

CERTIFICATE OF ANALYSIS

ERM[®] - BF416b

DRIED MAIZE POWDER		
	Mass Fraction	
	Certified value ¹⁾ [g / kg]	Uncertainty ²⁾ [g / kg]
MON 863 maize	1.0	-0.3 ; +1.0
<p>1) The certified value is based on the mass fraction of dried non-genetically modified powder and dried genetically modified powder mixed and corrected for the water content. The certified value is traceable to the SI.</p> <p>2) The certified uncertainty is the expanded uncertainty estimated in accordance with the Guide to the Expression of Uncertainty in Measurement (GUM) with a coverage factor $k = 2$, corresponding to a level of confidence of about 95 %.</p>		

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 100 mg.

NOTE

European Reference Material ERM[®]-BF416b was originally certified as IRMM-416-1. 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, August 2005

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Signed: _____



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DESCRIPTION OF THE SAMPLE

CRM ERM[®]-BF416b is part of a set of CRMs containing different mass fractions of maize powder prepared from genetically modified (GM) MON 863 maize. The set of CRMs (ERM[®]-BF416a, ERM[®]-BF416b, ERM[®]-BF416c and ERM[®]-BF416d) was produced and certified under the responsibility of the Institute for Reference Materials and Measurements of the European Commission's Directorate General Joint Research Centre (EC-DG JRC-IRMM).

The materials were prepared by quantitative mixing of dried non-GM maize powder and MON 863 GM dried maize powder, and subsequent homogenisation with the help of a dry-mixing technique. ERM[®]-BF416b is available in glass bottles containing approximately 1 g of maize powder packed under argon atmosphere.

This reference material has been produced from whole kernels of non-modified maize (variety 'RX670') and MON 863 maize (hybrid line 'TP5504-TD') both of seed quality and delivered by Monsanto (St. Louis, MO, USA). According to European Commission regulation (EC) No 65/2004 the event MON 863 maize received the unique identifier MON-ØØ863-5.

During the purity testing of the GM raw materials one out of 52 kernels gave a three- to four-times increased GM signal when applying event-specific real-time PCR. A difference in DNA extractability between the two base materials has been observed when applying common DNA extraction methods. By wet chemical method it could be verified that the total DNA content of the GM and non-GM powder was the same.

ANALYTICAL METHOD USED FOR CERTIFICATION

Gravimetric preparation confirmed by real-time Polymerase Chain Reaction (rt-PCR).

PARTICIPANTS

EC-DG JRC-IRMM, Geel, BE (Measurements within the scope of accreditation to ISO 17025)

SAFETY INFORMATION

Not applicable.

INSTRUCTIONS FOR USE

CRM ERM[®]-BF416b is intended to be used for the quality control and calibration of methods for the detection of genetically modified food. It is recommended to use sample intakes not smaller than 100 mg.

During the purity testing of the GM raw materials one out of 52 kernels proved to be a homozygous plant. When determining copy numbers of the transgenic sequence relative to an endogenous sequence, the detected GM concentration may be influenced with up to 10 % relative. Therefore, rt-PCR results may therefore overestimate the gravimetric GM concentration of the CRM. Consequently, the GM concentration of a sample under investigation may be underestimated by a rt-PCR method calibrated with ERM[®]-BF416.

A difference in DNA extractability between the two base materials has been observed when applying CTAB and Wizard[®] (Promega, Leiden, NL) extraction methods. The application of methods with different DNA extraction efficiencies contributes additionally to the uncertainty. Therefore laboratories are reminded to check and validate the extraction methods used in order to avoid influences.

STORAGE

Bottles should be stored dry and in the dark at maximum + 4 °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

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NOTE

A detailed technical report is available on www.erm-crm.org. A paper copy can be obtained from IRMM on request.