

Laboratory Testing and Analysis Laboratory, Environmental Technology Division, CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Industrial Estate P.O., Pappanamcode, Thiruvananthapuram, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-8086

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Validity 19.11.2018 to 18.11.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	Water			
1.	Surface Water & Irrigation Water	pH	IS 3025 (Part 11)	4 to 10
		Total Alkalinity as CaCO ₃	IS 3025 (Part 23)	1 mg/L to 500 mg/L
		Acidity as CaCO ₃	IS 3025 (Part 22)	1 mg/L to 500 mg/L
		Chloride as Cl	IS 3025 (Part 32)	1 mg/L to 500 mg/L
		Calcium as Ca	IS 3025 (Part 40)	1 mg/L to 500 mg/L
		Magnesium as Mg	IS 3025 (Part 46)	1.0 mg/L to 250 mg/L
		Sodium as Na	IS 3025 (Part 45)	1.0 mg/L to 250 mg/L
		Potassium as K	IS 3025 (Part 45)	1.0 mg/L to 100 mg/L
		Sulphate as SO ₄	IS3025(Part 24)	1 mg/L to 100 mg/L
		Dissolved Phosphate PO ₄	IS 3025 (Part 31)	1 mg/L to 10 mg/L
		Nitrite-N	IS 3025 (Part 34)	0.10 mg/L to 2.00 mg/L
		Silica as SiO ₂	IS 3025 (Part 35)	0.50 mg/L to 100 mg/L
		Conductivity	IS 3025 (Part 14)	10 µS/cm to 2000 µS/cm
		Total Dissolved Solids	IS 3025 (Part 16)	10 mg/L to 500 mg/L
		Total Hardness as CaCO ₃	IS 3025 (Part 21)	1 mg/L to 500 mg/L
		Ammoniacal Nitrogen (as NH ₃ -N)	IS 3025 (Part 34)	1.0 mg/L to 100 mg/L
		COD	IS 3025 (Part 58)	5 mg/L to 1500 mg/L
II.	POLLUTION & ENVIRONMENT			
1.	Waste Water	BOD at 27 °C for 3 days	IS 3025 (Part 44)	1.0 mg/L to 100 mg/L
		pH	IS 3025 (Part 11)	4 to 10
		Acidity as CaCO ₃	IS 3025 (Part 22)	1 mg/L to 500 mg/L
		Conductivity	IS 3025 (Part 14)	10 µS/cm to 40000 µS/cm

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		COD	IS 3025 (Part 58)	5 mg/L to 1500 mg/L
		Total Dissolved Solids	IS 3025 (Part 16)	10 mg/L to 500 mg/L
		Iron as Fe	IS 3025 (Part 53)	0.05 mg/L to 1.0 mg/L
		Hexavalent Chromium	IS 3025 (Part 52)	0.02 mg/L to 1.0 mg/L
		Total Kjeldhal Nitrogen	IS 3025 (Part 34)	1 mg/L to 200 mg/L
2.	Soil/Sediment, Wastes, Others (Residue from Combustion Processes)	Non-Ortho (NO)-PCBs		
		PCB 81	USEPA 8290 A	10 ng/kg to 10000 ng/kg
		PCB 77	EU regulations 644 & 771	10 ng/kg to 10000 ng/kg
		PCB 126		40 ng/kg to 10000 ng/kg
		PCB 169		35 ng/kg to 10000 ng/kg
		Polychlorinated Dibenzo Dioxins and Furans (PCDD/F)		
		2,3,7,8 -TCDF	USEPA 8290 A	15 ng/kg to 2560 ng/kg
		2,3,7,8-TCDD	EU regulations 644 & 771	25 ng/kg to 2560 ng/kg
		2,3,4,7,8 PeCDF		20 ng/kg to 2560 ng/kg
		1,2,3,7,8-PeCDF		45 ng/kg to 2560 ng/kg
		1,2,3,7,8-PeCDD		50 ng/kg to 2560 ng/kg
		1,2,3,6,7,8-HxCDD		45 ng/kg to 2560 ng/kg
		1,2,3,6,7,8-HxCDF		55 ng/kg to 2560 ng/kg
		2,3,4,6,7,8-HxCDF		110 ng/kg to 2560 ng/kg
		1,2,3,7,8,9-HxCDF		65 ng/kg to 2560 ng/kg
		1,2,3,4,6,7,8-HpCDF		85 ng/kg to 2560 ng/kg
		1,2,3,4,6,7,8 HpCDD		205 ng/kg to 2560 ng/kg
		1,2,3,4,7,8-HxCDF		25 ng/kg to 2560 ng/kg
		1,2,3,7,8,9-HxCDD		45 ng/kg to 2560 ng/kg
		1,2,3,4,7,8,9-HpCDF		50 ng/kg to 2560 ng/kg
	1,2,3,4,7,8 HxCDD		20 ng/kg to 2560 ng/kg	
	OCDF		50 ng/kg to 2560 ng/kg	
	OCDD		270 ng/kg to 128000 ng/kg	
	Non-dioxin like (NDL) PCBs			
	PCB-28	USEPA 8290 A	15 ng/kg to 10000 ng/kg	

