

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

Sr. No. in Scope

NABL / NON NABL

Flow chart for analysis of Acetamiprid content in formulation sample

Date of Analysis	
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S. No.	Step	Execution		Executed by
		R ₁	R ₂	
1.	Sample No.			
2.	Name of Sample			
3.	Procedure			
3.1.	Preparation of Mobile Phase			
3.1.1.	Mix acetonitrile, water and 10% Ortho phosphoric acid in the proportion of 60:38:2 (v/v)			
3.1.2.	Pass through the membrane filter under vacuum.			
3.1.3.	Homogenize the mixture using the magnetic stirrer.			
3.1.4.	Allow to attain room temperature.			
3.2	Preparation of Internal Standard Solution			
3.2.1	Weigh 0.45g of Acetophenone in 100 ml volumetric flask	g	g	
3.2.2	<i>Note the serial No. of the balance log book</i>			
3.2.3	Dissolve and dilute up to the mark with acetonitrile			
3.3	Preparation of standard solution			
3.3.1	Note the purity of the standard	%	%	
3.3.2	Weigh 0.025 g a.i. of Standard in a 50 ml volumetric flask	g	g	
3.3.3	<i>Note the serial No. of the balance log book</i>			
3.3.4	Add 5ml of internal standard solution (3.2.3)	mL	mL	
3.3.5	Dilute up to the mark with acetonitrile (Stock A)			
3.3.6	Pipette out 2 mL of Stock A (3.3.5) into a 25 mL volumetric flask			
3.3.7	Dilute up to the mark with acetonitrile			
3.4	Preparation of sample solution			
3.4.1	Note the percent active ingredient content declared on sample	%	%	
3.4.2	Weigh 0.025 g a.i. of the sample in 50 ml volumetric flask	g	g	
3.4.3	<i>Note the serial No. of the balance log book</i>			
3.4.4	Add 5ml of internal standard solution (3.2.3)	ml	ml	
3.4.5	Dilute up to the mark with acetonitrile (Stock B)			
3.4.6	Pipette out 2ml of Stock B (3.4.5) into a 25ml volumetric flask			
3.4.7	Dilute up to the mark with acetonitrile			

Name of the Laboratory : Pesticide Formulation & Residue Analytical Centre, PMD, NIPHM, Hyderabad			
Document No.	: FC-PF-216	Document Name	: Flow chart for analysis of Acetamiprid content, % by mass
Revision No.	: 03	Issue Date	: 01/07/2011
Revision Date	: 16/02/2015	Next Revision Date	: 16/02/2016
Prepared By	Checked By	Approved By	Issued By
Ms. T. Sridevi (Deputy Quality Manager)	Dr. Nirmali Saikia (Technical Manager)	Dr. Abhay Ekbote (Director PM)	Mr. C. V. Rao (Quality Manager)

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3.4.8	Filter the sample solution through 0.45µ membrane filter			
4.	HPLC Parameters			
4.1	Column			
4.1.1	C ₁₈ , Particle Size: 5µ			
4.1.2	Length: 250 mm			
4.1.3	I.D.: 4.6 mm			
4.2	Mobile Phase			
4.2.1	Acetonitrile : Water : 10% Phosphoric acid (60:38:2)			
4.2.2	Flow Rate : 1 ml/min			
4.3	Detector: UV			
4.4	Wave Length: 250 nm			
4.5	Injection Volume: 20 µl			
5.	Result			
	Sample chromatogram no.			
	Standard chromatogram no.			

6. Calculation:

$\text{Acetamiprid content, \% by mass} = \frac{A_2 \times A_3 \times M_1}{A_1 \times A_4 \times M_2} \times P$	<p>Where,</p> <p>M₁ = Mass in 'g' of acetamiprid standard M₂ = Mass in 'g' of sample taken for test A₁ = Peak area of acetamiprid in the standard solution A₂ = Peak area of acetamiprid in the sample solution A₃ = Peak area of internal standard in the standard solution A₄ = Peak area of internal standard in the sample solution P = Percent purity of acetamiprid standard</p>
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Calculation for R₁

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Calculation for R₂

Sr. No.	Name of test	Result	Unit	Method of Analysis
1.	Active ingredient		%	CIBRC approved method
Remark / Reference :				

Analyzed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

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