



Date of sampling	07/03/2023
Reporting date	18/03/2023

Audit ID	135201	Audit firm	SGS India Pvt. Ltd.,
Company name	SHAHI EXPORTS PVT LTD		
Contact person	Mr. Rama krishnaa		
Type of tax – tax ID no	GSTIN - 29AAJCS1175L1ZU		
Address	Unit 105, #156, Kiadb Industrial Area, Machenagalli		
Region state province	Tamil Nadu		
Town city / village	Shimoga		
Zip / Post code	577222		

<b>Type of wastewater discharge</b>	
Type of waste discharge	Zero Liquid Discharge Treatment
Description of the discharge	ZLD
[If direct discharge] Temperature of receiving water body:	-

Sampler accreditation certification number (ZDHC):	K. MANOJ PRABAKAR (C74D106818124)		
Sampling affiliate	SGS India Pvt. Ltd.,		
<b>Sample description</b>			
	<b>Simple</b>	<b>Composite</b>	<b>Comments</b>
(1) Untreated wastewater	No	Yes, Reddish, Composite sample at 08:35, 09:35, 10:35, 11:35, 12:35, 13:35, 14:35	
(2) Sludge	YES, Grey, Grab sampling at 14:00	NO	Sampling at sludge screw press, Pathway- B (Landfill with Significant Control Measures)
(3) Leachate	NO		

<b>Internal description – Final Test Report</b>	
Testing laboratory	SGS India Pvt. Ltd.,
Internal codification number (report number)	CH:TX: 1442012243
Reference sample number (sample ID)	--
Received on	09/03/2023
Analysis carried out from	09/03/2023 – 15/03/2023
Arrival temperature at lab	8 °C
Comments	Samples received in 48 hours
Reporting date	18/03/2023



Summary of test results			
Test items	Untreated wastewater	Sludge	Leachate
Conventional Parameters and Anions	-	Please refer to the information in TEST RESULTS	-
Heavy Metals	-	ND	-
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	ND	ND	-
Anti- Microbials & Biocides	ND	-	-
Chlorinated Parafins	ND	-	-
Chlorobenzenes & Chlorotoluenes	ND	ND	-
Chlorophenols	ND	-	-
N,N-di-methylformamide (DMFa)	ND	-	-
Dyes – Carcinogenic or Equivalent Concern	ND	-	-
Dyes – Disperse (Allergenic)	ND	-	-
Dyes – Navy Blue Colourant	ND	-	-
Flame Retardants	ND	-	-
Glycols / Glycol Ethers	ND	-	-
Halogenated Solvents	ND	-	-
Organotin Compounds	ND	-	-
Other / Miscellaneous Chemicals	ND	-	-
Perfluorinated and Polyfluorinated Chemicals (PFCs)	ND	-	-
Phthalates – including all other esters of ortho-phthalic acid	ND	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)	D	ND	-
Restricted Aromatic Amines (Cleavable from Azo-colourants)	D	-	-
UV Absorbers	ND	-	-
VOCs	ND	-	-

**Remark (Indicated in each parameter)**

**ND = Not detected**

D = Detected

NA = Not applicable

@ = Maximum holding time exceeded

(T) = handling temperature exceeded

Per pro SGS India Private Ltd



**P.SHANMUGAM  
EXECUTIVE**

Email your Test Report Related Enquiries at [Feedback.SLT@sgs.com](mailto:Feedback.SLT@sgs.com)



Test results

Wastewater

1. Conventional Parameters and Anions

Test Items	Test method	Limit			Reporting Limit	Result	Unit
		Foundational	Progressive	Aspirational		Untreated wastewater	
pH	ISO 10523, USEPA 150.1, SM 4500 H+, HJ 1147 or IS 3025 (Part 11) - Electrometric method only	Textile and Leather: 6-9			NA	-	-
Temperature Difference	DIN 38 404-4, USEPA 170.1, SM 2550, GB/T 13195 or IS 3025 (Part 9)	Textile and Leather: Δ+15	Textile and Leather: Δ+10	Textile and Leather: Δ+5	-	-	°C
E. Coli	SM 9221 B presumptive, confirm positive with SM 9221 F or G	Textile and Leather: 126			126	-	MPN/100mL
Colour (436nm; 525nm; 620nm)	ISO 7887 B	Textile and Leather: 7;5;3	Textile and Leather: 5;3;2	Textile and Leather: 2;1;1	-	-	m <sup>-1</sup>
Persistent Foam	-	Textile and Leather: Not visible			NA	-	-
Wastewater Flowrate	-	-			NA	-	m <sup>3</sup> /day
Ammonium-Nitrogen	ISO 7150, ISO 11732, USEPA 350.1, USEPA 350.3, SM 4500 NH3 D, E, F, G or H, HJ 535 or IS 3025 (Part 34) - Phenate or ammonia selective electrode only	Textile: 10 Leather: 15	Textile: 1 Leather: 10	Textile: 0.5 Leather: 1	-	-	mg/L
AOX#	ISO 9562, HACH LCK 390 or HJ/T 83-2001	Textile: 3	Textile: 0.5	Textile: 0.1	-	-	mg/L
Biochemical Oxygen Demand 5-days concentration (BOD <sub>5</sub> )	ISO 5815-1, USEPA 405.1, SM 5210 B, HJ 505 or IS 3025 (Part 44) - Seeded dilution water (BOD <sub>5</sub> )	Textile: 30 Leather: 50	Textile: 15 Leather: 30	Textile: 8 Leather: 20	-	-	mg/L
Chemical Oxygen Demand (COD)	ISO 6060, ISO 15705, USEPA 410.4, SM 5220 D, HJ 828, GB/T 11914 or IS 3025 (Part 58)	Textile: 150 Leather: 250	Textile: 80 Leather: 150	Textile: 40 Leather: 100	-	-	mg/L
Dissolved Oxygen (DO)	ISO 5814, USEPA 360.1, SM 4500 O G or HJ 506	Textile and Leather: Sample and report only			0.5	-	mg/L



Oil and grease	ISO 9377-2, USEPA 1664 Revision B, SM 5520 B or C, HJ 637 - Total oil and grease or IS 3025 (Part 39) - Partition gravimetric or partition infra-red	Textile: 10 Leather: 20	Textile: 2 Leather: 10	Textile: 0.5 Leather: 5	0.5	-	mg/L
Total Phenols / Phenol Index	ISO 6439, SM 5530 B or C, HJ 503 or IS 3025 (Part 43)	Textile and Leather: 0.5	Textile:0.01 Leather: 0.3	Textile: 0.001 Leather: 0.1	0.001	-	mg/L
Total Chlorine	ISO 7393-2, USEPA 330.5, SM 4500 Cl- G or HJ 586	Textile and Leather: Sample and report only			0.5	-	mg/L
Total Dissolved Solids (TDS)	USEPA 160.1, SM 2540 C, GB/T 5750.4-2006 (180°C centigrade) or IS 3025 (Part 16) 179°C to 181°C	Textile and Leather: Sample and report only			50	-	mg/L
Total Nitrogen	ISO 11905 - Part 1, ISO 29441, USEPA 351.2, SM 4500 P J, SM 4500 N B, C, HJ 636 or IS 3025 (Part 34) (Ammonia, nitrate, nitrite, organic)	Textile: 20 Leather: 35	Textile: 10 Leather: 20	Textile: 5 Leather: 10	5	-	mg/L
Total Phosphorus	ISO 6878, ISO 11885, ISO 17294, USEPA 200.7, USEPA 200.8, USEPA 365.4, USEPA 6010 C, USEPA 6020 A, SM 4500 P J, GB/T 11893, IS 3025 (Part 31) or IS 3025 (Part 65)	Textile and Leather: 3	Textile: 0.5 Leather: 1	Textile: 0.1 Leather: 0.5	0.1	-	mg/L
Total Suspended Solids (TSS)	ISO 11923, USEPA 160.2, SM 2540 D, GB/T 11901 or IS 3025 (Part 17) 103°C to 105°C	Textile: 50 Leather: 70	Textile: 15 Leather: 50	Textile: 5 Leather: 20	5	-	mg/L
Chloride	ISO 10304-1, ISO 15923-1, USEPA 300, SM 4110 B, C, SM 4500 Cl D or E, HJ 84-2016 or IS 3025 (Part 32) - Potentiometric or automated ferricyanide only	Textile and Leather: Sample and report only			1	-	mg/L
Cyanide	ISO 6703-1, -2, -3, ISO 14403-1, -2, USEPA 335.2, SM 4500 CN or HJ 484	Textile: 0.2	Textile: 0.1	Textile: 0.05	0.05	-	mg/L