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		PCB-52	EU regulations 644 & 771	15 ng/kg to 10000 ng/kg
		PCB-101		15 ng/kg to 10000 ng/kg
		PCB-153		20 ng/kg to 10000 ng/kg
		PCB-180		15 ng/kg to 10000 ng/kg
		PCB-138		20 ng/kg to 10000 ng/kg
		Mono Ortho (MO) PCBs	USEPA 8290 A EU regulations 644 & 771	
		PCB-167		25 ng/kg to 10000 ng/kg
		PCB-156		20 ng/kg to 10000 ng/kg
		PCB-157		15 ng/kg to 10000 ng/kg
		PCB-189		25 ng/kg to 10000 ng/kg
		PCB-123		10 ng/kg to 10000 ng/kg
		PCB-118		15 ng/kg to 10000 ng/kg
		PCB-114		30 ng/kg to 10000 ng/kg
		PCB-105		20 ng/kg to 10000 ng/kg
III.	ATMOSPHERIC POLLUTION			
1.	Ambient Air, Stack Emission	Non-Ortho (NO) - PCBs	USEPA 8290 A EU regulations 644 & 771	
		PCB 81		10 ng/Nm ³ to 10000 ng/Nm ³
		PCB 77		10 ng/Nm ³ to 10000 ng/Nm ³
		PCB 126		40 ng/Nm ³ to 10000 ng/Nm ³
		PCB 169		35 ng/Nm ³ to 10000 ng/Nm ³
		Polychlorinated dibenzo dioxins and furans (PCDD/F)	USEPA 8290 A EU regulations 644 & 771	
		2,3,7,8 -TCDF		15 ng/Nm ³ to 2560 ng/Nm ³
		2,3,7,8-TCDD		25 ng/Nm ³ to 2560 ng/Nm ³

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		2,3,4,7,8 PeCDF		20 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,7,8-PeCDF		45 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,7,8-PeCDD		50 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,6,7,8-HxCDD		45 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,6,7,8-HxCDF		55 ng/Nm ³ to 2560 ng/Nm ³
		2,3,4,6,7,8-HxCDF		110 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,7,8,9-HxCDF		65 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,4,6,7,8-HpCDF		85 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,4,6,7,8 HpCDD		205 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,4,7,8-HxCDF		25 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,7,8,9-HxCDD		45 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,4,7,8,9-HpCDF		50 ng/Nm ³ to 2560 ng/Nm ³
		1,2,3,4,7,8 HxCDD		20 ng/Nm ³ to 2560 ng/Nm ³
		OCDF		50 ng/Nm ³ to 2560 ng/Nm ³
		OCDD		270 ng/Nm ³ to 128000 ng/Nm ³

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		Non-Dioxin like (NDL) PCBs		
		PCB-28	USEPA 8290 A EU regulations 644 & 771	15 ng/Nm ³ to 10000 ng/Nm ³
		PCB-52		15 ng/Nm ³ to 10000 ng/Nm ³
		PCB-101		15 ng/Nm ³ to 10000 ng/Nm ³
		PCB-153		20 ng/Nm ³ to 10000 ng/Nm ³
		PCB-180		15 ng/Nm ³ to 10000 ng/Nm ³
		PCB-138		20 ng/Nm ³ to 10000 ng/Nm ³
		Mono Ortho (MO)-PCBs		
		PCB-167	USEPA 8290 A EU regulations 644 & 771	25 ng/Nm ³ to 10000 ng/Nm ³
		PCB-156		20 ng/Nm ³ to 10000 ng/Nm ³
		PCB-157		15 ng/Nm ³ to 10000 ng/Nm ³
		PCB-189		25 ng/Nm ³ to 10000 ng/Nm ³
		PCB-123		10 ng/Nm ³ to 10000 ng/Nm ³
		PCB-118		15 ng/Nm ³ to 10000 ng/Nm ³
		PCB-114		30 ng/Nm ³ to 10000 ng/Nm ³
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IV.	RESIDUES IN FOOD PRODUCTS			
1.	Chlorinated Dioxins and Dibenzofurans, Polychlorinated Biphenyls in: Fish and Fish Products, Egg, Meat and Meat Products, Milk and Dairy Products	Non-Ortho- (NO) PCBs		
		PCB 81	USEPA 8290 A	10 ng/kg to 10000 ng/kg
		PCB 77	EU regulations 644 & 771	10 ng/kg to 10000 ng/kg
		PCB 126		40 ng/kg to 10000 ng/kg
		PCB 169		35 ng/kg to 10000 ng/kg
		Polychlorinated dibenzo dioxins and furans (PCDD/F)		
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		1,2,3,7,8-PeCDF		45 ng/kg to 2560 ng/kg
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