

Flow Chart for Analysis of Phorate Content in Formulation sample

		Date of Analysis			
Sl. No.	Step	Execution		Executed By	
1.	Sample No.				
2.	Name of Sample				
3.	Procedure	R₁	R₂		
3.1	Preparation of Internal Standard Solution:				
3.1.1	Weigh 1.0 g of Di-n-butyl Phthalate (DBP) in a 100 ml volumetric flask.	g	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 acetone.				
3.2	Preparation of Standard Solution:				
3.2.1	Purity of standard	%	%		
3.2.2	Weigh 0.1 g a. i. of standard in a 50 ml volumetric flask.	g	g		
3.2.3	Add 5 mL of internal standard solution (3.1.3).	ml	ml		
3.2.4	Dilute up to the mark with acetone and shake well.				
3.3	Preparation of Sample Solution:				
3.3.1	Note down the percent active ingredient content declared on the sample.				
3.3.2	Weigh 25 g of sample in a 100 ml beaker .	g	g		
3.3.3	<i>Note down the S. No. of balance log book .</i>				
3.3.4	Transfer the sample quantitatively with acetone into a 250 mL stoppered conical flask.				
3.3.5	Extract the sample using 150 mL of acetone on a mechanical shaker for 15 min.				
3.3.6	Filter the supernatant through a filter paper into a 250 mL volumetric flask.				
3.3.7	Make the volume up to the mark with acetone and mix well (Stock A).				
3.3.8	Pipette out 10 ml of Stock A (3.3.7) into a 50 ml volumetric flask.				
3.3.9	Add 5 mL of internal standard solution (3.1.3).	ml	ml		
3.3.10	Dilute up to the mark with acetone and mix well				
4.	GC Parameters				
4.1	Column : Packed with 5% SE -30 on Chromosorb WHP (80-100) mesh				
4.1.1	Length: 100 cm				
4.1.2	I.D: 2 mm				
4.2	Gas				

Name of the Laboratory : **Pesticide Formulation & Residue Analytical Centre, PMD, NIPHM, Hyderabad**

Document No.	:	FC-PF-203	Document Name	:	Flow chart for analysis of Phorate content, % by mass
--------------	---	-----------	---------------	---	---

Revision No.	:	02	Issue Date	:	01/07/2011
--------------	---	----	------------	---	------------

Revision Date	:	26/032014	Next Revision Date	:	26/032016
---------------	---	-----------	--------------------	---	-----------

Prepared by

Checked by

Approved & Issued by

Mrs. T. Sridevi
(Deputy Technical Manager)Mr. C.V. Rao
(Technical Manager)Dr. Abhay Ekbote
(Director PM & Quality Manager)

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

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: 170°C			
4.3.2	Injector: 210°C			
4.3.3	Detector: 250°C			
4.4.	Injection volume: 1 µl			
5.	Results			
	Sample chromatogram no.			
	Standard chromatogram no.			

6. Calculation:

Phorate 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 phorate 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 phorate in the standard solution
 M_1 = Mass in 'g' of phorate in standard solution
 M_2 = Mass in 'g' of phorate sample taken for test
 P = Percent purity of phorate standard

Result:

Sl. No.	Name of test	Result	Unit	Method of Analysis
1.	Active ingredient		%	By GLC

Remark / Reference :

Analyzed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

Name of the Laboratory : Pesticide Formulation & Residue Analytical Centre, PMD, NIPHM, Hyderabad					
Document No.	:	FC-PF-203	Document Name	:	Flow chart for analysis of Phorate content, % by mass
Revision No.	:	02	Issue Date	:	01/07/2011
Revision Date	:	26/032014	Next Revision Date	:	26/032016
Prepared by		Checked by		Approved & Issued by	
Mrs. T. Sridevi (Deputy Technical Manager)		Mr. C.V. Rao (Technical Manager)		Dr. Abhay Ekbote (Director PM & Quality Manager)	