



Instructions for Catalog # 728 Organochlorine Pesticides in Soil

Revision 100411

Description:

- This standard is packaged in two flame-sealed ampules each containing 30.0 ± 0.2 grams of soil.
- The two ampules are duplicates with each containing the same standard.
- This standard is not preserved.
- This standard should be stored at $4 \pm 2^\circ\text{C}$.
- This product is intended to be used as a quality control check of the entire analytical process for the analytes/matrix included in the standard.
- The dilution instructions below represent the minimum suggested sample size for this product. Using a smaller sample size may invalidate the assigned value and/or uncertainty shown on the certificate of analysis.
- The standard will contain a subset of the analytes listed in the ERA catalog in the range of 50 to 500 $\mu\text{g}/\text{kg}$.

Helpful Hints:

- Although all ERA soil standards have been thoroughly blended prior to shipping, the standards should be homogenized prior to opening the ampules due to settling which may occur during shipping.

Instructions:

1. Carefully snap the top off of one of the Organochlorine Pesticides ampules in a fume hood to avoid inhalation of dust.
2. Transfer the entire contents of the ampule to the extraction vessel.
3. Use a weight of 30 grams for calculation purposes.
4. Prepare and analyze this standard per your normal analytical procedures.

Safety:

ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. Material Safety Data Sheets (MSDS) for all ERA products are available by calling 1-800-372-0122.

Reference Materials

▪ **Certificate of Analysis** ▪

Product: Organochlorine Pesticides in Soil
Catalog Number: 728
Lot No.: D104-728
Certificate Issue Date: December 20, 2018
Expiration Date: June 23, 2020
Revision Number: Original

Product use instructions are included as part of the certification packet and are paginated separately from this Certificate of Analysis. Please reference the product use instructions for catalog #728 revision 100411.

CERTIFICATION

Parameter	Certified Value ¹	Uncertainty ²	QC Performance	PT Performance
	µg/kg		Acceptance Limits ³	Acceptance Limits ⁴
	µg/kg	%	µg/kg	µg/kg
Aldrin	72.3	0.910	31.6 - 75.9	17.0 - 97.8
alpha-BHC	306	0.874	121 - 330	84.7 - 388
beta-BHC	269	0.994	110 - 299	65.4 - 338
delta-BHC	141	0.994	59.6 - 159	28.6 - 205
gamma-BHC(Lindane)	123	0.974	50.4 - 135	26.1 - 187
alpha-Chlordane	145	0.810	68.4 - 160	48.7 - 184
gamma-Chlordane	169	0.870	81.0 - 186	60.0 - 204
4,4'-DDD	276	0.660	127 - 323	84.8 - 361
4,4'-DDE	462	0.680	225 - 527	157 - 591
4,4'-DDT	160	1.12	66.7 - 190	34.6 - 226
Dieldrin	77.0	0.970	37.7 - 85.5	19.8 - 108
Endrin	139	0.892	66.3 - 170	43.5 - 185
Endrin aldehyde	219	0.848	54.5 - 219	21.9 - 241
Endrin ketone	293	0.666	120 - 322	69.1 - 382
Endosulfan I	385	0.686	98.6 - 385	117 - 468
Endosulfan II	55.6	0.656	15.0 - 55.6	8.27 - 83.2
Endosulfan sulfate	196	0.874	81.1 - 227	38.0 - 274
Heptachlor	127	0.810	55.8 - 142	36.5 - 171
Heptachlor epoxide	244	0.836	117 - 266	84.0 - 310
Methoxychlor	300	0.848	115 - 387	30.0 - 424

ANALYTICAL VERIFICATION

Reference Materials

▪ Certificate of Analysis ▪

1. The **Certified Values** are the actual "made-to" concentrations confirmed by ERA analytical verification. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.
2. The **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation and internal analytical verification of the product by ERA, multiplied by a coverage factor. The uncertainty applies to the product as supplied and does not take into account any required or optional dilution and/or preparations the laboratory may perform while using this product.
3. The **QC Performance Acceptance Limits (QC PALs™)** are based on actual historical data collected in ERA's Proficiency Testing program. The QC PALs™ reflect any inherent biases in the methods used to establish the limits and closely approximate a 95% confidence interval of the performance that experienced laboratories should achieve using accepted environmental methods. Use the QC PALs™ to realistically evaluate your performance against your peers.
4. The **PT Performance Acceptance Limits (PT PALs™)** are calculated using the regression equations and fixed acceptance criteria specified in the NELAC proficiency testing requirements. Use the PT PALs™ when analyzing this QC standard alongside USEPA and NELAC compliant PT standards. Please note that many PT study acceptance limits are concentration dependent (some non-linearly) and, therefore, the acceptance limits of this QC standard and any PT standard may differ relative to their difference in concentrations.
5. The **PT Data/Traceability** data include the mean value, percent recovery and number of data points reported by the laboratories in our Proficiency Testing study compared to the Certified Values. In addition, where NIST Standard Reference Materials (SRMs) are available, each analyte has been analytically traced to the NIST SRM listed. This product is traceable to the lot numbers of its starting materials. All gravimetric and volumetric measurements related to its manufacture are traceable to NIST through an unbroken chain of comparisons.
Traceability Recovery (%) = [(% recovery certified standard)/(% recovery NIST SRM)]*100
The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.
6. For additional information on this product such as intended use, instructions for use, level of homogeneity, and safety information, please refer to the provided Instruction Sheet

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or send an email to info@eraqc.com.

Certifying Officer

Brian Miller

Quality Officer

Matthew Seebeck



ISO/IEC GUIDE 34:2009

ISO/IEC 17025:2005



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