

# Gravimetric Certificate

Dr. Ehrenstorfer



## Product Identification

13545000 (E)-Fenpyroximate  
Formula C<sub>24</sub>H<sub>27</sub>N<sub>3</sub>O<sub>4</sub>  
Mol.Weight 421.5  
CAS No. 134098-61-6

## Reference Materials for Residue Analysis

Expiry Date 24.09.2015  
Lot Number 20925CY  
Store at 20°C in the dark

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

Gravimetric Data		Conc. (mg/l)	Purity %	Weight (mg)
Product Name	(E)-Fenpyroximate	100.000	99.0	1.006
Solvent Information		Exact Quantity (ml)		
Solvent	Lot No.			
Cyclohexane	20730	10.00		
Traceability Data				
13545000 20815	neat product			
13545000 20925CY	100.000 mg/l			
Analytical Data				
Detection: HPLC/DAD	Method Details:			
Column: ReproSil 100 C18 5µ 250x3	Acetonitrile:H <sub>2</sub> O 9:1			
Inj.-Vol.: 10.00 µl				
Flow: 0.5 ml/min				
Ret.-Time: 5.90 min.				
Identity check UV, RT				
Comment				
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 which is Uc(y)*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.				

Certified on 16.10.2012  
by C. Neukom



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.

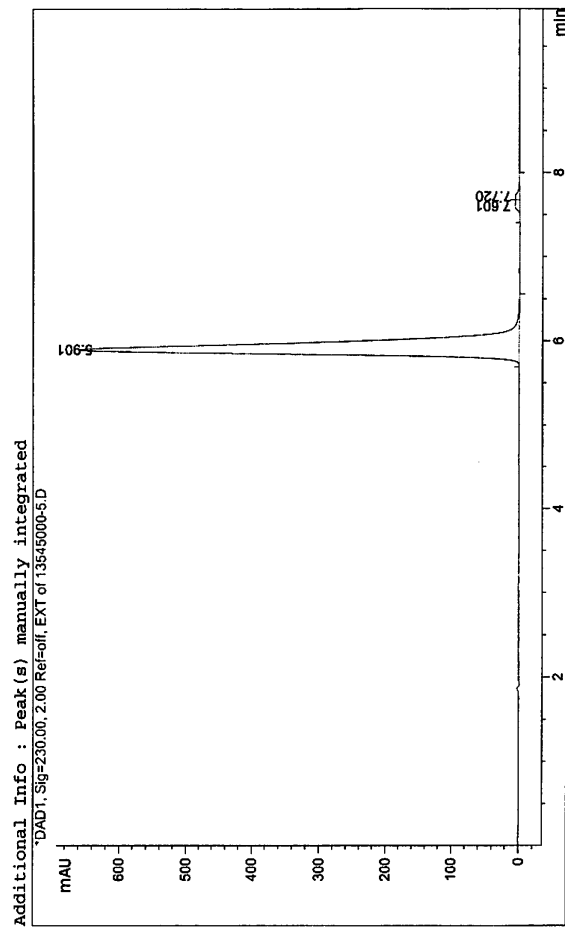


17.10.12  
 3-5

**Dr. Ehrenstorfer**  
 Reference Materials for  
 Residue Analysis

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Acq. Operator   : Dr. Heidrich
Acq. Instrument : DAD1
Injection Date  : 12.10.2012 16:18:44
Inj Volume     : 10.000 µl
Acq. Method    : D:\CHEM32\1\METHODS\91.M
Last changed   : 24.09.2012 08:42:03 by Dr. Heidrich
Analysis Method : V:\DAD1\METHODS\91.M
Last changed   : 24.09.2012 08:42:03 by Dr. Heidrich
Method Info    : Acetonitrile : Water 9:1
Sample Info    : (E) - Fenpyroximate
  
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Area Percent Report
=====
Sorted By      : Retention Time
Multiplier    : 1.0000
Dilution      : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: DAD1, Sig=230.00, 2.00 Ref=off, EXT
Signal has been modified after loading from rawdata file!

=====
Peak RetTime Sig Type Area Height Area
# [min] ----- [mAU*s] [mAU] %
-----
1 5.901 1 BB 5854.77588 659.48444 98.4036
2 7.720 1 BV 52.77369 7.56693 0.8870
3 7.720 1 VB 42.20995 6.59761 0.7094
-----
Totals : 5949.75951 673.64898
  
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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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