

PESTICIDE FORMULATION & RESIDUE ANALYTICAL CENTRE, PMD, NIPHM, HYDERABAD

Sr. No. in Scope

NABL / NON NABL

Flow chart for analysis of Fenvalerate in formulation sample

		Date of Analysis		
S.No.	Step	Execution	Executed By	
1.	Sample No.			
2.	Name of Sample			
3.	Procedure			
3.1	Preparation of Internal Standard			
3.1.1	Weigh 0.5 g of Di (2-ethylhexyl) Phthalate (DOP) in a 100 mL volumetric flask.	g		
3.1.2	<i>Note down the S.No. of balance log book</i>			
3.1.3	Dissolve and dilute up to the mark with chloroform			
3.2	Preparation of Standard Solution			
3.2.1	Purity of standard	%		
3.2.2	Weight 0.075 g standard in a 50 mL volumetric flask	g		
3.2.3	<i>Note down the S.No. of balance log book</i>			
	Add 5 mL of internal standard solution (3.1.3)	mL		
3.2.4	Make up to the mark with chloroform			
3.3	Preparation of Sample Solution			
3.3.1	Note down the percent active ingredient content declared on the sample	%		
3.3.2	Weigh sample so as to contain 0.075 g a. i. in a 50 mL volumetric flask	g		
3.3.3	<i>Note down the S.No. of balance log book</i>			
	Add 5 mL of internal standard solution (3.1.3)			
3.3.4	Make up to the mark with chloroform.			
4.	GC Parameters			
4.1	Column : SS packed with 5 % OV 101 on chromosorb WHP (80-100) mesh			
4.1.1	Length: 50 cm			
4.1.2	I.D: 0.3 mm			
4.2	Gas			
4.2.1	Carrier: Nitrogen: 30 mL/min			
4.2.2	Hydrogen: 45 mL/min			
4.2.3	Air: 450 mL/min			
4.3	Temperatures			
4.3.1	Oven: 240°C			

Name of the Laboratory :		Pesticide Formulation & Residue Analytical Centre, PMD, NIPHM, Hyderabad			
Document No.	:	FC-PF-205	Document Name	:	Flow chart for analysis of Fenvalerate content, % by mass
Revision No.	:	01	Issue Date	:	01/07/2011
Revision Date	:	1/7/2013	Next Revision Date	:	01/07/2015
Prepared By		Checked By		Approved & Issued By	
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4.3.2	Injector:	260°C		
4.3.3	Detector:	280°C		
4.4	Injection Volume:	1 µl		
5.	Result			
	Sample chromatogram no			
	Standard chromatogram no			

6. CALCULATION:

$$\text{Fenvalerate content, \% by mass} = \frac{A_1 \times A'IS'_2 \times M_1}{A'IS'_1 \times A_2 \times M_2} \times P$$

Where,

- A_1 = Peak area of fenvalerate in the sample solution
 $A'IS'_1$ = Peak area of internal standard in the sample solution
 $A'IS'_2$ = Peak area of internal standard in the standard solution
 A_2 = Peak area of fenvalerate in the standard solution
 M_1 = Mass in 'g' of standard fenvalerate in the standard solution
 M_2 = Mass in 'g' of fenvalerate sample taken for test
 P = Percent purity of fenvalerate standard

Result:

S1 No.	Name of test	Result	Unit	Method of Analysis
1.	Active ingredient		%	IS: 12003 - 1987

Remark / Reference:

Analyzed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

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