CERTIFICATE OF ANALYSIS

ERM®- BB445

PORK FAT		
Chlorobiphenyl [1] Ballschmiter No. (Congener name)	Mass fraction	
	Certified value [2] [µg/kg]	Uncertainty [3] [µg/kg]
28 (2,4,4'-Trichlorobiphenyl)	14.8	1.3
52 (2,2',5,5'-Tetrachlorobiphenyl)	12.9	0.9
101 (2,2',4,5,5'-Pentachlorobiphenyl)	12.5	1.2
118 (2,3',4,4',5-Pentachlorobiphenyl)	12.7	1.3
138 (2,2',3,4,4',5'-Hexachlorobiphenyl)	14.6	1.6
153 (2,2',4,4',5,5'-Hexachlorobiphenyl)	13.1	1.1
180 (2,2',3,4,4',5,5'-Heptachlorobiphenyl)	12.6	0.9
Sum PCBs	93	7

[1] As obtained by quantification using GC methods.

[2] Unweighted mean value of the means of 8 accepted sets of data, each set being obtained in a different laboratory and/or with a different method of determination. The certified value and its uncertainty are traceable to the International System of units (SI).

[3] Estimated expanded uncertainty *U* with a coverage factor *k* = 2, corresponding to a level of confidence of about 95 %, as defined in the Guide to the Expression of Uncertainty in Measurement (GUM), ISO, 1995. Uncertainty contributions arising from characterisation as well as from homogeneity and stability assessment were taken into consideration.

This certificate is valid for one year after purchase.

Sales date:

The minimum sample intake is 0.25 g.

NOTE

European Reference Material ERM®-BB445 was originally certified as IRMM-445. It was produced and certified under the responsibility of the IRMM according to the principles laid down in the technical guidelines of the European Reference Materials® co-operation agreement between BAM-IRMM-LGC. Information on these guidelines is available on the internet (http://www.erm-crm.org).

Accepted as an ERM®, Geel, April 2004
Latest revision: February 2009

Signed: _____

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Indicative Values		
	Mass fraction	
	Indicative value [1] [ng/g]	Uncertainty [2]
Lindane	5.6	-
2,2',4,4'-tetrabromodiphenylether (BDE 47)	3.9	-
[1] Reported by a single laboratory		

DESCRIPTION OF THE SAMPLE

ERM®-BB445 is supplied in ampoules, which contain about 5 g fat of pigs spiked with polychlorinated biphenyls (PCBs). The ampoules were sealed under argon/helium atmosphere.

ANALYTICAL METHOD USED FOR CERTIFICATION

The determination of PCBs was performed by gas chromatography (GC) with mass spectrometry (MS) or electron capture detection (ECD). The samples were dissolved in hexane and the clean-up was carried out by sulphuric acid digestion and/or column chromatography (on alumina or silica gel). Different injection modes and different GC columns were employed. Calibrants of diverse origin, including BCR CRM standards, were used.

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SAFETY INFORMATION

Not applicable.

INSTRUCTIONS FOR USE

The material should be molten and mixed in the ampoule before opening and taking out aliquots. Alternatively the contents of a whole ampoule can be dissolved in an appropriate solvent, before taking aliquots. The characterisation was performed with sample intakes from 0.25-0.5 g. It is assumed that the minimum sample intake is merely dependent on the sensitivity of the method used, if aliquots are taken from the molten of totally dissolved ERM®. The material can be used for method evaluation (clean-ups, fractionation and instrumental analysis) on PCBs in fatty matrices. Aim is specially the quality control in meat monitoring for human consumption. Test for laboratory accuracy can be performed and laboratory recovery rates can be assessed. It is intended that this material is used to verify the laboratory method validation and performance for these compounds. It is not recommended to use this material for calibration.

STORAGE

The samples are stored on long term at - 20 ºC. Upon receipt the material should be kept at this temperature.

LEGAL NOTICE

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NOTE

A detailed technical report is available on the internet (http://www.erm-crm.org). A paper copy can be obtained from IRMM on request.

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