JOINT RESEARCH CENTRE
Directorate F – Health and Food

REFERENCE MATERIAL CERTIFICATE

ERM®- BD519

ANHYDROUS MILK FAT

Certified Values

Property [1]	Relative mass fraction [2] [g/100 g]	Uncertainty [3] [g/100 g]	Property [1]	Relative mass fraction [2] [g/100 g]	Uncertainty [3] [g/100 g]
C24	0.078	0.009	C40	9.91	0.16
Cholesterol	0.303	0.022	C42	7.40	0.09
C26	0.338	0.026	C44	7.10	0.09
C28	0.76	0.03	C46	7.74	0.11
C30	1.45	0.04	C48	9.07	0.14
C32	3.03	0.07	C50	10.34	0.19
C34	6.60	0.14	C52	8.33	0.19
C36	11.25	0.29	C54	3.83	0.09
C38	12.46	0.22			

1) As obtained by gas chromatography according to ISO 17678:2019/IDF 202:2019.

2) Certified values are values that fulfil the highest standards of accuracy. The given values represent the unweighted mean value of the means of accepted sets of data, each set being obtained in a different laboratory. The certified value and its uncertainty are traceable to the International System of Units (SI).

3) The uncertainty of the certified value is the expanded uncertainty with a coverage factor $k = 2$ corresponding to a level of confidence of about 95 % estimated in accordance with ISO 17034:2016 and ISO 33405:2024.

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 10 mg.

Geel, December 2024

Signed:

Dr. Robert Koeber
Head of Unit Reference Materials
European Commission, Joint Research Centre
Directorate F – Health and Food
Retieseweg 111
2440 Geel, Belgium

DESCRIPTION OF THE MATERIAL

ERM-BD519 is an anhydrous milk fat. This CRM is available in amber glass ampoules containing 5 mL of anhydrous milk fat, which were sealed under an atmosphere of argon.

ANALYTICAL METHOD USED FOR CHARACTERISATION

ISO 17678:2019/IDF 202:2019 Milk and milk products – Determination of milk fat purity by gas chromatographic analysis of triglycerides, International Organization for Standardization, Geneva, Switzerland and International Diary Federation, Brussels, Belgium.

PARTICIPANTS

The following laboratories performed measurements in the scope of the homogeneity, stability and/or characterisation study.

AsureQuality, Auckland, NZ

European Commission, Joint Research Centre, Directorate F – Health and Food, Geel, BE

L'Institut des Corps Gras et Produits apparentés, Pessac, FR

Landwirtschaftliches Zentrum für Rinderhaltung, Grünlandwirtschaft, Milchwirtschaft, Wild und Fischerei, Baden-Württemberg, DE (DAkkS No. D-PL-14491-01-00)*

Max Rubner-Institut, Kiel, DE

Milchwirtschaftliche Lehr- und Untersuchungsanstalt Oranienburg e.V., Oranienburg, DE (DAkkS No. D-PL-14007-01-00)*

Muva Kempten GmbH, Kempten, DE (DAkkS No. D-PL-20469-01-00)*

State Veterinary and Food Institute, Bratislava, SK

State Veterinary Institute Jihlava, Jihlava, CZ (CAI No. L1129)*

Wageningen Food Safety Research, Wageningen, NL (RvA No. L 014)*

* Measurements performed within the scope of accreditation to ISO/IEC 17025

SAFETY INFORMATION

The usual laboratory safety precautions apply.

INTENDED USE

The intended use of this material is either for calibration or for the evaluation of method performance according to ISO 17678:2019/IDF 202:2019, i.e. for checking accuracy of measurement results. As any reference material, it can be used for establishing quality control charts or in validation studies.

INSTRUCTIONS FOR USE

Before opening an ampoule and taking out a portion for analysis, it must be guaranteed that the content is a liquid and properly mixed to ensure homogeneity. The following procedure is recommended:

1) Immerse the unopened ampoule in a water bath at a temperature not exceeding 50 °C, with occasional agitation until the fat is completely melted.

2) When a clear bright oil is obtained, mix the contents by repeated inversion for at least 1 min.

3) Before significant cooling can occur, score the neck of the ampoule at the thinnest part of its head and remove the head.

4) Immediately transfer the liquid contents of the ampoule in a clean and dry vial, which can be tightly closed. The material should be used on the day of opening.

Please note that repeated sampling or use has not been tested and occurs under the responsibility of the user.

Dispose of in accordance with good laboratory practice.

For general information on handling of reference materials, please see ERM Application Note 6, available on https://crm.jrc.ec.europa.eu/e/132/User-support-Application-Notes .

STORAGE

The material should be stored at (-20 ± 5) °C in the dark.

For more information regarding the shelf life of reference materials please see ERM Application Note 7, available on https://crm.jrc.ec.europa.eu/e/132/User-support-Application-Notes.

Please note that the stability of samples after opening has not been tested. The European Commission cannot be held responsible for changes that happen to samples after opening or when the material is stored differently from the stated storage conditions at the customer's premises.

LEGAL NOTICE

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NOTE

A detailed certification report is available at https://crm.jrc.ec.europa.eu/.

European Commission – Joint Research Centre
Directorate F – Health and Food
Retieseweg 111, 2440 Geel (Belgium)
Telephone: +32-(0)14-571.705
jrc-rm-distribution@ec.europa.eu