EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Institute for Reference Materials and Measurements

CERTIFIED REFERENCE MATERIAL
BCR® – 385R

CERTIFICATE OF ANALYSIS

PEANUT BUTTER		
	Mass Fraction	
	Certified value [1] [µg/kg]	Uncertainty [2] [µg/kg]
Aflatoxin B_1	1.77	0.30
Aflatoxin B_2	0.48	0.08
Aflatoxin G_1	0.9	0.4
Aflatoxin G_2	0.30	0.12
Sum of Aflatoxin B_1, B_2, G_1 and G_2	3.5	0.5 [3]

1) These values are the mass fractions based on the unweighted mean of accepted sets of results. The values are traceable to the SI. The aflatoxin mass fractions as stated are defined by the employed reversed phase liquid chromatography methods with post column bromination, fluorescence detection and immunoaffinity clean up.

2) Expanded uncertainty with a coverage factor of k = 2, according to the Guide for the Expression of Uncertainty in Measurement, corresponding to a level of confidence of about 95 %.

3) The uncertainty for the sum of B_1, B_2, G_1 and G_2 is calculated from the individual absolute uncertainties as

$$U_{sum} = 2 \cdot \sqrt{u_{B1}^2 + u_{B2}^2 + u_{G1}^2 + u_{G2}^2}$$

This certificate is valid for one year after purchase.

Sales date:

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

Geel, October 2008

Signed:

Prof. Dr. Hendrik Emons
Unit for Reference Materials
EC-JRC-IRMM
Retieseweg 111
2440 Geel, Belgium

DESCRIPTION OF THE SAMPLE

100 g of peanut butter stabilised with lecithin, contained in aluminium cans.

ANALYTICAL METHOD USED FOR CERTIFICATION

All results were obtained employing an immunoaffinity column clean up and reversed phase high performance liquid chromatography with post column derivatisation (either electrochemical bromination with potassium bromide or bromination with pyridinium hydrobromide perbromide) and fluorescence detection. Different solvents and techniques were used for extraction.

PARTICIPANTS

Central Science Laboratory (GB)
(accredited to ISO 17025 for measurement of aflatoxins in food;UKAS 1642)
Finnish Customs Laboratory (FI)
(accredited to ISO 17025 for measurement of aflatoxins in food and feed; FINAS T006)
Instituto Nacional de Engenharia e Tecnologia (INETI-LIA) (PT)
(accredited to ISO 17025 for measurement of aflatoxins B1 in feed; IPAC L0094)
Laboratorio Normativo de Salud Pública de Bilbao (ES)
(accredited to ISO 17025 for measurement of aflatoxins in food; ENAC 132/LE326)
LGC Ltd., Teddington (GB)
(accredited to ISO 17025 for measurement of aflatoxins in food and feed; UKAS 0003)
Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek (TNO) (NL)
(accredited to ISO 17025 for measurement of aflatoxins in food and feed; RvA L027)
PhytoLab GmbH & Co. KG (DE)
(accredited to ISO 17025 for measurement of contaminants by high performance liquid chromatography; SAL-BY-G037-01-05)
Wiertz-Eggert-Joerissen (DE)
(accredited to ISO 17025 for measurement of aflatoxins in food and feed; DAP-PL-1453.99

SAFETY INFORMATION

The usual laboratory safety precautions apply.

INSTRUCTIONS FOR USE

This material is intended to be used for method performance control and validation purposes. Samples should be allowed to warm to ambient temperature (e.g. overnight) before opening to avoid water condensation. The contents should be thoroughly mixed before sub-samples are taken. The peanut butter should be weighed out immediately after opening the can and the mass fraction of the aflatoxins calculated based on this mass.

STORAGE

The materials should be stored at or below - 20 °C.
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.

LEGAL NOTICE

NOTE

A technical report on the production of BCR®-385R is available on the internet (http://www.irmm.jrc.be). A paper copy can be obtained from IRMM on request.

European Commission – Joint Research Centre
Institute for Reference Materials and Measurements (IRMM)
Retieseweg 111, 2440 Geel (Belgium)
Telephone: +32-(0)14-571.722 - Telefax: +32-(0)14-590.406