

# Gravimetric Certificate

Dr. Ehrenstorfer



## Product Identification

12950000 Di-n-propyltin-dichloride  
Formula C<sub>6</sub>H<sub>14</sub>Cl<sub>2</sub>Sn  
Mol.Weight 275.79  
CAS No. 867-36-7

## Reference Materials for Residue Analysis

Expiry Date 14.09.2015  
Lot Number 20915IO  
Store at 20°C in the dark

Please note: The expiry date is valid under recommended storage conditions only.

Gravimetric Data				
Product Name		Conc. (mg/l)	Purity %	Weight (mg)
Di-n-propyltin-dichloride		10.000	95.0	1.049
Solvent Information				
Solvent	Lot No.	Exact Quantity (ml)		
Iso-Octane	20612	100.00		
Traceability Data				
12950000 20908	neat product			
12950000 20915IO	10.000 mg/l			
Analytical Data				
Detection: GC/FID	Method Details:			
Column: DB-5, 30 m, ID 0.25 mm	Injector: 320° C			
Inj.-Vol.: 1.00 µl	Start Temperature: 120° C for 4 min			
Flow: 1.0 ml/min	End Temperature: 320° C for 3 min			
Ret.-Time: 12.77 min.	Gradient: 15° C/min			
Identity check RT				
Comment	no chromatogram available GCFID after derivatisation			
The uncertainty/tolerance of this standard is +/- 2.0 %, calculated in accordance with the EURACHEM/CITAC Guide - Quantifying Uncertainty in Analytical Measurement - Second Edition. The uncertainty given is the expanded combined uncertainty and represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The expanded uncertainty is U w hich is Uc(y)*K, w here K is the coverage factor at the 95% confidence level (K=2). The expanded uncertainty is based on the combination of uncertainties associated with each individual operation involved in the preparation of this product.				

Certified on 25.03.2013

by P. Feuerriegel



The Laboratory Labor Dr. Ehrenstorfer-Schäfers is accredited by DGA as indicated by the Accreditation Certificate DGA-PL-4536.00 based on DIN EN ISO/IEC 17025:2005 for the weighing of amounts of substances for the preparation of standard solutions.

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The warranty for this product is limited to the purchasing price of this product.



DGA-PL-4536.00

## 1. Application:

This standard solution is designed for calibration or recalibration of chromatographic systems for the determination of the specified chemical compounds concerning identity and quantification. The product can also be used as reference material for interlaboratory studies to validate analytical procedures.

## 2. Raw material:

All raw materials used to prepare this standard solution are of the highest purity. After our production process each material is checked by several of the following methods, if applicable: UV-, IR-Spectroscopy, Elemental analysis, chromatographical properties (GC/FID, GC/ECD, HPLC/DAD, TLC) and physical properties (phase, colour, odor, melting point) and Karl-Fischer for detection of traces of water.

## 3. Manufacturing:

Prior to the production for each standard solution we calculate the necessary weight of the neat material, compensate the difference of the purity of the compound to 100%. We use an electronic scale capable of weighing to 0,000001 g with a built in automatic calibration function, which is executed minimum once a week. Once a month the balance is calibrated with weights complying with the OIML-IR-20 design requirements and traceable to the national prototype of the Physikalisch-Technische Bundesanstalt, Braunschweig, the German office of weights and measurements. Every year the balance is calibrated by the manufacturer service technician. This company is also certified by the DQS following ISO9001. All steps are documented conform to ISO 9001 requirements. The single components are weighed and filled into volumetric flask (class A glassware) with the exact quantity of solvent as indicated on the certificate. Solvents are stored and handled in special rooms, which have the constant ambient temperature required from the manufacturer of the volumetric equipment. The tolerance of the weighing procedure and the dilution error adds to a maximum of +/- 1.0 %.

## 4. Packaging and Storage:

The final formulation was packaged in amber OPC ampoules to prevent photodegradation and then sealed by hand. Every reference material is stored under controlled condition. One sample of each lot is kept according GLP rules to bring our staff in a position to check the specific lot even years after the last item was sold.

## 5. Stability:

In regular intervals each lot is checked for stability. We guarantee the stability of the solution until expiry date given in the Gravimetric Certificate. In case, that the tests show a degradation within the period the customer will be notified by Dr. Ehrenstorfer. We recommend to store the ampoules in the dark at 20°C +/- 4°C

## 6. Gravimetric Certificate:

The documentation gives all the data of the production process with all the information necessary for traceability of each lot. Following GLP rules you are obliged to note the used product, lot number of the product, purity, exact weight/quantity of the product, name of the solvent, lot number of the solvent, exact quantity of the solvent, date of production, date of expiry and signature of the person in charge. Copies have to be authorized by stamp, signature of the person in charge according to your quality management handbook and date of authorization.

## 7. Analytical Quality Control:

The summary of the quality control procedure is documented in the separate Certificate of Analysis. Our company holds the Quality System Certificate DQS-Reg.No.:2874-01 for the standard from the ISO 9001 / EN 29000 series and the scope as specified. The audit performed by the DQS has verified, that our quality system fulfills the requirements of DIN ISO 9001. The Laboratory Dr. Ehrenstorfer-Schäfers is accredited by DGA as indicated by the Accreditation Certificate DGA-PL-4536.00 based on DIN EN ISO/IEC 17025:2005 for the weighing of amounts of substances for the preparation of standard solutions.



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