EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Institute for Reference Materials and Measurements

CERTIFIED REFERENCE MATERIAL
BCR® – 545

CERTIFICATE OF ANALYSIS

WELDING DUST LOADED ON A FILTER			
	Mass fraction		Number of accepted sets of data p
	Certified value [1] [g/kg]	Uncertainty [2] [g/kg]	
Cr(VI)	40.2	0.6	11
total leachable Cr	39.5	1.3	7

1) Unweighted mean value of the means of p accepted sets of data, each set being obtained in a different laboratory and/or with a different method of determination. The value is traceable to the International System of Units (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 1 filter.

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 1997
Revised: November 2007

Signed:

Prof. Dr. Hendrik Emons
Unit for Reference Materials
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Retieseweg 111
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DESCRIPTION OF THE SAMPLE

The material consists of a glassfibre filter loaded with welding dust. Additional information on the preparation and the certified values is given in the certification report.

ANALYTICAL METHOD USED FOR CERTIFICATION

- Electrothermal atomic absorption spectrometry
- Flame atomic absorption spectrometry
- Inductively coupled plasma atomic emission spectrometry
- Isotope dilution mass spectrometry
- UV-visible light spectrometry

PARTICIPANTS

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- Institute of Occupational Health, Oulu (FI)
- National Institute of Occupational Health, Oslo (NO)
- Universität Regensburg, Institut für Anorganische Chemie, Regensburg (DE)
- Universiteit Gent, Laboratorium voor Analytische Scheikunde, Gent (BE)
- VITO, Mol (BE)

SAFETY INFORMATION

The usual safety precautions apply.

INSTRUCTIONS FOR USE

The sample can be used as it is from the monitor case. The filters are mounted individually in polycarbonate monitor cases. To open the monitor, loosen the two upper parts of the monitor from the lower part containing the filter, remove the blue stopper from the bottom, lift the exposed filter and PTFE rings by gently inserting a needle (or similar device) through the bottom hole, and transfer the exposed filter and PTFE rings to a beaker with a pair of tweezers; then proceed with the sample dissolution in alkaline buffer ($NaOH$-Na_2CO_3) as described in the certification report. Because of a small difference of dust load on the filters, it is recommended to normalise the results for the mass of the welding dust (given in Annex II of the certification report for each individual filter). The filters should be stored in the dark (at ambient temperature or below).
Please consult the instructions for use in the certification report prior to opening the package with the reference material.

STORAGE

The filter should be stored in the dark at ambient temperature or below.
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

NOTE

A technical report on the production of BCR-545 is available on the internet (http://www.irmm.jrc.be). A paper copy can be obtained from IRMM on request.

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