

CERTIFICATE OF ANALYSIS

ERM[®] - CE464

TUNA FISH		
Parameter	Mass fraction	
	Certified value ¹ [mg/kg]	Uncertainty ² [mg/kg]
Total Hg	5.24	0.10
CH ₃ Hg ⁺	5.50	0.17

1) Unweighted mean value of the means of 8 (total Hg) and 12 (methyl Hg) accepted sets of data, each set being obtained in a different laboratory and / or with a different method of determination. The certified value is traceable to SI.
2) The certified uncertainty is the half-width of the 95 % confidence interval of the mean defined in 1). k-factors were chosen according to the t-distribution depending of the number of accepted sets of results.

This certificate is valid for one year after purchase.

Sales date:

The minimum sample intake is 200 mg.

NOTE

European Reference Material ERM[®]-CE464 was originally certified as BCR-464. 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, May 2004
Shelf-life statement changed September 2006

Signed: _____



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

DESCRIPTION OF THE SAMPLE

The material consists of a freeze-dried fish powder in a glass bottle. The bottle contains about 15 g of powder. Additional information on the preparation and the certified values is given in the certification report.

ANALYTICAL METHOD USED FOR CERTIFICATION

Cold vapour atomic absorption spectrometry (total Hg and MeHg)
Cold vapour atomic fluorescence spectrometry (total Hg and MeHg)
Electrothermal atomic absorption spectrometry (MeHg)
Gas chromatography / atomic fluorescence spectrometry (MeHg)
Gas chromatography / electron capture detection (MeHg)
Gas chromatography / Fourier transformation infrared spectroscopy (MeHg)
Gas chromatography / microwave induced plasma atomic emission spectrometry (MeHg)
Inductively coupled plasma mass spectrometry (total Hg)
Ion exchange / atomic absorption spectrometry (MeHg)
Neutron activation analysis with radiochemical separation (total Hg)

PARTICIPANTS

Sample preparation

Ecoconsult, Gavirate (IT)
Joint Research Centre, Ispra (IT)

Homogeneity and stability

Presidio Multizonale di Prevenzione, Venezia (IT)

Analyses

Energieonderzoek Centrum Nederland, Petten (NL)
FORCE Institute, Brøndby (DK)
Kernforschungsanlage, Jülich (DE)
National Food Administration, Uppsala (SE)
National Food Agency, Søborg, (DK)
Presidio Multizonale di Prevenzione, La Spezia (IT)
Presidio Multizonale di Prevenzione, Venezia (IT)
Universidad de Santiago de Compostela (ES)
CNRS, Service Central d'Analyse, Vernaison (FR)
Swedish Environmental Research Institute, Gøteborg (SE)
Università di Genova (IT)
Universiteit Gent, INW (BE)
University of Umeå (SE)
Vrije Universiteit Brussel (BE)

SAFETY INFORMATION

Not applicable.

INSTRUCTIONS FOR USE

The sample can be used as it is from the bottle. Before a bottle is opened, it should be shaken manually for 5 min so that the material is re-homogenised. The correction to dry mass should be made from a moisture determination on a separate portion of 100 mg which should be dried in an oven at 102 °C for 3-4 h until constant mass is attained. The recommended minimum sample intake is 200 mg.

The reference material is intended for method validation.

STORAGE

The material may be kept at ambient temperature in the dark for short term period (2-3 days). However, the tightly closed bottles should be kept at + 4 °C in the dark for long term storage periods.

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.

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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.