

# CERTIFICATE OF ANALYSIS

**Catalog No:** M-8061-R1

**Description:** Method 8061 - Phthalate Esters by GC/EC

**Lot:** 215111208

**Solvent:** Hexane

**Hazards:** **HIGHLY FLAMMABLE** - Refer to SDS for safety info

**Date Certified:** Nov 18, 2015

**Expiration:** Nov 18, 2025

**Sample Size:** 1 mL

**Components:** 15

**Storage Condition:** Refriger (0-5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes



Danger 2

Component	CAS #	Purity % (GC/MS)	Prepared Concentration <sup>1</sup> (µg/mL)	Certified Analyte Concentration <sup>2</sup> (µg/mL)
bis(2-n-butoxyethyl)phthalate	117-83-9	96.0	1044*	1002
Benzyl butyl phthalate	85-68-7	98.4	1003	987
Dipentyl phthalate	131-18-0	98.0	1007	987
Dibutyl phthalate	84-74-2	98.4	1005	989
Dicyclohexyl phthalate	84-61-7	100.0	1007	1007
Diethyl phthalate	84-66-2	99.9	1000	999
Diethyl phthalate	84-75-3	99.0	1009	999
Diisobutyl phthalate	84-69-5	100.0	1004	1004
Dimethyl phthalate	131-11-3	98.0	1003	983
Dinonyl phthalate	84-76-4	97.0	1031*	1000
Di-n-octyl phthalate	117-84-0	99.1	1001	992
bis(2-Ethoxyethyl)phthalate	605-54-9	100.0	1004	1004
bis(2-Ethylhexyl)phthalate	117-81-7	99.6	1003	999
bis(2-Methoxyethyl)phthalate	117-82-8	98.0	1000	980
bis(4-Methyl-2-pentyl)phthalate	146-50-9	100.0	1008	1008

\* Weight compensated to 100% purity.

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

<sup>1</sup> All weights are traceable through NIST, Test No. 822-275872-11

<sup>2</sup> Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By: \_\_\_\_\_



Larry Decker, Organic QC Manager

# CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ACLASS Certificate Number AR-1463



ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number AT-1339



ISO 9001:2008 Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.
4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.
5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.
6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.
7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.
8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.
9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide (Quantifying Uncertainty in Analytical Measurement). We have evaluated both Type A (based on a series of observations) and Type B (manufacturers specifications and calibration data) factors and report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula:  $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$ . The expanded uncertainty, U, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. Laboratories accredited to ISO/IEC 17025 and ISO Guide 34 are required to estimate uncertainty budgets associated with the measurements they make. However, for analysis, the certified value should be used as the actual value.
10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.
11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.