FC-PF-204

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

Sr. No. in Scope

NABL / NON NABL

Flow chart for analysis of Cypermethrin 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 Solution**		
3.1.1	Weigh 2.0 g of Di-cyclohexyl Phthalate (DCP) in 100 ml volumetric flask	g	
3.1.2	*Note down the S.No. of balance log book*		
3.1.3	Dissolve and dilute up to the mark with toluene		
3.2	**Preparation of Standard Solution**		
3.2.1	Purity of standard	%	
3.2.2	Weigh 0.375 g a.i. of the standard in a 25 ml volumetric flask	g	
3.2.3	*Note down the S.No. of balance log book*		
3.2.4	Add 10 ml of internal standard solution (3.1.3)	ml	
3.2.5	Dilute up to the mark with toluene		
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 0.375 g a.i. in a 25 ml volumetric flask	g	
3.3.3	*Note down the S.No. of balance log book*		
3.3.4	Add 10 ml of internal standard solution (3.1.3)	ml	
3.3.5	Dilute up to the mark with toluene		
4.	**GC Parameters**		
4.1	**Column:** Packed with 3 % Dexil 300 on Chromosorb WHP (100 - 120) mesh		
4.1.1	**Length x I.D:** 90 cm x 3 mm		
4.2	**Gas**		
4.2.1	Carrier: Nitrogen: 40 ml/min		
4.2.2	Hydrogen: 45 ml/min		
4.2.3	Air: 450 ml/min		
4.3	**Temperature**		
4.3.1	Oven: 240°C		
4.3.2	Injector: 270°C		
4.3.3	Detector: 270°C		
4.4	**Injection Volume**: 1 µl		
5.	**Result**		
	Sample chromatogram no.		
	Standard chromatogram no.		

Name of the Laboratory :	**Pesticide Formulation & Residue Analytical Centre, PMD, NIPHM, Hyderabad**				
Document No.	:	FC-PF-204	Document Name	:	Flow chart for analysis of Cypermethrin content, % by mass
Revision No.	:	01	Issue Date	:	01/07/2011
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Prepared By	Checked By	Approved By & Issued By
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6. CALCULATION:

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

Where,

A_1 = Peak area of cypermethrin 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 cypermethrin in the standard solution

M_1 = Mass in 'g' of standard cypermethrin in the standard solution

M_2 = Mass in 'g' of sample taken for test

P = Percent purity of cypermethrin standard

Result:

SI.No.	Name of test	Result	Unit	Method of Analysis
1.	Active ingredient		%	12015 - 1987 (Reaffirmed 2002)
Remark / Reference :				

Analyzed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

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