



JOINT RESEARCH CENTRE  
Institute for Reference Materials and Measurements

# CERTIFICATE OF ANALYSIS

BCR<sup>®</sup> – 187

NATURAL MILK POWDER			
Compound <sup>1)</sup>	Mass fraction (based on dry mass)		Number of accepted sets of results p
	Certified value <sup>2)</sup> [µg/kg]	Uncertainty <sup>3)</sup> [µg/kg]	
HCB	1.45	0.21	16
p,p'-DDE	6.6	0.6	16

1) As determined by GC-ECD.  
2) The certified values are the unweighted mean of the means of p sets of results. These sets of results were provided by different laboratories using GC-ECD under different conditions and with different sample preparation methods. The certified values and their uncertainty are traceable to the International System of units (SI).  
3) The uncertainty is taken as the half-width of the 95% confidence interval of the mean value defined in 2).

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 2 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 JRC-IRMM.

Brussels, March 1989  
Latest revision: May 2016

Signed: \_\_\_\_\_

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<b>Additional Material Information</b>	
$\gamma$ -HCH	Mass Fraction <sup>1</sup> [ $\mu$ g/kg]
	> 3.6
<p>1) This value is the minimum value obtained in the post-certification monitoring of the material. It is stated without an uncertainty and gives merely information about other material properties that may be of interest for the user.</p>	

## DESCRIPTION OF THE SAMPLE

The sample is a milk powder obtained by spray drying of partly skimmed milk (mixed with clean butter fat) at 103 to 180 °C. It is provided in sealed hard glass ampoules containing approximately 15 to 20 g under argon.

## ANALYTICAL METHOD USED FOR CERTIFICATION

After reconstitution, various solvents (e.g. ethoxy-ethane/hexane, cyclohexane/ethyl acetate, petroleum ether/acetone, pentane/acetone, dichloromethane) were used for extraction; for clean-up, techniques such as percolation over silica gel, Florisil or neutral or basic alumina, gel permeation chromatography and liquid-liquid partitioning (acetonitrile/hexane) were chosen. For the final measurement gas chromatography (capillary or packed column with various sorbents) and electron capture detection was the method of choice.

## PARTICIPANTS

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- Netherlands Institute for Dairy Research (NIZO), Ede (NL)
- Rijkszuivelstation, Melle (BE)
- Shell Research Ltd., Sittingbourne (GB)
- Staatliches Veterinäruntersuchungsamt, Hannover (DE)
- State Institute for Quality Control of Agricultural Products (RIKILT), Wageningen (NL)
- TNO-CIVO Food Analysis Institute, Zeist (NL)
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## SAFETY INFORMATION

The usual laboratory safety precautions apply.

## **INSTRUCTIONS FOR USE**

This material is intended for proving accuracy of analytical methods.

The ampoules should be stored unopened and preferably in the cool; direct exposure to sunlight is to be avoided. A cooled ampoule is to be equilibrated to room temperature before opening. The moisture content should be determined by drying approximately 2 g of another sample portion in a ventilated oven (atmospheric pressure) at  $102 \pm 1$  °C to constant mass (Annex II of certification report). Dispose in accordance with good laboratory practice.

## **STORAGE**

The material should be stored at  $+ 4$  °C  $\pm$  3 °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 technical report on the production of BCR-187 is available on the internet (<http://www.irmm.jrc.be>). A paper copy can be obtained from IRMM on request.

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