Sulfate	ISO 10304-1, ISO 15923-1, USEPA 300, USEPA 9038, SM 4110 B, C, SM 4500 SO <sub>4</sub> <sup>2-</sup> E, F, G, HJ 84-2016 or IS 3025 (Part 24)	Textile and Leather: Sample and report only			5	-	mg/L
Sulfide	ISO 10530, SM 4500 S <sup>2-</sup> D, E, G or I, HJ 1226 or IS 3025 (Part 29) - Methylene blue only	Textile: 0.5 Leather: 1	Textile: 0.05 Leather: 0.5	Textile: 0.01 Leather: 0.2	0.01	-	mg/L
Sulfite	ISO 10304-3, SM 4500 SO <sub>3</sub> <sup>2-</sup> C or HJ 84-2016	Textile: 2	Textile: 0.5	Textile: 0.2	0.2	-	mg/L

**Remark**

ND = Not detected  
 NA = Not applicable  
 - = Not required to be tested  
 (f) = Parameter tested in field  
 (S) = The analysis was subcontracted to xxxxx lab for testing.  
 # = Non accredited parameter



**2.Heavy Metals**

Cr (VI): ISO 18412, USEPA 218.6, GB 7467 or IS 3025 (Part 52)

Ba, Se, Sn: USEPA 200.8, USEPA 6010 C, USEPA 6020 A or HJ 700

Sb, As, Cr, Co: ISO 17294, USEPA 200.8, USEPA 6010 C, USEPA 6020 A, HJ 700 or IS 3025 (Part 65)

Cd: ISO 17294, USEPA 200.8, USEPA 6010 C, USEPA 6020 A, GB 7475, HJ 700, IS 3025 (Part 65) or IS 3025 (Part 41) – AAS instrumental method

Cu: ISO 17294, USEPA 200.8, USEPA 6010 C, USEPA 6020 A, GB 7475, HJ 700, IS 3025 (Part 65) or IS 3025 (Part 42) – AAS instrumental method

Pb: ISO 17294, USEPA 200.8, USEPA 6010 C, USEPA 6020 A, GB 7475, HJ 700, IS 3025 (Part 65) or IS 3025 (Part 47) – AAS instrumental method

Ni: ISO 17294, USEPA 200.8, USEPA 6010 C, USEPA 6020 A, GB 11912, HJ 700, IS 3025 (Part 65) or IS 3025 (Part 54) – AAS instrumental method

Ag: ISO 17294, USEPA 200.8, USEPA 6010 C, USEPA 6020 A, GB 11907, HJ 700 or IS 3025 (Part 65)

Zn: ISO 17294, USEPA 200.8, USEPA 6010 C, USEPA 6020 A, GB 7472, GB 7475, HJ 700, IS 3025 (Part 65) or IS 3025 (Part 49) – AAS instrumental method

Hg: ISO 17294, USEPA 200.8 – SIM, USEPA 245.1, USEPA 245.7, USEPA 6020 A – SIM, HJ 597, HJ 694, IS 3025 (Part 48) – Cold vapour AAS only or IS 3025 (Part 65) – SI

B: ISO 17294, USEPA 6010 C, USEPA 6020 A, HJ 700 or IS 3025 (Part 65)

Test items	CAS no.	Limit			Reporting Limit	Result	
		Foundational	Progressive	Aspirational		Untreated wastewater	Unit
Arsenic (As)	Various	Textile and Leather: 0.05	Textile and Leather: 0.01	Textile and Leather: 0.005	0.005	-	mg/L
Cadmium (Cd)	Various	Textile and Leather: 0.1	Textile and Leather: 0.05	Textile and Leather: 0.01	0.01	-	mg/L
Mercury (Hg)	Various	Textile and Leather: 0.01	Textile and Leather: 0.005	Textile and Leather: 0.001	0.001	-	mg/L
Lead (Pb)	Various	Textile and Leather: 0.1	Textile and Leather: 0.05	Textile and Leather: 0.01	0.01	-	mg/L
Antimony (Sb)	Various	Textile and Leather: 0.1	Textile and Leather: 0.05	Textile and Leather: 0.01	0.01	-	mg/L
Cobalt (Co)	Various	Textile and Leather: 0.05	Textile and Leather: 0.02	Textile and Leather: 0.01	0.01	-	mg/L
Nickel (Ni)	Various	Textile and Leather: 0.2	Textile and Leather: 0.1	Textile and Leather: 0.05	0.05	-	mg/L
Silver (Ag)	Various	Textile and Leather: 0.1	Textile and Leather: 0.05	Textile and Leather: 0.005	0.005	-	mg/L
Copper (Cu)	Various	Textile and Leather: 1	Textile and Leather: 0.5	Textile and Leather: 0.25	0.25	-	mg/L
Zinc (Zn)	Various	Textile and Leather: 5	Textile and Leather: 1	Textile and Leather: 0.5	0.1	ND	mg/L
Total Chromium (Cr)	Various	Textile: 0.2 Leather: 1.5	Textile: 0.1 Leather: 0.8	Textile: 0.05 Leather: 0.3	0.05	-	mg/L
Chromium VI (Cr VI)	Various	Textile: 0.05 Leather: 0.15	Textile: 0.005 Leather: 0.05	Textile: 0.001 Leather: 0.02	0.001	-	mg/L
Barium (Ba)	Various	Textile: Sample and report only			35	-	mg/L
Selenium (Se)	Various	Textile: Sample and report only			0.5	-	mg/L
Tin (Sn)	Various	Textile: Sample and report only			0.1	-	mg/L
Boron (B)	Various	-			0.1	ND	mg/L

**Remark**

ND = Not detected

NA = Not applicable

- = Not required to be tested



**3. Alkylphenol (AP) & Alkylphenol Ethoxylates (APEOs): including all isomers**

NP/OP: With reference to ISO 18857-2 (Modified dichloromethane extraction) or ASTM D7065 (GC-MS or LC-MS(-MS))

NPEO / OPEO: With reference to ISO 18857-2 or ASTM D7742

Test items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
Octylphenol (OP)	140-66-9/ 1806-26-4/ 27193-28-8	5	ND	µg/L
Nonylphenol (NP)	104-40-5/ 11066-49-2/ 25154- 52- 3/84852-15-3	5	ND	µg/L
Octylphenoethoxylates (OPEOs)	9002-93-1/9036-19-5/68987-90- 6	5	ND	µg/L
Nonylphenoethoxylates (NPEOs)	9016-45-9/26027-38-3/ 37205- 87- 1/68412-54-4/127087-87-0	5	ND	µg/L

**4. Anti- Microbials & Biocides**

o-Phenylphenol (+salts): With reference to BS EN 12673-1999, USEPA 8270 E or Solvent extraction, derivatization with KOH, acetic anhydride followed by GC-MS

Triclosan: With reference to BS EN 12673-1999, USEPA 8270 E or Solvent extraction, derivatization with KOH, acetic anhydride followed by GC-MS

Permethrin: With reference to ISO 14154:2005, USEPA 8270 E, Solvent extraction followed by GC-MS or An alternative method, without derivatization and determination by LC-MS / LC-MS/MS

Test items	CAS no.	Reporting Limit (Textile)	Result	Unit
			Untreated wastewater	
o-Phenylphenol (+salts)	90-43-7	100	ND	µg/L
Triclosan	3380-34-5	100	ND	µg/L
Permethrin	Various	500	ND	µg/L

**5. Chlorinated Paraffins**

MCCPs: Preparation: With reference to USEPA 3510. Analysis: With reference to ISO 18219-2:2021 or Method for MCCP with GC-MS(NCI) or LC-MS/MS.

