content according to the instructions on the last page.

Please note that the final 104 ml corresponds to the undiluted sample to be analysed.

The Swedish Food Agency uses peptone water (0.1 %) with NaCl (0.85 %) as diluent.

Analyses

The analyses should be performed in accordance with the methods used by the individual laboratory.

Postal address
Box 622
SE-75126 Uppsala
Sweden

Office address
Dag Hammarskjölds väg 56 A
SE-75237 Uppsala
Delivery address
Dag Hammarskjölds väg 56 C
SE-75237 Uppsala

Telephone
+46 18 17 55 00

E-mail
RM-micro@slv.se
Internet
www.livsmedelsverket.se/en/RM-micro

VAT number
SE202100185001

Initial control limits

The *initial control limits* for each analysis are shown in Table 2. They can be used as provisional intervals until the laboratory has determined its own control intervals. The intervals are calculated from measures of dispersion, and are obtained from analyses at the Swedish Food Agency using the methods in Table 2, and from prior results of analyses performed by 10 laboratories in collaboration with the Swedish Food Agency. The concentrations are expressed in logarithmic units, and the intervals state the upper and lower limits within which a single result should be obtained in order to be considered correct (with 95 % probability). The calculations of the control limits are currently under evaluation, and might be slightly amended.

Laboratory-specific intervals for a given analysis are usually smaller than the initial intervals given in Table 2, and laboratories are therefore encouraged to construct control charts by use of their own intervals. Such charts can be designed according to instructions provided at our website (below). If the sample volume or the volume used for reconstitution differs from what is recommended in these instructions, laboratory-specific mean values and control limits should be calculated as soon as possible. Results from all persons that normally perform the analysis should be included in the control charts.

Table 2: Mean values and initial control limits for RM Food 2017:P-CS

Analysis	Mean value[a] (log_{10} cfu/ml)	Control limits[b] (log_{10} cfu/ml)	Medium	Reference method
Thermotolerant *Campylobacter*	2.67	1.6 – 3.7	mCCDA	NMKL no 119:2007
Salmonella	2.70	Qualitative only	BHI	NMKL no 71:1999
Aerobic microorganisms	5.72	5.4 – 6.1	PCA	NMKL no 86:2013

mCCDA: modified Charcoal Cephoperazone Deoxycholate Agar, BHI: Brain Heart Infusion agar, PCA: Plate Count Agar

[a] Mean value from analysis of 10 vials at the Swedish Food Agency.

[b] Initial provisional control limits based on measures of dispersion from previous studies at the Swedish Food Agency, as well as previous results from 10 laboratories in collaboration with the Swedish Food Agency.

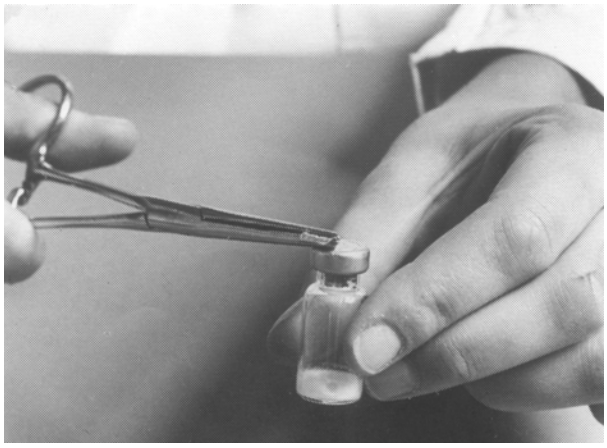
Control charts

Instructions for the construction of control charts are available at our website:
www.livsmedelsverket.se/RM-micro

Information

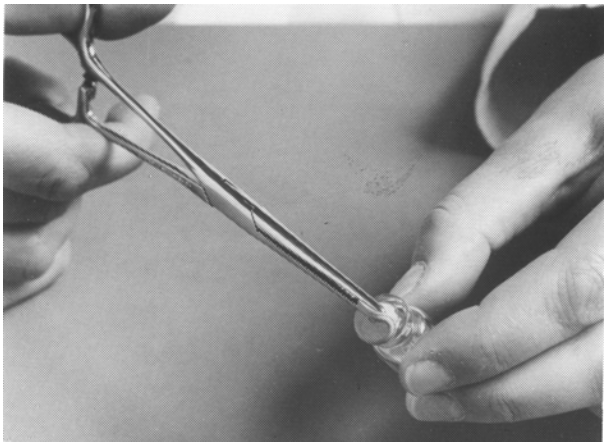
Department of Biology, Swedish Food Agency, Sweden
www.livsmedelsverket.se/RM-micro
e-mail: RM-micro@slv.se

Sample preparation of freeze-dried cultures in glass vial (RM Food)



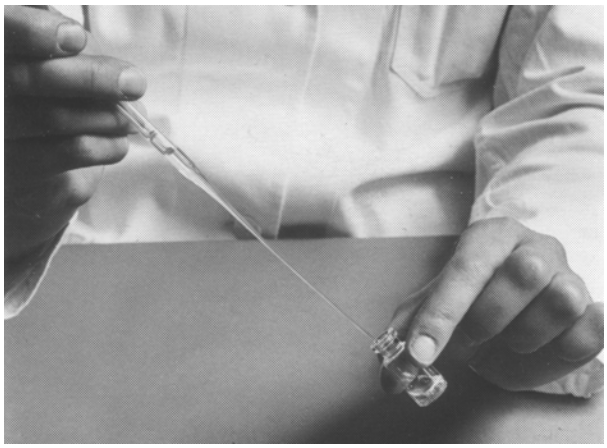
1. Twist the flap on the aluminium cap in the direction of the arrow.

2. Remove the aluminium cap.



3. Remove the rubber plug.

4. Carefully burn the opening of the vial over a gas flame.

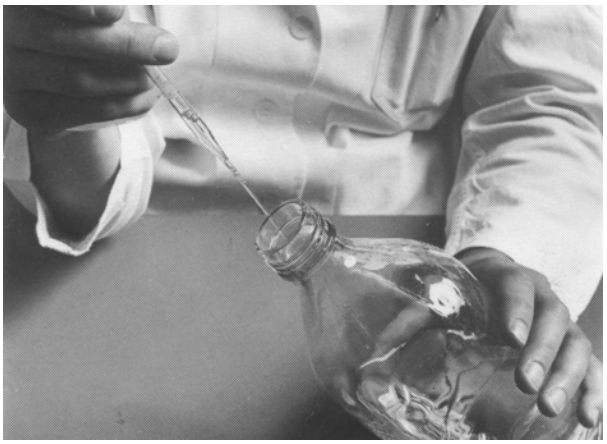


5. Add 1 ml diluent with a sterile pipette.

6. Let the content dissolve (1-5 minutes).

7. Using a sterile Pasteur pipette, transfer the suspension to a sterile bottle containing 100 ml room temperature diluent.

8. Add another 1 ml and carefully rinse the walls of the vial with the Pasteur pipette.



9. Transfer the suspension to the bottle containing 100 ml diluent.

10. Repeat steps 8 and 9 two more times with the same Pasteur pipette.

11. After thorough intermittent mixing, the 104 ml sample is ready for analysis.

12. Perform the analyses immediately.*

** For the majority of analyses, the final 104 ml sample is normally viable for up to 60 minutes. From experience however, lower results are often obtained—especially for Gram-negative microorganisms—when the time between sample preparation and analysis is too long. As a general rule, it is therefore recommended to begin the analysis immediately after sample preparation.*