



CERTIFIED REFERENCE MATERIAL BCR[®] – 450

CERTIFICATE OF ANALYSIS

MILK POWDER				
IUPAC No	Congener name	Mass fraction based on dry mass		Number of accepted sets of results p
		Certified value ¹⁾ [µg/kg]	Uncertainty ²⁾ [µg/kg]	
PCB 52	2,2',5,5'-Tetrachlorobiphenyl	1.16	0.17	13
PCB 118	2,3',4,4',5-Pentachlorobiphenyl	3.3	0.4	13
PCB 153	2,2',4,4',5,5'-Hexachlorobiphenyl	19.0	0.7	10
PCB 156	2,3,3',4,4',5-Hexachlorobiphenyl	1.62	0.20	13
PCB 170	2,2',3,3',4,4',5-Heptachlorobiphenyl	4.8	0.6	10
PCB 180	2,2',3,4,4',5,5'-Heptachlorobiphenyl	11.0	0.7	11

1) Unweighted mean value of the means of p accepted sets of data, each set being obtained in a different laboratory and/or with a different method of determination. The value is traceable to the International System of Units (SI).

2) The uncertainty is taken as the half-width of the 95 % confidence interval of the mean given in (1).

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 3 g.

NOTE

This material has been certified by BCR (Community Bureau of Reference, the former reference materials programme of the European Commission). The certificate has been revised under the responsibility of IRMM.

Brussels, April 1993

Latest revision: September 2013

Signed: _____

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DESCRIPTION OF THE SAMPLE

The sample consists of approximately 20 g of spray-dried milk powder in brown glass ampoules sealed under argon.

ANALYTICAL METHOD USED FOR CERTIFICATION

Calibration was done with solutions of BCR-CRMs (291, 293-298) or from compounds of verified purity and stoichiometry (PCB 156 and 170). The samples were rewetted and extracted with a mixture of hexane or pentane and acetone or methanol and clean-up was carried out by sulphuric acid and/or column chromatography (on alumina, silica gel or florisil). Capillary gas chromatography with electron capture detection or high resolution mass spectrometry was performed using different injection systems, different columns and different temperature programmes.

PARTICIPANTS

- Agricultural Research Centre, Jokionen (FI)
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- European Commission, Joint Research Centre, Ispra (IT)
- Institut du Genie de l'Environnement, Lausanne (CH)
- Institute for Environmental Studies, Free University of Amsterdam, Amsterdam (NL)
- Institute of Marina Research, Bergen (NO)
- Laboratoire Cantonal, Genève (CH)
- Milchwirtschaftliche Untersuchungs- und Versuchsanstalt, Kempten (DE)
- National Swedish Environm. Prot. Board, Solna (SE)
- Netherlands Institute for Fishery Invest., Ijmuiden (NL)
- State Institute for Quality Control for Agricultural Products (RIKILT), Wageningen (NL)
- The Scottish Office, Agriculture and Fisheries Department, Aberdeen (GB)

SAFETY INFORMATION

The usual laboratory safety precautions apply.

INSTRUCTIONS FOR USE

For analysis the sample should be taken as it is. The water content is approximately 39 g/kg by mass (Standard Method IDF 26:1964), and the fat content is approximately 250 g/kg (Standard Method IDF 9C:1987). When the reference material is used to assess the performance of a method, the user should refer to the recommendations in the certification report. Dispose in accordance with good laboratory practice.

STORAGE

The ampoules should be stored in the dark at – 20 °C. After opening, the content of the glass ampoule should be transferred to a clean glass container which has a glass stopper and then stored at 5 °C in the dark.

However, the European Commission cannot be held responsible for changes that happen during storage of the material at the customer's premises, especially of opened samples.

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NOTE

A technical report on the production of BCR[®]-450 is available on the internet (<http://www.irmm.jrc.be>). A paper copy can be obtained from IRMM on request.