SCCPs: Preparation: With reference to USEPA 3510. Analysis: With reference to ISO 12010:2019, ISO 18219-1:2021 or Method for SCCP with GC-MS(NCI) or LC-MS/MS

Test items	CAS no.	Reporting Limit (Textile)	Result	Unit
			Untreated wastewater	
Short chain chlorinated paraffins (C10-C13)	85535-84-8	5	ND	µg/L
Medium-chain Chlorinated Paraffins (MCCPs) (C14-C17)	85535-85-9	5	ND	µg/L



6.Chlorobenzenes & Chlorotoluenes

With reference to USEPA 8260 D, USEPA 8270 E, Purge and Trap, Headspace or Dichloromethane extraction followed by GC-MS

Test items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
Monochlorobenzenes	108-90-7	0.2	ND	µg/L
1,2-Dichlorobenzene	95-50-1	0.2	ND	µg/L
1,3-Dichlorobenzene	541-73-1	0.2	ND	µg/L
1,4-Dichlorobezene	106-46-7	0.2	ND	µg/L
1,2,3-Trichlorobenzene	87-61-6	0.2	ND	µg/L
1,2,4-Trichlorobenzene	120-82-1	0.2	ND	µg/L
1,3,5-Trichlorobenzene	108-70-3	0.2	ND	µg/L
1,2,3,4-Tetrachlorobenzene	634-66-2	0.2	ND	µg/L
1,2,3,5-Tetrachlorobenzene	634-90-2	0.2	ND	µg/L
1,2,4,5-Tetrachlorobenzene	95-94-3	0.2	ND	µg/L
Pentachlorobenzene	608-93-5	0.2	ND	µg/L
Hexachlorobenzene	118-74-1	0.2	ND	µg/L
2-Chlorotoluene	95-49-8	0.2	ND	µg/L
3-Chlorotoluene	108-41-8	0.2	ND	µg/L
4-Chlorotoluene	106-43-4	0.2	ND	µg/L
2,3-Dichlorotoluene	32768-54-0	0.2	ND	µg/L
2,4-Dichlorotoluene	95-73-8	0.2	ND	µg/L
2,5-Dichlorotoluene	19398-61-9	0.2	ND	µg/L
2,6-Dichlorotoluene	118-69-4	0.2	ND	µg/L
3,4-Dichlorotoluene	95-75-0	0.2	ND	µg/L
3,5-Dichlorotoluene	25186-47-4	0.2	ND	µg/L
2,3,4-Trichlorotoluene	7359-72-0	0.2	ND	µg/L
2,3,6-Trichlorotoluene	2077-46-5	0.2	ND	µg/L
2,4,5-Trichlorotoluene	6639-30-1	0.2	ND	µg/L
2,4,6-Trichlorotoluene	23749-65-7	0.2	ND	µg/L
3,4,5-Trichlorotoluene	21472-86-6	0.2	ND	µg/L
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.2	ND	µg/L
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.2	ND	µg/L
2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	ND	µg/L
Pentachlorotoluene	877-11-2	0.2	ND	µg/L





**7.Chlorophenols**

With reference to BS EN 12673-1999, USEPA 8270 E or Solvent extraction, derivatization with KOH, acetic anhydride followed by GC-MS

Test items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
2-Chlorophenol	95-57-8	0.5	ND	µg/L
3-Chlorophenol	108-43-0	0.5	ND	µg/L
4-Chlorophenol	106-48-9	0.5	ND	µg/L
2,3-Dichlorophenol	576-24-9	0.5	ND	µg/L
2,4-Dichlorophenol	120-83-2	0.5	ND	µg/L
2,5-Dichlorophenol	583-78-8	0.5	ND	µg/L
2,6-Dichlorophenol	87-65-0	0.5	ND	µg/L
3,4-Dichlorophenol	95-77-2	0.5	ND	µg/L
3,5-Dichlorophenol	591-35-5	0.5	ND	µg/L
2,3,4-Trichlorophenol	15950-66-0	0.5	ND	µg/L
2,3,5-Trichlorophenol	933-78-8	0.5	ND	µg/L
2,3,6-Trichlorophenol	933-75-5	0.5	ND	µg/L
2,4,5-Trichlorophenol	95-95-4	0.5	ND	µg/L
2,4,6-Trichlorophenol	88-06-2	0.5	ND	µg/L
3,4,5-Trichlorophenol	609-19-8	0.5	ND	µg/L
2,3,5,6-Tetrachlorophenol	935-95-5	0.5	ND	µg/L
2,3,4,6-Tetrachlorophenol	58-90-2	0.5	ND	µg/L
2,3,4,5-Tetrachlorophenol	4901-51-3	0.5	ND	µg/L
Pentachlorophenol PCP	87-86-5	0.5	ND	µg/L

**8.N,N-di-methylformamide (DMFa)**

With reference to USEPA 8015 or USEPA 8270 E

Test item	CAS no.	Reporting Limit (Textile)	Result	Unit
			Untreated wastewater	
N,N-di-methylformamide (DMFa)	68-12-2	1000 (Sample and Report only for mock leather)	ND	µg/L



**9.Dyes - Carcinogenic or Equivalent Concern**

With reference to Liquid extraction followed by LC-MS

Test items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
C.I. Direct Black 38	1937-37-7	500	ND	µg/L
C.I. Direct Blue 6	2602-46-2	500	ND	µg/L
C.I. Acid Red 26	3761-53-3	500	ND	µg/L
C.I. Basic Red 9	569-61-9	500	ND	µg/L
C.I. Direct Red 28	573-58-0	500	ND	µg/L
C.I. Basic Violet 14	632-99-5	500	ND	µg/L
C.I. Disperse Blue 1	2475-45-8	Textile: 500	ND	µg/L
C.I. Disperse Blue 3	2475-46-9	Textile: 500	ND	µg/L
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	500	ND	µg/L
C.I. Basic Green 4 (malachite green chloride)	569-64-2	500	ND	µg/L
C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	500	ND	µg/L
C.I. Basic Green 4 (malachite green)	10309-95-2	500	ND	µg/L
Disperse Orange 11	82-28-0	Textile: 500	ND	µg/L
Basic violet 3 with >0.1% of Michler's Ketone*	548-62-9	500	ND	µg/L
C.I. Acid Violet 49	1694-09-3	500	ND	µg/L

\*Reported concentration refers to the dye part only



**10.Dyes - Disperse (Allergenic)**

With reference to Liquid extraction followed by LC-MS

Test Items	CAS no.	Reporting Limit (Textile)	Result	
			Untreated wastewater	Unit
Disperse Yellow 1	119-15-3	50	ND	µg/L
Disperse Blue 102	12222-97-8	50	ND	µg/L
Disperse Blue 106	12223-01-7	50	ND	µg/L
Disperse Yellow 39	12236-29-2	50	ND	µg/L
Disperse Orange 37/59/76	13301-61-6	50	ND	µg/L
Disperse Brown 1	23355-64-8	50	ND	µg/L
Disperse Orange 1	2581-69-3	50	ND	µg/L
Disperse Yellow 3	2832-40-8	50	ND	µg/L
Disperse Red 11	2872-48-2	50	ND	µg/L
Disperse Red 1	2872-52-8	50	ND	µg/L
Disperse Red 17	3179-89-3	50	ND	µg/L
Disperse Blue 7	3179-90-6	50	ND	µg/L
Disperse Blue 26	3860-63-7	50	ND	µg/L
Disperse Yellow 49	54824-37-2	50	ND	µg/L
Disperse Blue 35	12222-75-2	50	ND	µg/L
Disperse Blue 124	61951-51-7	50	ND	µg/L
Disperse Yellow 9	6373-73-5	50	ND	µg/L
Disperse Orange 3	730-40-5	50	ND	µg/L
Disperse Blue 35	56524-77-7	50	ND	µg/L

**11.Dyes - Navy Blue Colourant**

With reference to Liquid extraction followed by LC-MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	
			Untreated wastewater	Unit
Component 1: C39H23Cl-CrN7O12S 2Na	118685-33-9	500	ND	µg/L
Component 2: C46H-30CrN10O20S2 3Na	Not Allocated	500	ND	µg/L



**12.Flame retardants**

Boric acid, Diboron trioxide, Disodium octaborate, Disodium tetraborate anhydrous, Tetraboron disodium heptaoxide, hydrate:

ISO 17294, USEPA 6010 C, USEPA 6020 A, HJ 700 or IS 3025 (Part 65)

Others: With reference to ISO 22032, USEPA 527, USEPA 8270 E, USEPA 8321 B or Dichloromethane extraction followed by GC-MS or LC-MS(-MS)

