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

Sr. No. in Scope NABL / NON NABL

Flow Chart for analysis of Alpha Naphthyl Acetic Acid in formulation

Date of Analysis	

Sl. No.	Step	Execution		Executed By
1.	Sample No.			
2.	Name of Sample			
2.1	Sample description			
3.	**Procedure**	**R_1**	**R_2**	
3.1	**Preparation of Standard solutions 0 .1 N NaOH**			
3.1.1	Weigh 4 g of NaOH and dissolve in water to get 1L standard solution.	g	g	
3.1.2	Note the serial No. in balance logbook			
4.	**Standardization of NaOH:**			
4.1	Weigh 0.42-0.45 g of GR grade Potassium Hydrogen Phthalate in a 250 mL conical flask	g	g	
4.2	*Note the serial No. of balance logbook*			
4.3	Dissolve in 40-50 mL of H_20			
4.4	Titrate against 0.1N NaOH solution in burette using phenolphthalein indicator			
4.5	End point will be colorless to pale pink			
4.6	Titre value for standardization	mL	mL	
5.	**Preparation of Buffer solution**			
5.1	Weigh 2.035 g of Citric acid and 2.924 g of Disodium hydrogen phosphate.	g	g	
5.2	*Note the serial No. of balance logbook*			
5.3	Dissolve in water and make up the volume to 200 mL with water			
6.	**Procedure for Alpha NAA**			
6.1	Weigh about 10 g of sample.	g	g	
6.2	*Note the serial No. of balance logbook*			
6.3	Evaporate the solvent on a water bath to get dry residue of the sample.			
6.4	Add 5 mL water to dissolve the dry residue.			
6.5	Add 50 mL of buffer solution (5.3) and stir.			
6.6	Transfer the solution to a separating funnel quantitatively using 50 mL of Diethyl ether			
6.7	Swirl the mixture and allow the layers to separate.			
6.8	Transfer the aqueous layer to another 250 mL separating funnel and extract with 25 mL of ether twice.			

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6.9	Collect the ether layers of all the three separating funnels into one.			
6.10	Wash the ether layer with water to remove any traces of mineral acid			
6.11	Transfer ether extract to a 500 mL beaker and evaporate to dryness on water bath.			
6.12	Dissolve the residue in 50 mL neutralized methanol and titrate with standard0.1 N NaOH solution using phenolphthalein indicator			
6.13	End point for titration is when the color changes from colorless to pale pink.	mL	mL	

7. Calculation:

$$\text{Normality of NaOH} = \frac{\text{Wt. of KHP X 1000}}{\text{Volume of NaOH consumed X Eq. wt of KHP(204.22)}}$$

Active ingredient, = % by mass $\frac{V \times N \times 18.62}{M}$	Where, V=Volume in mL of standard NaOH solution consumed for the sample N=Normality of the standard NaOH solution M=Mass in g of the sample taken for test

Result:

Sl. No.	Name of Test	Result	Unit	Method of Analysis
1.	Active ingredient (Alpha NAA)		%	IS 13138:1991
Reference in Daily workbook:				

Analyzed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

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