

## PESTICIDE FORMULATION &amp; RESIDUE ANALYTICAL CENTRE, PMD, NIPHM, HYDERABAD

Sr. No. in Scope

NABL /NON NABL

**Flow chart for analysis of Lindane content in formulation sample**

Date of Analysis

Sl. No.	Step	Execution	Executed By
1.	Sample No.		
2.	Name of Sample		
3	<b>Procedure</b>		
	<b>3.1 Preparation of Internal Standard</b>		
3.1.1	Weight of the alpha-naphthol taken into a 100 ml volumetric flask	g	
3.1.2	Dissolve and dilute up to the mark with acetone		
	<b>3.2 Preparation of Standard</b>		
3.2.1	Weight of the standard taken into 100 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 acetone		
	<b>3.3 Preparation of Sample</b>		
3.3.1	Weight of the sample taken into 50 ml volumetric flask	g	
3.3.2	Add internal standard solution (3.1.2)	ml	
3.3.3	Dilute up to the mark with acetone		
4.	<b>GC Parameters</b>		
	<b>4.1 Column</b>		
4.1.1	Borosilicate Glass tube, packed with 5% OV-210 on chromosorb WHP (100 - 120) mesh		
4.1.2	Length: 183 cm		
4.1.3	I.D.: 4 mm		
	<b>4.2 Gas</b>		
4.2.1	Carrier: Nitrogen: 25 ml/min or 30 ml/min		
4.2.2	Hydrogen: 45 ml/min		
4.2.3	Air: 450 ml/min		
	<b>4.3 Temperature</b>		
4.3.1	Oven: 160 <sup>o</sup> C		
4.3.2	Injector: 220 <sup>o</sup> C		
4.3.3	Detector: 240 <sup>o</sup> C		
	<b>4.4 Injection volume:</b> 2 µl		
	<b>4.5 Range:</b>		
	<b>4.6 Attenuation:</b>		
5.	<b>Results</b>		
	Sample chromatogram no.		
	Standard chromatogram no.		

Name of the Laboratory : <b>Pesticide Formulation &amp; Residue Analytical Centre, PMD, NIPHM, Hyderabad</b>			
Document No.	:	FC-PF-219	Document Name : Flow chart for analysis of Lindane content, % by mass
Revision No.	:	00	Issue Date : 01/07/2011
Revision Date	:	01/07/2015	Next Revision Date : 01/07/2013
Prepared By		Checked By	Approved By
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			Issued By
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**PESTICIDE FORMULATION & RESIDUE ANALYTICAL CENTRE, PMD, NIPHM, HYDERABAD****6. Calculation:**

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

**Where,**

- $A_1$  = Peak area of lindane 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 lindane in the standard solution  
 $M_1$  = Mass in 'g' of standard lindane in the standard solution  
 $M_2$  = Mass in 'g' of lindane sample taken for test  
 $P$  = Percent purity of lindane standard

**Result:**

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

Analyzed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

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