Test Items	CAS no.	Reporting Limit	Result	Unit
			Untreated wastewater	
Decabromodiphenyl ether (DecaBDE)	1163-19-5	Textile: 25 Leather: 5	ND	µg/L
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	Textile: 25 Leather: 5	ND	µg/L
Octabromodiphenyl ether (OctaBDE)	32536-52-0	Textile: 25 Leather: 5	ND	µg/L
Tris(1-aziridinylphosphine oxide) (TEPA)	545-55-1	Textile: 25 Leather: 5	ND	µg/L
Polybromobiphenyls (PBBs)	59536-65-1	Textile: 25 Leather: 5	ND	µg/L
Tris(2,3-dibromopropyl phosphate) (TRIS)	126-72-7	Textile: 25 Leather: 5	ND	µg/L
Tetrabromobisphenol A (TBBPA)	79-94-7	Textile: 25 Leather: 5	ND	µg/L
Bis(2,3-dibromopropyl) phosphate	5412-25-9	Textile: 25 Leather: 5	ND	µg/L
Hexabromocyclododecane (HBCDD)	3194-55-6	Textile: 25 Leather: 5	ND	µg/L
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	Textile: 25 Leather: 5	ND	µg/L
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	Textile: 25 Leather: 5	ND	µg/L
Decabromobiphenyl (DecaBB)	13654-09-6	Textile: 25	ND	µg/L
Dibromobiphenyls (DiBB)	Multiple	Textile: 25	ND	µg/L
Octabromobiphenyls (OctaBB)	Multiple	Textile: 25	ND	µg/L
Dibromopropylether	21850-44-2	Textile: 25	ND	µg/L
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	Textile: 25	ND	µg/L
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	Textile: 25	ND	µg/L
Monobromobiphenyls (MonoBB)	Multiple	Textile: 25	ND	µg/L
Monobromodiphenylethers (MonoBDEs)	Multiple	Textile: 25	ND	µg/L
Nonabromobiphenyls (NonaBB)	Multiple	Textile: 25	ND	µg/L
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	Textile: 25	ND	µg/L
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	Textile: 25	ND	µg/L
Tribromodiphenylethers (TriBDEs)	Multiple	Textile: 25	ND	µg/L



Boric acid	10043-35-3 11113-50-1	Textile: 100*	See Total Boron (B) Result	µg/L
Diboron trioxide	1303-86-2	Textile: 100*	See Total Boron (B) Result	µg/L
Disodium octaborate	12008-41-2	Textile: 100*	See Total Boron (B) Result	µg/L
Disodium tetraborate anhydrous	1303-96-4 1330-43-4	Textile: 100*	See Total Boron (B) Result	µg/L
Tetraboron disodium heptaoxide, hydrate	12267-73-1	Textile: 100*	See Total Boron (B) Result	µg/L
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	Textile: 25 Leather: 5	ND	µg/L
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	Textile: 25 Leather: 5	ND	µg/L

\* Limit refers to elemental boron, not the salt.

### 13. Glycols/Glycol Ethers

With reference to USEPA 8270 E or Liquid extraction followed by LC-MS or GC-MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
Bis(2-methoxyethyl)-ether	111-96-6	50	ND	µg/L
2-ethoxyethanol	110-80-5	50	ND	µg/L
2-ethoxyethyl acetate	111-15-9	50	ND	µg/L
Ethylene glycol dimethyl ether	110-71-4	50	ND	µg/L
2-methoxyethanol	109-86-4	50	ND	µg/L
2-methoxyethylacetate	110-49-6	50	ND	µg/L
2-methoxypropylacetate	70657-70-4	50	ND	µg/L
Triethylene glycol dimethyl ether	112-49-2	50	ND	µg/L

### 14. Halogenated solvents

With reference to USEPA 8260 D, Purge and Trap or Headspace followed by GC-MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
1,2-Dichloroethane	107-06-2	1	ND	µg/L
Methylene chloride	75-09-2	1	ND	µg/L
Trichloroethene	79-01-6	1	ND	µg/L
Tetrachloroethene	127-18-4	1	ND	µg/L



15. Organotin compounds

TeET:

With reference to ISO 17353

Others:

With reference to ISO 17353 or Derivatization with NaB(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> followed by GC-MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
Tricyclohexyltin (TCyHT)	Various	0.01	ND	µg/L
Tripopyltin (TPT)	Various	0.01	ND	µg/L
Dipropyltin compounds (DPT)	Various	0.01	ND	µg/L
Tetrabutyltin compounds (TeBT)	Various	0.01	ND	µg/L
Tetraoctyltin compounds (TeOT)	Various	0.01	ND	µg/L
Tetraethyltin Compounds (TeET)	Various	0.01	ND	µg/L
Mono-, di-and tri-octyltin derivatives	Various	0.01	ND	µg/L
Monooctyltin (MOT)	15231-57-9	0.01	ND	µg/L
Diocyltin (DOT)	94410-05-6, 12531-44-4	0.01	ND	µg/L
Triocyltin (TOT)	Various	0.01	ND	µg/L
Mono-, di-and tri-methyltin derivatives	Various	0.01	ND	µg/L
Monomethyltin (MMT)	Various	0.01	ND	µg/L
Dimethyltin (DMT)	Various	0.01	ND	µg/L
Trimethyltin (TMT)	Various	0.01	ND	µg/L
Mono-, di-and tri-butyltin derivatives	Various	0.01	ND	µg/L
Monobutyltin (MBT)	1118-46-3, 78763-54-9	0.01	ND	µg/L
Dibutyltin (DBT)	1002-53-5	0.01	ND	µg/L
Tributyltin (TBT)	56573-85-4	0.01	ND	µg/L
Mono-, di-and tri-phenyltin derivatives	Various	0.01	ND	µg/L
Monophenyltin (MPHT)	Various	0.01	ND	µg/L
Diphenyltin (DPhT)	Various	0.01	ND	µg/L
Triphenyltin (TPHT)	892-20-6, 668-34-8	0.01	ND	µg/L



**16. Other/Miscellaneous Chemicals**

AEEA [2-(2-aminoethylamino) ethanol]: With reference to Liquid extraction followed by LC-MS/MS  
 Bisphenol A: With reference to Liquid extraction followed by LC-MS  
 Thiourea: With reference to Liquid extraction followed by LC-MS  
 Quinoline: With reference to Liquid extraction followed by LC-MS  
 Borate, zinc salt: ISO 17294, USEPA 6010 C, USEPA 6020 A, HJ 700 or IS 3025 (Part 65)

Test Items	CAS no.	Reporting Limit (Textile)	Result	Unit
			Untreated wastewater	
AEEA [2-(2-aminoethylamino) ethanol]	111-41-1	500	ND	µg/L
Bisphenol A	80-05-7	10	ND	µg/L
Thiourea	62-56-6	50	ND	µg/L
Quinoline	91-22-5	50	ND	µg/L
Borate, zinc salt	12767-90-7	100*	See Total Boron (B) and Total Zinc (Zn) Results	µg/L

\* Limit refers to boron and zinc individually, not the salt.

**17. Perfluorinated and Polyfluorinated Chemicals (PFCs)**

PFCs:  
 With reference to USEPA 537:2020 followed by LC-MS(-MS)  
 FTOH:  
 With reference to BS EN 12673-1999, USEPA 8270 E or Derivatization with acetic anhydride followed by GC-MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
Perfluoro-octane-sulfonic acid (PFOS)*	1763-23-1	0.01	ND	µg/L
Perfluoro-octanoic acid (PFOA)**	335-67-1	0.01	ND	µg/L
Perfluoro-octane-sulfon-amide (PFOSA)	754-91-6	0.01	ND	µg/L
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	1	ND	µg/L
1H,1H,2H,2H-Perfluorodecanol (8:2 FTOH)	678-39-7	1	ND	µg/L
N-Methyl-perfluoro-octane-sulfon-amido-ethanol (N-Me-FOSE)	24448-09-7	0.01	ND	µg/L
N-Ethyl-Perfluoro-octane-sulfon-amido-ethanol (N-Et-FOSE)	1691-99-2	0.01	ND	µg/L
N-Methyl-perfluoro-octane-sulfon-amide (N-Me-FOSA)	31506-32-8	0.01	ND	µg/L
N-Ethyl-perfluoro-octane-sulfon-amide (N-Et-FOSA)	4151-50-2	0.01	ND	µg/L
1H,1H,2H,2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	1	ND	µg/L
Methyl Perfluorooctanoate (Me-PFOA)	376-27-2	1	ND	µg/L
Ethyl Perfluorooctanoate (Et-PFOA)	3108-24-5	1	ND	µg/L
8:2 Fluorotelomer methacrylate (8:2 FTMA)	1996-88-9	1	ND	µg/L

\* PFOS refer to its salts/derivative including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3) and POSF (CAS No.: 307-35-7)

