



# CERTIFIED REFERENCE MATERIAL BCR<sup>®</sup> – 607

## CERTIFICATE OF ANALYSIS

NATURAL MILK POWDER			
	Mass fraction based on dry mass		Number of accepted sets of data p
	Certified value <sup>2)</sup> [ng/kg]	Uncertainty <sup>3)</sup> [ng/kg]	
2,3,7,8-TCDD (D48) <sup>1</sup>	0.25	0.03	9
1, 2, 3, 7, 8-PeCDD (D64) <sup>1</sup>	0.79	0.04	9
1, 2, 3, 4, 7, 8-HxCDD (D66) <sup>1</sup>	0.42	0.07	9
1, 2, 3, 6, 7, 8-HxCDD (D67) <sup>1</sup>	0.98	0.11	9
1, 2, 3, 7, 8, 9-HxCDD (D70) <sup>1</sup>	0.34	0.05	8
2, 3, 7, 8-TCDF (F83) <sup>1</sup>	0.05	0.03	5
1, 2, 3, 7, 8-PeCDF (F94) <sup>1</sup>	0.054	0.013	7
2, 3, 4, 7, 8-PeCDF (F114) <sup>1</sup>	1.81	0.13	9
1, 2, 3, 4, 7, 8-HxCDF (F118) <sup>1</sup>	0.94	0.04	9
1, 2, 3, 6, 7, 8-HxCDF (F129) <sup>1</sup>	1.01	0.09	8
2, 3, 4, 6, 7, 8-HxCDF (F130) <sup>1</sup>	1.07	0.05	8
<p>1) As determined by capillary gas chromatography with high resolution mass spectrometry</p> <p>2) This value is the unweighted mean of the means of p accepted sets of results, obtained by different laboratories employing diverse methods of analysis. The values are traceable to the SI.</p> <p>3) The uncertainty is taken as the half-width of the 95 % confidence interval of the mean given above.</p>			

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 20 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 the Directorate F - Health, Consumers & Reference Materials (Geel).

Brussels, June 1996

Latest revision: January 2017

Signed:

Dr Doris Florian  
European Commission, Joint Research Centre  
Directorate F – Health, Consumers and Reference Materials  
Retieseweg 111  
B-2440 Geel, Belgium

## DESCRIPTION OF THE SAMPLE

The sample consists of a homogeneous natural spray dried milk powder in amber glass bottles containing approximately 100 g. Additional information on the presence of hepta- and octachlorinated congeners is given in the certification report.

## ANALYTICAL METHOD USED FOR CERTIFICATION

Calibration was done with solutions of dioxins and furans made from compounds of verified purity and stoichiometry and provided by BCR. The samples were extracted with or without reconstitution of the milk with water and sodium oxalate, with a mixture of solvents e.g. toluene/ethanol, hexane/acetone, hexane/diethyl ether, ethanol/hexane/diethyl ether, methanol/diethyl ether/petroleum ether by Soxhlet. Clean-up was carried out by column chromatography on alumina, basic or acidic alumina, acid or base impregnated silica, celite, florisil, carbon, gel permeation chromatography, or by dialysis. Capillary gas chromatography with high resolution mass spectrometry was performed using different injection systems, different columns and different temperature programmes.

## PARTICIPANTS

Centre d'Analyse et de Recherche sur les Substances Organiques - CARSO, Lyon (FR)  
Chemische Landesuntersuchungsanstalt Freiburg, Freiburg (DE)  
ERGO - Forschungsgesellschaft mbH, Hamburg (DE)  
European Commission, Joint Research Centre, Institute for Reference Materials and Measurements (IRMM), Geel (BE)  
Institut Fresenius, Ingelheim (DE)  
National Public Health Institute, Kuopio (FI)  
Netherlands Institute for Dairy Research - NIZO, Ede (NL)  
Rijksinstituut voor Volksgezondheid en Milieuhygiëne - RIVM, Bilthoven (NL)  
Rijks-Kwaliteitsinstituut voor Land- en Tuinbouwprod.- RIKILT-DLO, Wageningen (NL)  
RIKILT-DLO, Wageningen (NL)  
University of Umeå, Institute of Environmental Chemistry, Umeå (SE)  
Vlaamse Instelling voor Technologisch Onderzoek (VITO), Mol (BE)

## SAFETY INFORMATION

Several compounds are potentially carcinogenic. Despite that they are present at low levels, appropriate precautions should be applied in the laboratory.

## INSTRUCTIONS FOR USE

This material is intended for analytical purposes.

Before attempting any sampling the material should be allowed to reach room temperature and should be rehomogenised thoroughly, by manual or mechanical shaking for a few minutes.

The water content must be determined by the Karl-Fischer method.

Dispose in accordance with good laboratory practice.

## STORAGE

BCR-607 bottles should be stored unopened in the dark at  $-20 \pm 5$  °C.

## LEGAL NOTICE

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## NOTE

A detailed technical report is available on <https://crm.jrc.ec.europa.eu>. A paper copy can be obtained from the Joint Research Centre Directorate F – Health, Consumers and Reference Materials on request.

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European Commission – Joint Research Centre  
Directorate F – Health, Consumers and Reference Materials  
Retieseweg 111, B - 2440 Geel (Belgium)  
Telephone: +32-(0)14-571.705 - Fax: +32-(0)14-590.406