

Gravimetric Certificate

Dr. Ehrenstorfer

Product Identification

05000108 VOC-Mix 108

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

Reference Materials for Residue Analysis

Expiry Date 21.11.2014

Lot Number 40221ME

Store at 20°C in the dark

Gravimetric Data							
Product Name	CAS	Final Conc. (mg/l)	Lot. No.	Purity (%) Conc. (mg/l)	Weight/Volume	RT (min.)	
1 Bromochloromethane	74-97-5	100.000	40113ME	20000.000	0.500 ml	2.25	
2 Bromodichloromethane	75-27-4	100.000	40114ME	20000.000	0.500 ml	3.33	
3 Chlorobenzene	108-90-7	100.000	30802ME	20000.000	0.500 ml	7.42	
4 Dibromochloromethane	124-48-1	100.000	40113ME	20000.000	0.500 ml	5.77	
5 Dibromomethane	74-95-3	100.000	40113ME	20000.000	0.500 ml	3.33	
6 1,2-Dichlorobenzene	95-50-1	1000.000	40121ME	20000.000	5.000 ml	11.72	
7 1,3-Dichlorobenzene	541-73-1	1000.000	30718ME	20000.000	5.000 ml	12.40	
8 1,1-Dichloroethane	75-34-3	1000.000	40113ME	20000.000	5.000 ml	2.05	
9 1,2-Dichloroethane	107-06-2	1000.000	30304ME	20000.000	5.000 ml	2.61	
10 1,1-Dichloroethene	75-35-4	1000.000	40113ME	20000.000	5.000 ml	1.78	
11 cis-1,2-Dichloroethene	156-59-2	1000.000	40121ME	20000.000	5.000 ml	2.25	
12 trans-1,2-Dichloroethene	156-60-5	1000.000	40113ME	20000.000	5.000 ml	1.98	
13 Dichloromethane	75-09-2	1000.000	30204ME	20000.000	5.000 ml	1.83	
14 1,2-Dichloropropane	78-87-5	1000.000	30730ME	20000.000	5.000 ml	3.33	
15 1,3-Dichloropropane	142-28-9	1000.000	30104ME	20000.000	5.000 ml	5.40	
16 Hexachloro-1,3-butadiene	87-68-3	100.000	40121ME	20000.000	0.500 ml	18.75	
17 1,1,1,2-Tetrachloroethane	630-20-6	100.000	30104ME	20000.000	0.500 ml	7.50	
18 1,1,2,2-Tetrachloroethane	79-34-5	100.000	30205ME	20000.000	0.500 ml	9.26	
19 Tetrachloroethene	127-18-4	50.000	40130ME	1000.000	5.000 ml	6.33	
20 Tetrachloromethane	56-23-5	50.000	30312ME	1000.000	5.000 ml	2.81	
21 Tribromomethane	75-25-2	100.000	40113ME	20000.000	0.500 ml	8.46	
22 1,1,1-Trichloroethane	71-55-6	100.000	30219ME	20000.000	0.500 ml	2.61	
23 1,1,2-Trichloroethane	79-00-5	100.000	40121ME	20000.000	0.500 ml	5.02	
24 Trichloroethene	79-01-6	100.000	30219ME	20000.000	0.500 ml	3.33	
25 Trichloromethane	67-66-3	100.000	30304ME	20000.000	0.500 ml	2.25	

Solvent Information

Solvent	Lot No.	Exact Quantity (ml)
Methanol	30727	100.00

Analytical Data

Detection: GC/MSD

Column: DB-5, 30 m, ID 0.25 mm

Inj.-Vol.: 1.00 µl

Flow: 1.0 ml/min

Method Details:

Injector: 100° C

Start Temperature: 40° C for 5 min

End Temperature: 100° C for 6 min

Gradient: 15° C/min

Identity check RT, MS

Comment short expiry - for immediate use only

The uncertainty/tolerance of this standard is +/- 10.0 %, 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 which is $Uc(y) \cdot K$, where 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.

The Laboratory Labor Dr. Ehrenstorfer-Schäfers is accredited by DAkkS as indicated by the Accreditation Number D-RM-14174-01 has shown competence based on ISO Guide 34:2009 with relevant parts of DIN EN ISO/IEC 17025:2005 for production of certified reference materials in form of organic pure substances and in form of single and multi-component solutions organic pure substances.