\*\* PFOA refer to its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1)



18.Phtalates – including all other esters of ortho-phthalic acid

With reference to USEPA 8270 E, ISO 18856 or Dichloromethane extraction followed by GC-MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	10	ND	µg/L
Dimethoxyethyl phthalate (DMEP)	117-82-8	10	ND	µg/L
Di-n-octyl phthalate (DNOP)	117-84-0	10	ND	µg/L
Di-iso-decyl phthalate (DIDP)	26761-40-0	10	ND	µg/L
Di-iso-nonyl phthalate (DINP)	28553-12-0	10	ND	µg/L
Di-n-hexyl phthalate (DnHP)	84-75-3	10	ND	µg/L
Dibutyl phthalate (DBP)	84-74-2	10	ND	µg/L
Butyl benzyl phthalate (BBP)	85-68-7	10	ND	µg/L
Dinonyl phthalate (DNP)	84-76-4	10	ND	µg/L
Diethyl phthalate (DEP)	84-66-2	10	ND	µg/L
Di-n-propyl phthalate (DPRP)	131-16-8	10	ND	µg/L
Di-iso-butyl phthalate (DIBP)	84-69-5	10	ND	µg/L
Di-cyclohexyl phthalate (DCHP)	84-61-7	10	ND	µg/L
Di-iso-octyl phthalate (DIOP)	27554-26-3	10	ND	µg/L
1,2-benzenedicarboxylic acid, di-C7-11-branched and linearakyl esters (DHNUP)	68515-42-4, 68515-50-4	10	ND	µg/L
1,2-benzenedicarboxylic acid, di-C6-8 branched and linearakyl esters , C7-rich (DIHP)	71888-89-6, 84777-06-0	10	ND	µg/L
Di-n-pentylphthalates	131-18-0	10	ND	µg/L
Diisopentylphthalates	605-50-5	10	ND	µg/L





**19. Polycyclic aromatic hydrocarbons (PAHs)**

With reference to DIN 38407-39, USEPA 8270 E or Solvent extraction followed by GC-MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
Benzo(a)pyrene (BaP)	50-32-8	1	ND	µg/L
Anthracene	120-12-7	1	ND	µg/L
Pyrene	129-00-0	1	ND	µg/L
Benzo(ghi)perylene	191-24-2	1	ND	µg/L
Benzo(e)pyrene	192-97-2	1	ND	µg/L
Indeno (1,2,3-cd)pyrene	193-39-5	1	ND	µg/L
Benzo(j)fluoranthene	205-82-3	1	ND	µg/L
Benzo(b)fluoranthene	205-99-2	1	ND	µg/L
Fluoranthene	206-44-0	1	ND	µg/L
Benzo(k)fluoranthene	207-08-09	1	ND	µg/L
Acenaphthylene	208-96-8	1	ND	µg/L
Chrysene	218-01-9	1	ND	µg/L
Dibenz(a,h)anthracene	53-70-3	1	ND	µg/L
Benzo(a)anthracene	56-55-3	1	ND	µg/L
Acenaphthene	83-32-9	1	ND	µg/L
Phenanthrene	85-01-8	1	ND	µg/L
Fluorene	86-73-7	1	ND	µg/L
Naphthalene	91-20-3	1	3	µg/L



**20.Restricted Aromatic Amines (Cleavable from Azo-colourants)**

With reference to USEPA 8270 E or Reduction step with sodium dithionite, solvent extraction followed by GC-MS and LC-MS/MS

Test Items	CAS no.	Reporting Limit (Textile and Leather)	Result	Unit
			Untreated wastewater	
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	0.1	ND	µg/L
4,4'-Diaminodiphenylmethane	101-77-9	0.1	ND	µg/L
4,4'-Oxydianiline	101-80-4	0.1	ND	µg/L
4-Chloroaniline	106-47-8	0.1	10.9	µg/L
3,3'-Dimethoxybenzidine	119-90-4	0.1	ND	µg/L
3,3'-Dimethylbenzidine	119-93-7	0.1	ND	µg/L
p-Cresidine	120-71-8	0.1	ND	µg/L
2,4,5-Trimethylaniline	137-17-7	0.1	ND	µg/L
4,4'-Thiodianiline	139-65-1	0.1	ND	µg/L
4-Aminoazobenzene	60-09-3	0.1	ND	µg/L
2,4-Diaminoanisole	615-05-4	0.1	ND	µg/L
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	0.1	ND	µg/L
2,6-Xylidine	87-62-7	0.1	ND	µg/L
o-Anisidine	90-04-0	0.1	ND	µg/L
2-Naphthylamine	91-59-8	0.1	ND	µg/L
3,3'-Dichlorobenzidine	91-94-1	0.1	ND	µg/L
4-Aminobiphenyl	92-67-1	0.1	ND	µg/L
Benzidine	92-87-5	0.1	ND	µg/L
o-Toluidine	95-53-4	0.1	ND	µg/L
2,4-Xylidine	95-68-1	0.1	ND	µg/L
4-Chloro-o-toluidine	95-69-2	0.1	ND	µg/L
2,4-Diaminotoluene	95-80-7	0.1	ND	µg/L
o-Aminoazotoluene	97-56-3	0.1	ND	µg/L
5-Nitro-o-toluidine	99-55-8	0.1	ND	µg/L
2-Naphthylammoniumacetate	553-00-4	0.1	ND	µg/L
2,4,5-trimethylaniline hydrochloride	21436-97-5	0.1	ND	µg/L
4-chloro-o-toluidinium chloride	3165-93-3	0.1	ND	µg/L
4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7	0.1	ND	µg/L



**21.UV Absorbers**

With reference to ISO 22032, USEPA 527, USEPA 8270 E, USEPA 8321 B or Dichloromethane extraction followed by GC-MS or LC-MS(-MS)

Test Items	CAS no.	Reporting Limit (Textile)	Result	Unit
			Untreated wastewater	
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350)	36437-37-3	100	ND	µg/L
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	100	ND	µg/L
2-benzotriazol-2-yl-4,6-di-tertbutylphenol (UV-320)	3846-71-7	100	ND	µg/L
2,4-Di-tert-butyl-6-(5-chlorobenzotriazole-2-yl) phenol (UV-327)	3864-99-1	100	ND	µg/L

**22.Volatile organic compounds (VOCs)**

Benzene: With reference to ISO 11423-1, ISO 20595, USEPA 8260 D, Purge and Trap or Headspace followed by GC-MS

m-cresol / o-cresol / p-cresol: With reference to BS EN 12637-1999, ISO 11423-1, USEPA 8270 E, Purge and Trap or Headspace followed by GC-MS

Xylene: With reference to ISO 11423-1, USEPA 8260 D, Purge and Trap or Headspace followed by GC-MS

Toluene: With reference to ISO 11423-1, USEPA 8260 D or HJ 1067

Test Items	CAS no.	Reporting Limit	Result	Unit
			Untreated wastewater	
Benzene	71-43-2	Textile and Leather: 1	ND	µg/L
Xylene	1330-20-7	Textile: 1	ND	µg/L
o-cresol	95-48-7	Textile and Leather: 1	ND	µg/L
p-cresol	106-44-5	Textile and Leather: 1	ND	µg/L
m-cresol	108-39-4	Textile and Leather: 1	ND	µg/L
Toluene	108-88-3	Textile: 1 (Sample and Report only for mock leather)	ND	µg/L

**Remark**

ND = Not detected

- NA = Not applicable

= Not required to be tested

(S) = The analysis was subcontracted to xxxxx lab for testing.

