EUROPEAN COMMISSION

JOINT RESEARCH CENTRE

Institute for Reference Materials and Measurements

CERTIFIED REFERENCE MATERIAL
BCR® – 461

CERTIFICATE OF ANALYSIS

CLAY		
	Mass Fraction	
	Certified value [1] [mg/kg]	Uncertainty [2] [mg/kg]
F	568	60

1) Unweighted mean of 7 accepted mean values, independently obtained by 6 laboratories. The value is traceable to the International System of Units (SI).
2) The certified uncertainty is the expanded uncertainty estimated in accordance with the Guide to the Expression of Uncertainty in Measurement (GUM) with a coverage factor k = 2, corresponding to a level of confidence of about 95 %.

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 100 mg.

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, June 1993
Revised: February 2007

Signed: 

Prof. Dr. Hendrik Emons
Unit for Reference Materials
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DESCRIPTION OF THE SAMPLE

The material consists of a clay powder in a glass bottle. The bottle contains about 30 g of powder. Additional information on the preparation and the certified value of F is given in the certification report.

ANALYTICAL METHODS USED FOR CERTIFICATION

Methods of final determination were:
- Ion chromatography
- Ion selective electrode after fusion
- Ion selective electrode after pyrohydrolysis
- Ion selective electrode after fusion and steam distillation
- Ion selective electrode after steam distillation
- Neutron activation analysis with fast neutrons

PARTICIPANTS

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- University of Plymouth, Plymouth (GB)

SAFETY INFORMATION

The usual laboratory safety precautions apply.

INSTRUCTIONS FOR USE

The material is intended to be used for demonstration of method proficiency.
The sample can be used as it is from the bottle. Before the bottle is opened, it should be shaken manually for 5 min so that the material is re-homogenised. The correction of 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. The tightly closed bottles may be kept at room temperature.

STORAGE

The material should 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-461 is available on the internet (http://www.irmm.jrc.be). A paper copy can be obtained from IRMM on request.

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