



CERTIFIED REFERENCE MATERIAL BCR[®] – 482

CERTIFICATE OF ANALYSIS

LICHEN			
	Mass fraction based on dry mass		Number of accepted sets of data p
	Certified value ¹⁾ [mg/kg]	Uncertainty ²⁾ [mg/kg]	
Al	1103	24	9
As	0.85	0.07	6
Cd	0.56	0.02	8
Cr	4.12	0.15	7
Cu	7.03	0.19	10
Hg	0.48	0.02	8
Ni	2.47	0.07	8
Pb	40.9	1.4	10
Zn	100.6	2.2	13
¹⁾ The certified value was calculated from the unweighted mean of the means of p accepted datasets. The certified value is traceable to the SI.			
²⁾ Half-width of the 95 % confidence interval of the mean defined in ¹⁾ .			

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 250 mg.

DESCRIPTION OF THE SAMPLE

The material consists of a lichen powder in a glass bottle containing about 15 g of powder. Additional information on the preparation, the certified and indicative values is given in the certification report.

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 IRMM.

Brussels, December 1995
Revised: May 2007

Signed: _____

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ANALYTICAL METHOD USED FOR CERTIFICATION

- Cold vapour atomic absorption spectrometry
- Cold vapour atomic fluorescence spectrometry
- Direct current plasma atomic emission spectrometry
- Differential pulse anodic stripping voltammetry
- Electrothermal atomic absorption spectrometry
- Hydride generation atomic absorption spectrometry
- Inductively coupled plasma/isotope dilution mass spectrometry
- Inductively coupled plasma emission spectrometry
- Inductively coupled plasma mass spectrometry
- Instrumental neutron activation analysis
- Isotope dilution mass spectrometry
- Neutron activation analysis with radiochemical separation

PARTICIPANTS

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- Universidad de Oviedo, Facultad de Química, Oviedo (ES)
- Università di Pavia, Chimica Generale, Pavia (IT)
- University of Gent, Gent (BE)

SAFETY INFORMATION

The usual laboratory safety precautions apply.

INSTRUCTIONS FOR USE

It is intended for the verification or validation of an analytical procedure for the determination of the analytes or a certain part of them. This material is not intended for use as a calibrant. The sample can be used as it is from the bottle. Before the bottle is opened, it should be shaken manually so that the material is re-homogenised. The correction to dry mass should be made 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.

STORAGE

Upon arrival the material shall be stored at 18 °C in the dark.

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.

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NOTE

A technical report on the production of BCR-482 is available on the internet (<http://www.irmm.jrc.be>). A paper copy can be obtained from IRMM on request.