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Certificate of Analysis

CERTIFIED REFERENCE MATERIAL

Multi-Element Organometallic Oil Standards - 21 components: 500ppm each of Ag ; Al ; B ; Ba ; Ca ; Cd ; Cr ; Cu ; Fe ; Mg ; Mn ; Mo ; Na ; Ni ; P ; Pb ; Si ; Sn ; Ti ; V ; Zn in Base oil 75 cSt

Lot N: 1262524 Ref N: CPL116579.L1 Certification Date: 27 Jul 2026
Barcode: 17565028

Component	Certified Value and uncertainty [mg/kg]	Metrological traceability
Ag	500.7 ± 1.8 (y)	NIST SRM No 1085c Lot 1123326
Al	500.7 ± 2.8 (y)	NIST SRM No 1085c Lot 1123326
B	501.7 ± 2.9 (y)	NIST SRM No 1085c Lot 1123326
Ba	500.1 ± 2.1 (y)	NIST SRM No 1085c Lot 1123326
Ca	500.0 ± 3.0 (y)	NIST SRM No 1085c Lot 1123326
Cd	500.1 ± 1.8 (y)	NIST SRM No 1085c Lot 1123326
Cr	500.3 ± 3.6 (y)	NIST SRM No 1085c Lot 1123326
Cu	500.4 ± 2.6 (y)	NIST SRM No 1085c Lot 1123326
Fe	500.2 ± 2.7 (y)	NIST SRM No 1085c Lot 1123326
Mg	500.2 ± 2.5 (y)	NIST SRM No 1085c Lot 1123326
Mn	500.2 ± 2.9 (y)	NIST SRM No 1085c Lot 1123326
Mo	500.1 ± 1.8 (y)	NIST SRM No 1085c Lot 1123326
Na	500.2 ± 2.0 (y)	NIST SRM No 1085c Lot 1123326
Ni	500.4 ± 3.1 (y)	NIST SRM No 1085c Lot 1123326
P	501.6 ± 2.7 (y)	NIST SRM No 1085c Lot 1123326
Pb	501.1 ± 5.2 (y)	NIST SRM No 1085c Lot 1123326
Si	500.1 ± 2.9 (y)	NIST SRM No 1085c Lot 1123326
Sn	501.2 ± 2.6 (y)	NIST SRM No 1085c Lot 1123326
Ti	501.2 ± 4.0 (y)	NIST SRM No 1085c Lot 1123326
V	501.1 ± 2.7 (y)	NIST SRM No 1085c Lot 1123326
Zn	500.7 ± 2.6 (y)	NIST SRM No 1085c Lot 1123326

Notes:
(y) WQP 5.15.1.24 *The certified value was obtained by a weighted mean of the results of two independent testing methods among: Primary Gravimetric and Instrumental (ICP)*

Starting Material, Batch

Org-Ag 100%	82137205
ORGAL 100%	82132842
Org-B 100%	82137069
ORGBA 100%	82137007
ORGCA 100%	82137014
Org-Cd 100%	82137151
ORGCr 100%	82107529
Org-Cu 100%	82137120
Org-Fe 100%	82137106
ORGMG 100%	82137045
Org-Mn 100%	82137137
Org-Mo 100%	82137175
Org-Na 100%	82137083
Org-Ni 100%	82137076
ORGP 100%	82137021
Org-Pb 100%	82137090
Org-Si 100%	82137144
Org-Sn 100%	82137113
Org-Ti 100%	82137168
Org-V 100%	82137182

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ORGZN 100%	82137038

Storage Conditions: Store at temperatures between 15°C to 25°C and protected from light

Expiry date: 27 Aug 2027

Concept of Certification and traceability statement:

This certified reference material (CRM) is produced using a high purity starting materials.
The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2, which for a normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA 4/02
Property of the result of a measurement whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties (ISO VIM)
The metrological traceability is assured using certified reference material traceable to SI of NIST (SRM) or BAM (CRM). All contributions in relation to the certification of standard solutions are considered when evaluating the uncertainty.
The measurement results are traceable to SI.
All analytical balances used for the preparation of the solution are calibrated yearly under an in-house procedure with analytical weights, traceable to DKD, and are checked daily.
Class A laboratory glassware is used.
The results from temperature measurement are traceable to SI. The thermometers used for solution's calibration are calibrated from an ISO 17025 accredited laboratory. The ambient conditions are controlled with a hygrometer calibrated from an ISO 17025 accredited laboratory.

Intended use: *For Laboratory Use Only*

Calibration of ICP, AAS
Preparation of "working reference samples"
Validation of analytical methods
Detection limit and linearity studies
This statement is not intended to restrict the use for other purposes.

Instructions for the correct use of this reference material:

This certified reference material can be used directly or can be diluted in an appropriate high purity matrix. Only a clean class A glassware should be used. Do not pipet from container. Obtained concentration (in mg/l) after dilution is a result from the multiplication of certified value of CRM concentration and the CRM's volume used for dilution and divided into the flask's volume used for dilution.

Stability and storage:

This CRM is with a guaranteed stability of the certified concentration within its shelf life. Stability is guaranteed, provided that the solution is kept in its original packaging, tightly closed stored, as written in the section: Storage Conditions. If storage of a partially used bottle is necessary, it is recommendable that the cap is tightly sealed and the bottle stored in refrigerator to minimize transpiration rate.The laboratory performs stability tests according to MQP 5.14.1 therefore solutions with one and the same bar-code number might have different expiration dates.

Hazardous situation:

The normal laboratory safety precautions should be observed when working with this CRM. Further details for the handling of this CRM are available as safety data sheet.

Level of homogeneity:

This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous.
To ensure sufficient homogeneity of the sample prior to use thoroughly mix by inversion.

Names of certifying officers:

Laboratory: Tihomir Stoyanov

Manager: Krassimira Taralova

This document QF 5.17.1/1 version 1 is designed and the certified value(s) and uncertainty(ies) are determined in accordance with ISO 33401, ISO 33405,and Eurachem / CITAC Guides

This certificate relates solely to the lot number given above.
All processes (including generating of this certificate) are completely controlled by the specialized Computer-Aided-Manufacturing (CAM) software.

This Certified Reference Material was produced under a quality management system that is:
- Registered to ISO 9001 Quality Management System (Lloyd's Register Quality Assurance Ltd Cert No 0039638)
- Accredited according to ISO/IEC 17025
- Accredited according to ISO 17034

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