

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

Sr. No. in Scope

NABL / NON NABL

Flow chart for analysis of Lambda Cyhalothrin content in formulation sample

Date of Analysis

Sl. No.	Step	Execution	Executed By
1.	Sample No.		
2.	Name of Sample		
3.	Procedure		
	3.1 Preparation of Internal Standard		
3.1.1	Weight of 2,6-Dinitrotoluene taken in 1000 ml volumetric flask	g	
3.1.2	Dissolve and dilute up to the mark with hexane		
	3.2 Preparation of Standard		
3.2.1	Standard weight taken in 50/25 ml volumetric flask	g	
3.2.2	Purity of standard	%	
3.2.3	Add internal standard solution (3.1.2)	ml	
3.2.4	Dilute up to the mark with hexane		
3.2.5	Take the solution (3.2.4) to a 50/25 ml volumetric flask	ml	
3.2.6	Dilute up to the mark with hexane		
	3.3 Preparation of Sample		
3.3.1	Weight of the sample taken	g	
3.3.2	Dissolve in about 50/25 ml of hexane		
3.3.3	Add internal standard solution (3.1.2)	ml	
3.3.4	Dilute up to the mark with hexane		
3.3.6	Take the solution (3.3.4) to a 50/25 ml volumetric flask	ml	
3.3.7	Dilute up to the mark with hexane		
4.	HPLC Parameters		
	4.1 Column		
4.1.1	Stainless Steel packed with Partisil Silica 5 μ		
4.1.2	Length: 25 cm		
4.1.3	I.D.: 4.5 mm		
	4.2 Mobile Phase		
4.2.1	Hexane : Tetrahydrofuran (99.5 : 0.5)		
4.2.2	Flow Rate: 1.5 ml/min		
	4.3 Detector: UV		
	4.4 Wave Length: 235 nm		
	4.6 Injection Volume: 20 μ l		
5.	Result		
	Sample chromatogram no.		
	Standard chromatogram no.		

Name of the Laboratory : Pesticide Formulation & Residue Analytical Centre, PMD, NIPHM, Hyderabad			
Document No.	:	FC-PF-217	Document Name : Flow chart for analysis of Lamda-cyhalothrin content, % by mass
Revision No.	:	00	Issue Date : 01/07/2011
Revision Date	:		Next Revision Date : 01/07/2013
Prepared By		Checked By	Approved By
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6. Calculation:

$$\text{Lambda-cyhalothrin content, \% by mass} = \frac{A_2 \times A_3 \times M_1}{A_1 \times A_4 \times M_2} \times P$$

Where,

- M_1 = Mass in 'g' of lamda-cyhalothrin standard
 M_2 = Mass in 'g' of sample taken for test
 A_1 = Peak area of lamda-cyhalothrin in the standard solution
 A_2 = Peak area of lamda-cyhalothrin in the sample solution
 A_3 = Peak area of internal standard in the standard solution
 A_4 = Peak area of internal standard in the sample Solution
 P = Percent purity of lamda-cyhalothrin in the standard

Result:

Sl. No.	Name of test	Result	Unit	Method of Analysis
1.	Active ingredient		%	IS 12005:1987
Remark / Reference :				

Analyzed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

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