

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

Sr. No. in Scope

NABL / NON NABL

Flow chart for estimation of Endosulfan content in formulation sample

		Date of Analysis	
SI No.	Step	Execution	Executed By
1.	Sample No.		
2.	Name of Sample		
3.	Procedure		
3.1.1	Weigh accurately equivalent to 0.5 g of sample in 500 ml round Flask	g	
3.1.2	Add 100 ml methanol		
3.1.3	Add 1.5 g (15-16) pellets of NaOH and boiling chips, connect the flask for reflux		
3.1.4	Boil it for 2 hrs and then cool to room temperature		
3.1.5	Wash the condenser with 20 ml methanol and 50 ml distilled water. And then remove flask		
3.1.6	Add 25 ml standard potassium iodate solution (0.025 M)		
3.1.7	Add 20 ml (10 %) potassium iodide (KI) solution		
3.1.8	Add 25 ml of (5 N) sulphuric acid and keep the flask in cold water		
3.1.9	Titrate the liberated iodine against sodium thiosulphate solution to pale yellow colour. Add 1 ml of starch indicator solution (1%), and continue titration		
3.1.10	End point will be blue to colorless		
3.1.11	Note the volume of sodium thiosulphate consumed	ml	
4.	Preparation of Blank		
4.1.1	Pipette out 25 ml standard potassium iodate (KIO ₃) solution in 500 ml conical flask		
4.1.2	Add 20 ml (10%) potassium iodide (KI) solution		
4.1.3	Add 25 ml of (5 N) sulphuric acid; the flask should keep in water bath.		
4.1.4	Titrate the liberated iodine immediately against sodium thiosulphate solution to pale yellow colour. Add 1 ml of starch indicator solution (1%), and continue titration		
4.1.5	End point will be blue to colorless		
4.1.6	Note the volume of sodium thiosulphate consumed	ml	

Document No.	:	FC-PF-201	Document Name	:	Flow chart for analysis of Endosulfan content, % by mass
Revision No.	:	00	Issue Date	:	01/07/2011
Revised Date	:	-	Next Revision Date	:	01/07/2013
Prepared by		Checked by		Approved by	
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				Issued by	
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5. Calculation:

$$\text{Endosulfan content, \% by mass} = \frac{20.35 \times t \times n}{M}$$

Where,

$$t = (V_1 - V_2) \text{ ml}$$

V_1 = Volume of standard sodium thiosulphate solution consumed by blank

V_2 = Volume of standard sodium thiosulphate solution consumed by sample

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

n = Normality of sodium thiosulphate solution

20.35 = factor for endosulfan

Result:

Sl .No.	Name of test	Result	Unit	Method of Analysis
1.	Active ingredient		%	Volumetric Analysis (IS- 4344 : 1978)

Remark / Reference :

Analysed by	Name	
	Dated signature	
Checked by	Name	
	Dated signature	

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