# = Non accredited parameter



**SLUDGE**

**23.Sludge Parameters - Step 1 – Conventional**

pH: USEPA 9045 D or HJ 962  
 % Solids: USEPA 160.3 or HJ 613 at 105°C  
 Paint Filter Test: USEPA SW-846 or USEPA 9095 B  
 Fecal Coliform: USEPA 1681

Test Items	CAS no.	Limit							Reporting Limit	Result	Unit
		Pathway A	Pathway B	Pathway C	Pathway D	Pathway E	Pathway F	Pathway G		Sludge	
pH	-	Sample and Report Only	Sample and Report Only	5-11	5-11	5-11	6.5-9	6.5-9	-	7.9	s.u.
% Solids	-	Sample and Report Only	Sample and Report Only	Sample and Report Only	Sample and Report Only	Sample and Report Only	Sample and Report Only	Sample and Report Only	-	45	%
Paint Filter Test	-	Sample and Report Only	Sample and Report Only	Sample and Report Only	Pass	Pass	Pass	Sample and Report Only	-	Pass	-
Fecal Coliform	-	Sample and Report Only	Sample and Report Only	Sample and Report Only	Sample and Report Only	Sample and Report Only	1000	1000	1000	2000000	MPN/g

**24.Sludge Parameters – Step 1 – Anions**

Preparation: USEPA 9013  
 Analysis: USEPA 9014, USEPA 9213 or HJ 745

Test Items	CAS no.	Limit – Dry weight							Reporting Limit (Textile)	Unit	Unit
		Pathway A	Pathway B	Pathway C	Pathway D	Pathway E	Pathway F	Pathway G		Sludge	
Cyanide	-	Sample and Report Only	Sample and Report Only	100	85	70	70	70	20	ND	



**25.Sludge Parameters – Step 1 – Metals**

Sb, As, Cr, Co, Cd, Cu, Pb, Ni, Zn: Preparation: USEPA 3050 Analysis: USEPA 6010 D, USEPA 6020 B or HJ 803

Cr VI: Preparation: USEPA 3060 A Analysis: USEPA 7196 or USEPA 7199

Ba, Se, Ag: Preparation: USEPA 3050 Analysis: USEPA 6010 D or USEPA 6020 B

Hg: Preparation: option 1: USEPA 7471 B option 2: USEPA 3051 A Analysis: option 1: USEPA 7471 B, option 2: USEPA 6020 B or GB/T 22105.1 or HJ 923

Test Items	CAS no.	Limit – Dry weight							Reporting Limit	Result	Unit
		Pathway A	Pathway B	Pathway C	Pathway D	Pathway E	Pathway F	Pathway G		Sludge	
Arsenic (As)	Various	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile and Leather: 75	Textile: 5 Leather: 2	ND	mg/kg
Cadmium (Cd)	Various	Textile: 1 Leather: 2	Textile: 1 Leather: 2	Textile: 1 Leather: 2	Textile: 1 Leather: 2	Textile: 1 Leather: 2	Textile: 1 Leather: 2	Textile and Leather: 85	Textile: 1 Leather: 2	ND	mg/kg
Mercury (Hg)	Various	Textile: 1 Leather: 0.2	Textile: 1 Leather: 0.2	Textile: 1 Leather: 0.2	Textile: 1 Leather: 0.2	Textile: 1 Leather: 0.2	Textile: 1 Leather: 0.2	Textile and Leather: 57	Textile: 1 Leather: 0.2	ND	mg/kg
Lead (Pb)	Various	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile: 5 Leather: 2	Textile and Leather: 840	Textile: 5 Leather: 2	ND	mg/kg
Antimony (Sb)	Various	Textile: 5	Textile: 5	Textile: 5	Textile: 5	Textile: 5	Textile: 5	Sample and Report Only	Textile: 5	ND	mg/kg
Cobalt (Co)	Various	Textile: 400	Textile: 400	Textile: 400	Textile: 400	Textile: 400	Textile: 400	Sample and Report Only	Textile: 400	ND	mg/kg
Nickel (Ni)	Various	Textile: 20	Textile: 20	Textile: 20	Textile: 20	Textile: 20	Textile: 20	Textile: 420	Textile: 20	ND	mg/kg
Silver (Ag)	Various	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Sample and Report Only	Textile: 50	ND	mg/kg
Copper (Cu)	Various	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 4300	Textile: 50	ND	mg/kg
Zinc (Zn)	Various	Textile: 400	Textile: 400	Textile: 400	Textile: 400	Textile: 400	Textile: 400	Textile: 7500	Textile: 400	ND	mg/kg
Total Chromium (Cr)	Various	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 50	Textile: 3000	Textile: 50	ND	mg/kg



Chromium VI (Cr VI)	Various	Textile: 20 Leather: 2	Textile: 20 Leather: 2	Textile: 20 Leather: 2	Textile: 20 Leather: 2	Textile: 20 Leather: 2	Textile: 20 Leather: 2	Textile and Leather :50	Textile: 20 Leather 2	ND	mg/kg
Barium (Ba)	Various	Textile: 200	Textile: 200	Textile: 200	Textile: 200	Textile: 200	Textile: 200	Sample and Report Only	Textile: 200	ND	mg/kg
Selenium (Se)	Various	Textile: 5	Textile: 5	Textile: 5	Textile: 5	Textile: 5	Textile: 5	Textile: 100	Textile: 5	ND	mg/kg

**26.Sludge Parameters - Step 1 - MRSL - Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers**

NP/OP: Preparation: With reference to USEPA 3540 / 3541 - Soxhlet or USEPA 3550 - Ultrasonic

Analysis: With reference to ISO 18857-2 or ASTM D7065

NPEO/OPEO: Preparation: With reference to USEPA 3540 / 3541 - Soxhlet or USEPA 3550 - Ultrasonic

Analysis: With reference to ISO 18254-1, ISO 18857-2 or ASTM D7065

Test Items	CAS no.	Limit – Dry weight							Reporting Limit (Textile and Leather)	Result	
		Pathway A	Pathway B	Pathway C	Pathway D	Pathway E	Pathway F	Pathway G		Sludge	Unit
Octylphenol (OP)	140-66-9/ 1806-26-4/ 27193-28-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.4	0.4	0.4	0.4	0.4	ND	mg/kg
Nonylphenol (NP)	104-40-5/ 11066-49-2/ 25154-52-3/84852-15-3	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.4	0.4	0.4	0.4	0.4	ND	mg/kg
Octylphenoethoxylates (OPEOs)	9002-93-1/9036-19-5/68987-90-6	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.4	0.4	0.4	0.4	0.4	ND	mg/kg
Nonylphenoethoxylates (NPEOs)	9016-45-9/26027-38-3/ 37205-87-1/68412-54-4/127087-87-0	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.4	0.4	0.4	0.4	0.4	ND	mg/kg



**27.Sludge Parameters - Step 1 - MRSL – Polycyclic Aromatic Hydrocarbons (PAHs)**

Preparation: With reference to USEPA 3540 / 3541 - Soxhlet or USEPA 3550 - Ultrasonic

Clean-up: With reference to USEPA 3640

Analysis: With reference to USEPA 8270 E or HJ 805-2016

Test Items	CAS no.	Limit – Dry weight							Reporting Limit (Textile)	Result	Unit
		Pathway A	Pathway B	Pathway C	Pathway D	Pathway E	Pathway F	Pathway G		Sludge	
Benzo(a)pyrene (BaP)	50-32-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Anthracene	120-12-7	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Pyrene	129-00-0	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Benzo(ghi)perylene	191-24-2	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Benzo(e)pyrene	192-97-2	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Indeno (1,2,3-cd)pyrene	193-39-5	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Benzo(j)fluoranthene	205-82-3	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Benzo(b)fluoranthene	205-99-2	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Fluoranthene	206-44-0	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg



Benzo(k)fluoranthene	207-08-09	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Acenaphthylene	208-96-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Chrysene	218-01-9	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Dibenz(a,h)anthracene	53-70-3	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Benzo(a)anthracene	56-55-3	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Acenaphthene	83-32-9	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Phenanthrene	85-01-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Fluorene	86-73-7	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Naphthalene	91-20-3	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg





**28.Sludge Parameters - Step 1 - MRSL – Chlorotoluenes**

Preparation: With reference to USEPA 3540 / 3541 - Soxhlet or USEPA 3550 - Ultrasonic

Clean-up: With reference to USEPA 3640

Analysis: With reference to USEPA 8270 E or HJ 605

Test Items	CAS no.	Limit – Dry weight							Reporting Limit (Textile and Leather)	Result	Unit
		Pathway A	Pathway B	Pathway C	Pathway D	Pathway E	Pathway F	Pathway G		Sludge	
2-Chlorotoluene	95-49-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
3-Chlorotoluene	108-41-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
4-Chlorotoluene	106-43-4	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,3-Dichlorotoluene	32768-54-0	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,4-Dichlorotoluene	95-73-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,5-Dichlorotoluene	19398-61-9	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,6-Dichlorotoluene	118-69-4	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
3,4-Dichlorotoluene	95-75-0	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
3,5-Dichlorotoluene	25186-47-4	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,3,4-Trichlorotoluene	7359-72-0	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg



