

JOINT RESEARCH CENTRE
Directorate F – Health and Food

REFERENCE MATERIAL CERTIFICATE

ERM®-BF446a MAIZE SEED POWDER

Certified Values		
	Mass Fraction ²⁾ [g/kg]	Uncertainty ³⁾ [g/kg]
MIR162 ¹⁾	0.00	+ 0.24 - 0.00

1) Genetically modified maize with the unique identifier SYN-IR162-4.

2) Certified values are values that fulfil the highest standards of accuracy. The certified value and its uncertainty are traceable to the International System of Units (SI). The certified value is based on the purity of the conventional, non-modified maize seeds. No contamination was detected in this material when using an event-specific quantitative polymerase chain reaction (qPCR) targeting the MIR162 maize event.

3) The asymmetric expanded uncertainty is based on the 95 % confidence interval of the limit of detection (LOD) of the qPCR method. The upper bound of the expanded uncertainty interval is 0.24 g/kg and the lower bound is 0.00 g/kg. The corresponding rounded upper bound of the standard uncertainty interval is $0.24 \text{ g/kg} / \sqrt{3} = 0.14 \text{ g/kg}$.

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 200 mg.

Geel, June 2022
Latest revision: June 2023

INFORMATION ONLY

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DESCRIPTION OF THE MATERIAL

ERM-BF446a is one of five MIR162 maize seed powder certified reference materials (CRMs) containing different mass fractions of this genetically modified maize. ERM-BF446a has been produced from whole seeds of non-genetically modified maize supplied by Syngenta Seeds, LLC (Clinton, IL, US). In accordance with Commission Regulation (EC) No 65/2004, the unique identifier code SYN-IR162-4 was assigned to the MIR162 maize event. The CRM is supplied in amber glass vials containing at least 1 g of maize seed powder under argon atmosphere.

ANALYTICAL METHODS USED FOR CHARACTERISATION

Event-specific quantitative polymerase chain reaction (qPCR).

PARTICIPANTS

The following laboratories performed measurements in the scope of one or more of the following studies for characterisation, homogeneity, stability, confirmation and or purity:

European Commission, Joint Research Centre, Directorate F – Health, Consumers and Reference Materials (Geel, BE)

National Measurement Laboratory LGC (Teddington, UK)

Syngenta Crop Protection LLC (Durham, NC, US)

SAFETY INFORMATION

The usual laboratory safety precautions apply.

INTENDED USE

ERM-BF446a shall only be used for calibration or quality control of methods for the identification and quantification of genetically modified MIR162 maize in food and feed.

INSTRUCTIONS FOR USE

Care should be taken to avoid moisture uptake once the units are opened, as the material is hygroscopic. The user should close any unit immediately after taking a sample.

Dispose of in accordance with good laboratory practice.

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

For more information about the use of GMO CRMs, please see ERM-Application Note 4: Use of Certified Reference Materials for the Quantification of GMO in Food and Feed, and for general information on handling of reference materials, please see ERM Application Note 6, both available on <https://crm.jrc.ec.europa.eu/e/132/User-support-Application-Notes>.

STORAGE

The materials should be stored at $(4 \pm 3) ^\circ\text{C}$ in the dark.

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.

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>.

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NOTE

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



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