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

Certified on 14.03.2014

by P. Feuerriegel



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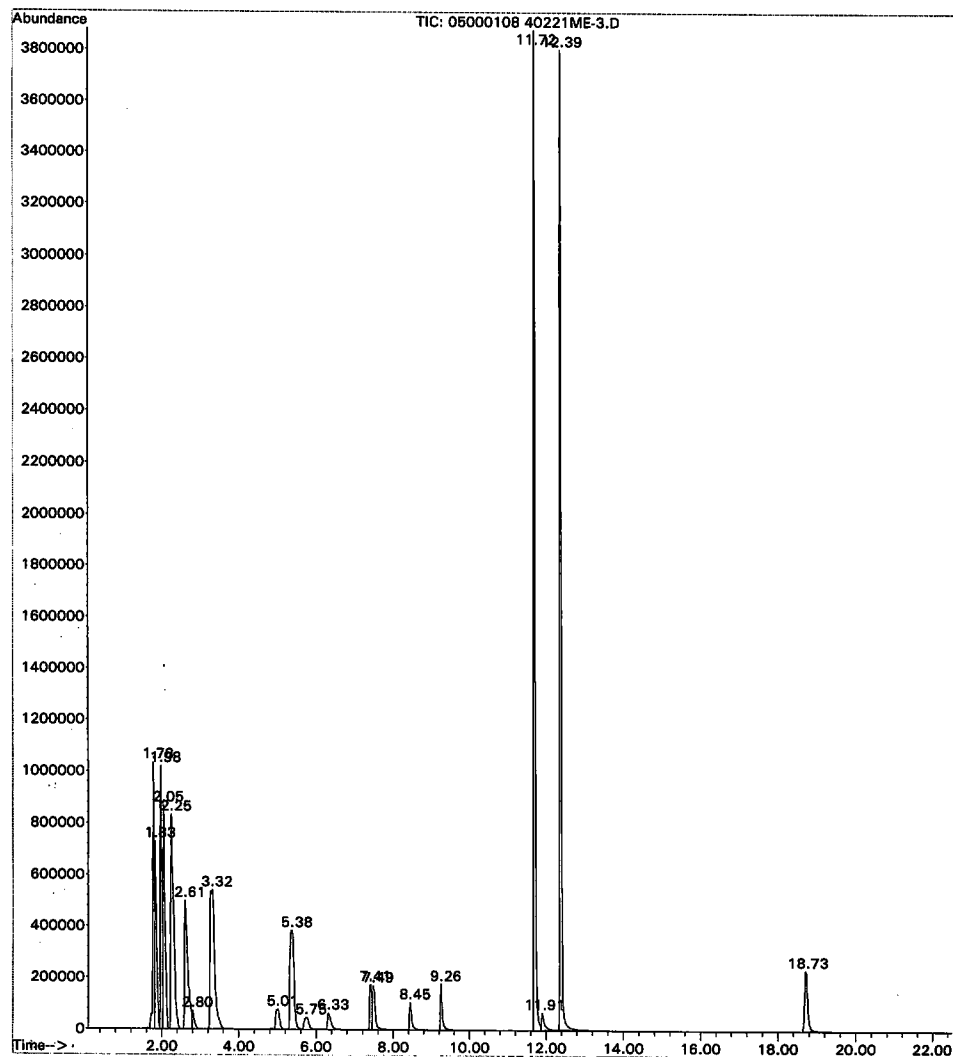
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28.2.1460

File :D:\2014\05000108 40221ME-3.D
Operator : NM
Acquired : 26 Feb 2014 16:03 using AcqMethod 1001.M
Instrument : Instrument #1
Sample Name: VOC-Mix 108, 100_L
Misc Info :
Vial Number: 11



Dr. Ehrenstorfer

Reference Materials for
Residue Analysis

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, GC/MSD, HPLC/DAD, HPLC/MSD, 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 ISO 9001. 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 glass ampoules and then sealed to prevent photodegradation and evaporation. Every reference material is stored under controlled condition. One sample of each lot is kept according to GLP rules to allow a recheck of 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 the date of expiry given on the Gravimetric Certificate. In case, that the tests show a degradation within the shelf life 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.

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