2,3,6-Trichlorotoluene	2077-46-5	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,4,5-Trichlorotoluene	6639-30-1	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,4,6-Trichlorotoluene	23749-65-7	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
3,4,5-Trichlorotoluene	21472-86-6	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,3,4,5-Tetrachlorotoluene	76057-12-0	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,3,5,6-Tetrachlorotoluene	29733-70-8	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
2,3,4,6-Tetrachlorotoluene	875-40-1	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg
Pentachlorotoluene	877-11-2	Sample and Report Only	Sample and Report Only	Sample and Report Only	0.2	0.2	0.2	0.2	0.2	ND	mg/kg



**LEACHATE**

**29. Leachate Parameters - Step 2 – Metals**

As, Cd, Cr, Pb, Sb, Ba, Co, Cu, Ni, Se, Ag, Zn: Leachate Extraction: USEPA 1311 or USEPA 3051 A Analysis: ISO 11885, ISO 17294-2, USEPA 200.7, USEPA 200.8, USEPA 6010 C or USEPA 6020 A

Cr (VI): Leachate Extraction: USEPA 1311 Analysis: ISO 18412, USEPA 7196 or USEPA 7199

Hg: Leachate Extraction: USEPA 1311 of USEPA 3051 A Analysis: ISO 12846, ISO 17852, USEPA 7471 B or USEPA 6020 B

Test Items	CAS no.	Limit							Reporting Limit	Result	Unit
		Pathway A	Pathway B	Pathway C	Pathway D	Pathway E	Pathway F	Pathway G		Leachate	
Arsenic (As)	Various	Sample and Report Only	Sample and Report Only	5	2.75	0.5	0.5	0.5	0.005	NA	mg/L
Cadmium (Cd)	Various	Sample and Report Only	Sample and Report Only	1	0.58	0.15	0.15	0.15	0.01	NA	mg/L
Mercury (Hg)	Various	Sample and Report Only	Sample and Report Only	0.2	0.125	0.05	0.05	0.05	0.001	NA	mg/L
Lead (Pb)	Various	Sample and Report Only	Sample and Report Only	5	2.75	0.5	0.5	0.5	0.01	NA	mg/L
Antimony (Sb)	Various	Sample and Report Only	Sample and Report Only	15	7.8	0.6	0.6	0.6	0.01	NA	mg/L
Cobalt (Co)	Various	Sample and Report Only	Sample and Report Only	80	80	80	80	80	0.01	NA	mg/L
Nickel (Ni)	Various	Sample and Report Only	Sample and Report Only	20	11.75	3.5	3.5	3.5	0.05	NA	mg/L
Silver (Ag)	Various	Sample and Report Only	Sample and Report Only	5	5	5	5	5	0.005	NA	mg/L
Copper (Cu)	Various	Sample and Report Only	Sample and Report Only	25	17.5	10	10	10	0.25	NA	mg/L



Zinc (Zn)	Various	Sample and Report Only	Sample and Report Only	250	150	50	50	50	0.1	NA	mg/L
Total Chromium (Cr)	Various	Sample and Report Only	Sample and Report Only	15	10	5	5	5	0.05	NA	mg/L
Chromium VI (Cr VI)	Various	Sample and Report Only	Sample and Report Only	5	3.75	2.5	2.5	2.5	0.001	NA	mg/L
Barium (Ba)	Various	Sample and Report Only	Sample and Report Only	100	67.5	35	35	35	35	NA	mg/L
Selenium (Se)	Various	Sample and Report Only	Sample and Report Only	1	0.75	0.5	0.5	0.5	0.5	NA	mg/L

Remark

ND = Not detected

NA = Not applicable

- = Not required to be tested

(S) = The analysis was subcontracted to xxxxx lab for testing.

# = Non accredited parameter



**In-situ Measurement Record (ZDHC WW Test Program)**

Factory Name: Shakti Exports Pvt Ltd  
 Factory Address: Unit-105, #15b, KIADB Industrial Area, Machenagalli, Shimoga-577222.  
 Sampling Date: 07-03-2023  
 Sampling Time: 8:35AM - 2:35PM  
 Sampling Location:  Incoming Water (Inlet)  Untreated Wastewater (Before Treatment)  Effluent (After Treatment)  Sludge  
 GPS Data: 13.87282, 75.64395

Sampling Method:  
 Grab  6-hr composite  
 Others, please specify: \_\_\_\_\_

Discharge Method:  
 Direct  Indirect  Zero Liquid Discharge (ZLD)

**Calibration Record:**

Equipment: pH Meter Inventory No.: DH7  
 Equipment: Thermometer Inventory No.: GTMO4  
 Calibration Point:  4.01  7.00  9.21 / 10.00\* (\*please delete the inappropriate one)

Standard Solution	Theoretical Value	Measured Value
pH Standard Solution #1	pH Value = <u>7.0</u> at <u>25.0</u> °C	pH Value = <u>7.07</u> at <u>28.5</u> °C
pH Standard Solution #2	pH Value = <u>7.0</u> at <u>25.0</u> °C	pH Value = <u>7.06</u> at <u>29.1</u> °C

Difference of the measured and theoretical values of pH Standard Solution #1 = 0.07  
 Difference of the measured and theoretical values of pH Standard Solution #2 = 0.06

Tolerance deviation: ± 0.1 pH Value

Conclusion: **PASS / FAIL**

**In-Situ Measurement Record:**

No.	Parameters	Results	
		Effluent	Receiving Body of Water Upstream
1	pH	1st measurement (Time: <u>8:35AM</u> ): <u>10:00</u> <u>87.0</u> °C	
		2nd measurement (Time: <u>9:35AM</u> ): <u>10:30</u> <u>88.0</u> °C	
		3rd measurement (Time: <u>10:35AM</u> ): <u>9:35</u> <u>87.6</u> °C	
		4th measurement (Time: <u>11:35AM</u> ): <u>9:10</u> <u>88.1</u> °C	
		5th measurement (Time: <u>12:35PM</u> ): <u>10:06</u> <u>87.9</u> °C	
		6th measurement (Time: <u>01:35PM</u> ): <u>10:10</u> <u>88.2</u> °C	
		7th measurement (Time: <u>02:35PM</u> ): <u>10:03</u> <u>88.0</u> °C	
		Average: <u>9.99</u> at <u>28.1</u> °C	
2	Temperature (°C)	1st measurement (Time: <u>8:35AM</u> ): <u>49.0</u> °C	1st measurement (Time: : ): : )
		2nd measurement (Time: <u>9:35PM</u> ): <u>48.0</u> °C	2nd measurement (Time: : ): : )
		3rd measurement (Time: <u>10:35AM</u> ): <u>48.0</u> °C	3rd measurement (Time: : ): : )
		4th measurement (Time: <u>11:35AM</u> ): <u>49.0</u> °C	4th measurement (Time: : ): : )
		5th measurement (Time: <u>12:35PM</u> ): <u>47.0</u> °C	5th measurement (Time: : ): : )
		6th measurement (Time: <u>1:35PM</u> ): <u>46.0</u> °C	6th measurement (Time: : ): : )
		7th measurement (Time: <u>2:35PM</u> ): <u>48.0</u> °C	7th measurement (Time: : ): : )
		Average: <u>47.9</u> °C	Average: : : )

Prepared By: Mansi Prabakar .K  
 Checked By: Devasaj .P

Date: 07-03-23  
 Date: 07-03-23



In-situ Measurement Record (ZDHC WW Test Program)

Factory Name: \_\_\_\_\_  
 Factory Address: \_\_\_\_\_  
 Sampling Date: \_\_\_\_\_  
 Sampling Time: \_\_\_\_\_  
 Sampling Location:  Incoming Water (Inlet)  Unreated Wastewater (Before Treatment)  Effluent (After Treatment)  Sludge  
 GPS Data: \_\_\_\_\_

In-Situ Measurement Record (Cont'd):

No.	Parameter	Results
		Effluent
	1st measurement (Time: 8:35 AM)	i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input checked="" type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
	2nd measurement (Time: 9:35 AM)	i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
	3rd measurement (Time: 10:35 AM)	i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
3	Visible Colour	4th measurement (Time: 11:35 AM) i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive 5th measurement (Time: 12:35 PM) i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive 6th measurement (Time: 1:35 PM) i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive 7th measurement (Time: 2:35 PM) i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive Average: i) Colour: <input type="checkbox"/> Yellowish <input checked="" type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input checked="" type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input checked="" type="checkbox"/> Offensive <input type="checkbox"/> Not offensive

