



SYSTEMS AND SOLUTIONS PRIVATE LIMITED

(Promoted by Indian Register of Shipping)

Testing Laboratory

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TEST REPORT

Report No.: ISSPL/EN/24-25/01002

Date: 12/04/2024

Name & Address of Customer#	Common Bio Medical Waste Treatment Facility (CBWTF) M/s JK Medical Waste Management System Plot N0. 55/5, 2 Godhan Village Chanderi The. Dist Ashok Nagar (M.P.)
Reference No.#	Your TRF Dated: 22/02/2024 (Reg. No. 97998)
Material Identification with details#	Co-Processing Stack Emission Monitoring: Incinerator Stack No.1
Sample code	97998
Date of sampling#	20.02.2024 (10:00 am to 03:30 pm)
Date of Sample testing	22/02/2024 to 15/03/2024
Sampling duration (in minutes)	294
Sampling Location#	Incinerator Stack (JK MS,UP,Chaneleri),
Sampling Protocol	IS:11255 (Pt-1) 1985 (RA 2019) & IS:11255 (Pt-3) 2008 (RA 2018)
Type of stack	MS Circular
Stack attached to	Incinerator
Stack Diameter (in meters)	0.2
Stack height (in meters)	30 Mtr.
Type and quantity of fuel used	BMW (Solid/Liquid)
Instrument Code & Calibration Status	ISSPL/INS/C/357 & calibrated
Control Measures if any	Activated carbon and Ventiney mist and water scrubber
Ambient Temperature (°C)	32
Flue Gas Temperature (°C)	82


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RESULTS

Measurement results PCDD/Fs:

2,3,7,8-PCDD/Fs	Result [ng/sample]	Limit of Detection [ng/sample]	Limit of Quantification [ng/sample]	'I-TEF	'I-TEQ Upper bound [ng/sample]
2,3,7,8-TCDD	< 0.0037	0.0037	0.0073	1	0.0037
1,2,3,7,8-PeCDD	< 0.0053	0.0053	0.011	0.5	0.0026
1,2,3,4,7,8-HxCDD	< 0.006	0.006	0.012	0.1	0.0006
1,2,3,6,7,8-HxCDD	< 0.006	0.006	0.012	0.1	0.0006
1,2,3,7,8,9-HxCDD	< 0.006	0.006	0.012	0.1	0.0006
1,2,3,4,6,7,8-HpCDD	< 0.017	0.017	0.034	0.01	0.00017
OCDD	< 0.036	0.018	0.036	0.001	0.000036
2,3,7,8-TCDF	< 0.0091	0.0046	0.0091	0.1	0.00091
1,2,3,7,8-PeCDF	< 0.0058	0.0058	0.012	0.05	0.00029
2,3,4,7,8-PeCDF	< 0.0058	0.0058	0.012	0.5	0.0029
1,2,3,4,7,8-HxCDF	< 0.0061	0.0061	0.012	0.1	0.00061
1,2,3,6,7,8-HxCDF	< 0.0061	0.0061	0.012	0.1	0.00061
1,2,3,7,8,9-HxCDF	< 0.0061	0.0061	0.012	0.1	0.00061
2,3,4,6,7,8-HxCDF	< 0.0061	0.0061	0.012	0.1	0.00061
1,2,3,4,6,7,8-HpCDF	< 0.006	0.006	0.012	0.01	0.00006
1,2,3,4,7,8,9-HpCDF	< 0.006	0.006	0.012	0.01	0.00006
OCDF	< 0.026	0.013	0.026	0.001	0.000026
I-TEQ from quantified 2,3,7,8-PCDD/Fs – “Lower bound”					0
I-TEQ from 2,3,7,8-PCDD/Fs – “Medium bound”					0.0075
I-TEQ - Maximum possible – “Upper bound”					0.015
PCDDs	Result [ng/sample]	PCDF	Result [ng/sample]		
Tetra-CDDs	< 0.08	Tetra-CDF	< 0.17		
Penta-CDDs	< 0.074	Penta-CDF	< 0.16		
Hexa-CDDs	< 0.06	Hexa-CDF	< 0.097		
Hepta-CDDs	< 0.034	Hepta-CDF	< 0.024		
OCDD	< 0.036	OCDF	< 0.026		

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¹I-TEF according to NATO.

Limits of quantification are defined as double of the detection limits.

The limit of detection is defined as the amount of analyte producing a signal with $S/N \geq 3$.

The value of the detection limit is mentioned as the actual value at the acquisition date.

Measurement uncertainty is expressed as a double ($k=2$) relative standard deviation (RSD%), and corresponds to 95% confidence interval.

Estimation of uncertainty of each 2,3,7,8-PCDD/F congener is 30% and total I-TEQ is 20%.

These values were ensured by analyses of certified reference material under conditions of internal reproducibility. Results marked “<” are below limit of detection or quantification.

“Lower bound” and “Upper bound” are levels defined in Regulation 2017/644 and EN 1948-4.

“Medium bound” is levels defined in Regulation 2017/644.

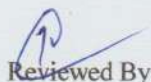
Extraction standards - PCDDs	Recovery [%]	Extraction standards-PCDFs	Recovery [%]
13C12 - 2,3,7,8-TCDD	98	13C12 - 2,3,7,8-TCDF	97
13C12 - 1,2,3,7,8-PeCDD	99	13C12 - 1,2,3,7,8-PeCDF	97
13C12 - 1,2,3,6,7,8-HxCDD	98	13C12 - 1,2,3,6,7,8-HxCDF	83
13C12 - 1,2,3,4,6,7,8-HpCDD	98	13C12 - 1,2,3,4,6,7,8-HpCDF	78
13C12 - OCDD	99		
Sampling standards	Recovery [%]		
37Cl4-2,3,7,8-TCDD	98		
13C12-1,2,3,4,7,8-HxCDD	97		
13C12-2,3,4,7,8-PeCDF	97		
13C12-1,2,3,4,7,8-HxCDF	95		
13C12-1,2,3,4,7,8,9-HpCDF	98		

*Parameters subcontracted to NABL Lab.

Remark: Sampling done by ISSPL Representative (Mr. Dinesh Jangid).

--End of the Report--

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