

JOINT RESEARCH CENTRE  
Institute for Reference Materials and Measurements

# CERTIFICATE OF ANALYSIS

ERM<sup>®</sup>-EB530B

Al-0.1%Au		
	Mass fraction	
	Certified value <sup>1)</sup> [mg/kg]	Uncertainty <sup>2)</sup> [mg/kg]
Au	1005	7
<p>1) Unweighted mean value of the means of accepted sets of data, each set being obtained in a different laboratory and/or with a different method of determination. The certified value and its uncertainty are traceable to the International System of units (SI).</p> <p>2) The uncertainty of the certified value is the expanded uncertainty with a coverage factor <math>k = 2</math> corresponding to a level of confidence of about 95 % estimated in accordance with ISO/IEC Guide 98-3, Guide to the Expression of Uncertainty in Measurement (GUM:1995), ISO, 2008.</p>		

This certificate is valid for five years after purchase.

Sales date:

The minimum amount of sample to be used is 0.55 mg.

## NOTE

European Reference Material ERM<sup>®</sup>-EB530B was produced and certified under the responsibility of the Institute for Reference Materials and Measurements of the European Commission's Joint Research Centre according to the principles laid down in the technical guidelines of the European Reference Materials<sup>®</sup> 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<sup>®</sup>, Geel, October 2014

**INFORMATION ONLY**

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Joint Research Centre  
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B-2440 Geel, Belgium

## DESCRIPTION OF THE MATERIAL

ERM-EB530B is an aluminium gold alloy material certified for the mass fraction of gold. The ERM-EB530B unit is a 1 meter length wire with diameter of 0.500 mm (relative tolerance  $\pm 5\%$ ). The CRM units are packed in plastic boxes.

## ANALYTICAL METHODS USED FOR CERTIFICATION

Fire assay with gravimetric weighing

Inductively coupled plasma coupled with optical emission spectrometry

Neutron activation analysis

## PARTICIPANTS

Activation Laboratories Ltd., Ancaster, CA

(measurements performed under the scope of ISO/IEC 17025 accreditation; SCC No. 266)

AngloAmerican Research, Johannesburg, ZA

Australian Nuclear Science and Technology Organisation, Lucas Heights, AU

Comisión Nacional de Energía Atómica (CNEA), Laboratorio de Análisis por Activación Neutrónica, Bariloche, AR

Constellium Centre de Recherches Voreppe, Voreppe, FR

European Commission, Joint Research Centre, Institute for Reference Materials and Measurements (IRMM), Geel, BE

(accredited to ISO Guide 34 for production of certified reference materials, BELAC No. 268-RM)

Evans Analytical Group SAS, Tournefeuille, FR

Institut "Jozef Stefan" (IJS), Department of Environmental Sciences, Ljubljana, SI

(measurements performed under the scope of ISO/IEC 17025 accreditation, Slovenska Akreditacija-LP090)

Metalor Technologies, Neuchâtel, CH

Nuclear Physics Institute ASCR, Rez, CZ

Österreichisches Gießerei-Institut (ÖGI), Leoben, AT

Umicore Analytical Competence Center, Olen, BE

Umicore Analytical Competence Center, Hanau-Wolfgang, DE

Umicore PMR, Hoboken, BE

SLOWPOKE NAA Laboratory Ecole Polytechnique Montreal, Montreal, CA

Studiecentrum voor Kernenergie, SCK, Mol, BE

(measurements performed under the scope of ISO/IEC 17025 accreditation; BELAC No 015-TEST)

TU Delft, Delft, NL

(measurements performed under the scope of ISO/IEC 17025 accreditation; RvA L049)

## SAFETY INFORMATION

The usual laboratory safety precautions apply.

## INSTRUCTIONS FOR USE AND INTENDED USE

The units shall be cleaned prior to analysis (ethanol, rinsed in water and dried prior to analysis). Surface contamination should be avoided, particularly gold or easily activated heavy metals from cutting tools.

Users should take into consideration the effects of epithermal self-shielding due to the amount of Au in the material.

The main purpose of these materials is for the calibration of methods ( $k_0$ -neutron activation analysis) and to assess method performance. As any reference material, ERM-EB530B can also be used for control charts or validation studies.

## **STORAGE**

The materials shall be stored at  $18\text{ °C} \pm 5\text{ °C}$  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.

## **LEGAL NOTICE**

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## **NOTE**

A detailed technical report is available on [www.irmm.jrc.be](http://www.irmm.jrc.be). A paper copy can be obtained from the Joint Research Centre, Institute for Reference Materials and Measurements on request.

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