

CERTIFICATE OF ANALYSIS

Product : Permethrin EP	COA No. : 0255/24
Batch No. : 244043005	Report No. : FP-065/24
Mfg. Date : Feb.2024	Mfg. Lic. No. : KD-324
Exp. Date : Jan.2028	Dispatch Qty : 100 Kg
CAS No. : 52645-53-1	

TEST	OBSERVATION	LIMITS
Description	Slightly brownish viscous liquid, semi solid.	Colorless or slightly brownish viscous liquid, semi solid or crystalline solid.
Solubility	Practically insoluble in Water, very soluble in Heptane, freely soluble in anhydrous Ethanol, sparingly soluble in Ethylene glycol.	Practically insoluble in Water, very soluble in Heptane, freely soluble in anhydrous Ethanol, sparingly soluble in Ethylene glycol.
Identification	A) By IR IR Spectrum of the sample is comparable with IR Spectrum of Permethrin CRS.	A) By IR IR Spectrum comparable with that in "IR Spectrum of Permethrin (25:75) WS standard."
	B) By HPLC The 2 principal peaks in the chromatogram obtained with the test solution are similar in retention time and in cis/trans ratio to the 2 principal peaks in the chromatogram obtained with the reference solution. (cis/trans ratio = about 0.34)	B) By HPLC The 2 principal peaks in the chromatogram obtained with the test solution are similar in retention time and in cis/trans ratio to the 2 principal peaks in the chromatogram obtained with the reference solution. (cis/trans ratio = about 0.3)
Related Substances	Impurity B: 0.01% Impurity C: 0.03% Other unspecified impurity: 0.07% Total impurities: 0.20%	Impurity B: NMT 0.15% Impurity C: NMT 0.15% Other unspecified impurity: NMT 0.10% Total impurity: NMT 0.5 %
Water	0.13%	Not More Than 0.25%
Sulphated Ash	0.03%	Not More Than 0.1%
Assay By HPLC (On anhydrous substance)	99.2%	98.0% to 102.0% C ₂₁ H ₂₀ Cl ₂ O ₃
Cis Isomer	25.62%	23.0% to 27.0%
Trans Isomer	74.39%	73.0% to 77.0%
Residual Solvents	IPA : BDL Toluene : 68.71 ppm DMF : BDL *Benzene : BDL	IPA : NMT 5000ppm Toluene : NMT 890ppm DMF : NMT 880 ppm *Benzene : NMT 2 ppm

Note: - Before sampling stir well & warm up to 70°C Permethrin solidifies below 35°C. In case of solidification please warm up to 70 to 75°C to get liquid (Before use). This does not affect the quality

Remark: Passes as per EP Specification.


*Benzene is not used in process, but tested due to the use of Toluene.

Prepared By/Date:-


 May 12, 2024

Mr. Milind Keshav (QA Executive)

Approved By/Date :-


 May 12, 2024

Mr. Nitin Gondhali (Asst.Manager QA)

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Annexure No.: SQA/066/A01-00

SOP No.: SQA/O/066

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