



# KUMAR ORGANIC PRODUCTS LIMITED

## CERTIFICATE OF ANALYSIS

<b>.0 Name of the Product</b>	TRICLOSAN USP	<b>Batch No.</b>	K001.1/21/02/079
<b>A.R No.</b>	FP/K001/SB/21/092	<b>Mfg. Date</b>	FEBRUARY -2021
<b>Date of QC analysis</b>	13.02.2021	<b>Exp. Date</b>	JANUARY 2026
<b>Qty being dispatched</b>	550.0Kg	<b>Mfg. License no.</b>	KTK/25/624/2013

Sl No.	TEST	SPECIFICATION	RESULTS
1	<b>Description</b>	Fine, whitish, crystalline powder. Melts at about 57°C.	Fine, whitish, crystalline powder, Melts at 56.2– 56.8°C
2	<b>Solubility</b>	Soluble in methanol, in alcohol and in acetone. Slightly soluble in hexane. Practically insoluble in water.	Complies
3	<b>Identification</b> a. By IR Absorption  b. By GC RT	The IR absorption spectrum of the sample should be concordant with IR absorption spectrum of Triclosan working standard The retention time of the major peak in the chromatogram of the Assay preparation should corresponds to that in the chromatogram of the standard preparation, as obtained in the Assay.	Complies  Complies
4	<b>Water</b>	Not more than 0.1%	0.01%
5	<b>Completeness of solution</b>	A solution of 1.40 g of triclosan in 10 ml of acetone is clear	Complies
6	<b>Related Compounds by GC</b> a. Any Individual Impurity b. Total Impurities	Not more than 0.1 % Not more than 0.5 %	< 0.1 % < 0.5 %
7	<b>Phenolic Impurities by HPLC</b> a. 4-Chlorophenol b. 2,4-Dichlorophenol	Not more than 50ppm Not more than 10ppm	4.2 ppm Below Detection Limit
8	<b>Neutral impurities by HPLC</b> a. 1,3,7-trichlorodibenzo-p-dioxin b. 2,8-dichlorodibenzo-p-dioxin c. 2,8-dichlorodibenzofuran d. 2,4,8-trichlorodibenzofuran	Not more than 0.25 ppm Not more than 0.5 ppm Not more than 0.25 ppm Not more than 0.5 ppm	Below Detection Limit 0.22 ppm Below Detection Limit 0.07 ppm
9	<b>Neutral impurities by GC-Mass</b> a. 2,3,7,8-tetrachlorodibenzo-p- dioxin b. 2,3,7,8-tetrachlorodibenzofuran	Not more than 1.0 ppt Not more than 1.0 ppt	< 1.0ppt < 1.0ppt
10	<b>Assay by GC (on anhydrous basis)</b>	Not less than 97.0% and not more than 103.0%w/w	99.6%
11	<b>Residual solvents by GC-HS</b> a. Hexane b. Tetrachloroethylene	Not more than 250 ppm Not more than 100 ppm	< 250 ppm 100 ppm
12	<b>Additional test</b> a. Loss on drying b. Iron c. Residue on ignition d. Odour	Not more than 0.1% Not more than 10 ppm Not more than 0.1% Odourless/mild aromatic /phenolic /characteristic	0.05% < 10 ppm 0.01% Characteristic

**Remarks:** The material mentioned above complies with USP specification.

Compiled by

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