Prepared By: Manoj Perabakar, K  
 Checked By: Deviya P

Date: 07-03-23  
 Date: 07-03-23

Issue 5 / Oct 2022  
 RSTS-WW-D-001 (p2)



**In-situ Measurement Record (ZDHC WW Test Program)**

Factory Name: \_\_\_\_\_  
 Factory Address: \_\_\_\_\_  
 Sampling Date: \_\_\_\_\_  
 Sampling Time: \_\_\_\_\_  
 Sampling Location:  Incoming Water (Inlet)  Unreated Wastewater (Before Treatment)  Effluent (After Treatment)  Sludge  
 GPS Data: \_\_\_\_\_

**In-Situ Measurement Record (Cont'd):**

No.	Parameters	Results
		Location: _____
	1st measurement (Time: 8:35 AM)	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	
	2nd measurement (Time: 9:35 AM)	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	
	3rd measurement (Time: 10:35 AM)	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	
	4th measurement (Time: 11:35 AM)	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	
4	Persistent Foam	
	5th measurement (Time: 12:35 PM)	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	
	6th measurement (Time: 1:35 PM)	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	
	7th measurement (Time: 2:35 PM)	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	
	Average:	
	i) Color: <input checked="" type="checkbox"/> Similar to the liquid in aeration basin <input type="checkbox"/> Not similar to the liquid in aeration basin	
	ii) Dispersing: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	iii) Thickness (by visual estimation): <input type="checkbox"/> Not thicker than 45cm <input type="checkbox"/> Thicker than 45cm	
	iv) Foam contains within aeration basin only: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	Determination: <input type="checkbox"/> Foam <input checked="" type="checkbox"/> No Foam	

Prepared By: Manoj Prabakar. K  
 Checked By: Devraj. P

Date: 07-03-23  
 Date: 07-03-23



In-situ Measurement Record (ZDHC WW Test Program)

Factory Name: \_\_\_\_\_  
 Factory Address: \_\_\_\_\_  
 Sampling Date: \_\_\_\_\_  
 Sampling Time: \_\_\_\_\_  
 Sampling Location:  Incoming Water (Inlet)  Untreated Wastewater (Before Treatment)  Effluent (After Treatment)  Budge  
 GPS Data: \_\_\_\_\_

In-Situ Measurement Record (Cont'd):

Equipment: Timer Inventory No.: \_\_\_\_\_  
 Equipment: Flow Velocity Meter Inventory No.: \_\_\_\_\_

No.	Parameters	Results	
		Effluent	Reading of Factory's Wastewater Discharge Flow Meter
8	Wastewater Flowrate (m <sup>3</sup> /day)	SGS Measurement:	
		1st measurement (Time: <u>8:35 AM</u> )	1st measurement (Time: : : )
		Sampling point: <u>WW Discharged Outlet</u>	Sampling point: <u>WW Tank / WW Discharged Channel</u>
		Volume of sampling container: <u>1</u>	Cross section area of sampling point: _____ (m <sup>2</sup> )
		Wastewater flowrate: <u>86.4</u>	Flow velocity of sampling point: _____ (m/s)
		Time to fill up the sampling container: <u>1</u> (s)	Wastewater flowrate: _____ (m <sup>3</sup> /day)
		2nd measurement (Time: <u>9:55 AM</u> )	2nd measurement (Time: : : )
		Sampling point: <u>WW Discharged Outlet</u>	Sampling point: <u>WW Tank / WW Discharged Channel</u>
Volume of sampling container: <u>1</u>	Cross section area of sampling point: _____ (m <sup>2</sup> )		
Wastewater flowrate: <u>86.4</u>	Flow velocity of sampling point: _____ (m/s)		
Time to fill up the sampling container: <u>1</u> (s)	Wastewater flowrate: _____ (m <sup>3</sup> /day)		
3rd measurement (Time: <u>10:35 AM</u> )	3rd measurement (Time: : : )		
Sampling point: <u>WW Discharged Outlet</u>	Sampling point: <u>WW Tank / WW Discharged Channel</u>		
Volume of sampling container: <u>1</u>	Cross section area of sampling point: _____ (m <sup>2</sup> )		
Wastewater flowrate: <u>86.4</u>	Flow velocity of sampling point: _____ (m/s)		
Time to fill up the sampling container: <u>1</u> (s)	Wastewater flowrate: _____ (m <sup>3</sup> /day)		
4th measurement (Time: <u>11:35 AM</u> )	4th measurement (Time: : : )		
Sampling point: <u>WW Discharged Outlet</u>	Sampling point: <u>WW Tank / WW Discharged Channel</u>		
Volume of sampling container: <u>1</u>	Cross section area of sampling point: _____ (m <sup>2</sup> )		
Wastewater flowrate: <u>86.4</u>	Flow velocity of sampling point: _____ (m/s)		
Time to fill up the sampling container: <u>1</u> (s)	Wastewater flowrate: _____ (m <sup>3</sup> /day)		
5th measurement (Time: <u>12:35 PM</u> )	5th measurement (Time: : : )		
Sampling point: <u>WW Discharged Outlet</u>	Sampling point: <u>WW Tank / WW Discharged Channel</u>		
Volume of sampling container: <u>1</u>	Cross section area of sampling point: _____ (m <sup>2</sup> )		
Wastewater flowrate: <u>86.4</u>	Flow velocity of sampling point: _____ (m/s)		
Time to fill up the sampling container: <u>1</u> (s)	Wastewater flowrate: _____ (m <sup>3</sup> /day)		
6th measurement (Time: <u>1:35 PM</u> )	6th measurement (Time: : : )		
Sampling point: <u>WW Discharged Outlet</u>	Sampling point: <u>WW Tank / WW Discharged Channel</u>		
Volume of sampling container: <u>1</u>	Cross section area of sampling point: _____ (m <sup>2</sup> )		
Wastewater flowrate: <u>86.4</u>	Flow velocity of sampling point: _____ (m/s)		
Time to fill up the sampling container: <u>1</u> (s)	Wastewater flowrate: _____ (m <sup>3</sup> /day)		
7th measurement (Time: <u>2:35 PM</u> )	7th measurement (Time: : : )		
Sampling point: <u>WW Discharged Outlet</u>	Sampling point: <u>WW Tank / WW Discharged Channel</u>		
Volume of sampling container: <u>1</u>	Cross section area of sampling point: _____ (m <sup>2</sup> )		
Wastewater flowrate: <u>86.4</u>	Flow velocity of sampling point: _____ (m/s)		
Time to fill up the sampling container: <u>1</u> (s)	Wastewater flowrate: _____ (m <sup>3</sup> /day)		
Average: <u>86.4</u> (m <sup>3</sup> /day)	Average: _____ (m <sup>3</sup> /day)		

Calculation:

Sampling point: WW Discharged Outlet  
 Wastewater flow (m<sup>3</sup>/day) =  
 Volume of sampling container (L) × 86.4  
 Time required to fill-up (s)

Sampling point: WW Tank / WW Discharged Channel  
 Wastewater flow (m<sup>3</sup>/day) =  
 Cross section area (m<sup>2</sup>) × Flow velocity (m/s) × 86400

Prepared By: Manoj Peabakar . K  
 Checked By: Devasag . P

Date: 07-03-23  
 Date: 07-03-23





**In-situ Measurement Record (ZDHC WW Test Program)**

Factory Name: \_\_\_\_\_  
 Factory Address: \_\_\_\_\_  
 Sampling Date: \_\_\_\_\_  
 Sampling Time: \_\_\_\_\_  
 Sampling Location:  Incoming Water (Inlet)  Untreated Wastewater (Before Treatment)  Effluent (After Treatment)  Sludge  
 GPS Data: \_\_\_\_\_

**In-Situ Measurement Record (Cont'd):**

Equipment: Dissolved Oxygen Meter Inventory No.: ET-180  
 Equipment: Colorimeter Inventory No.: \_\_\_\_\_  
 Equipment: Conductivity Meter Inventory No.: \_\_\_\_\_

No.	Parameters	Results
6	Dissolved Oxygen (mg/L)	Effluent
		1st measurement (Time: 8.35 AM): 11.0
		2nd measurement (Time: 9.35 AM): 10.5
		3rd measurement (Time: 10.35 AM): 11.4
		4th measurement (Time: 11.35 AM): 12.0
		5th measurement (Time: 12.35 PM): 9.9
		6th measurement (Time: 1.35 PM): 8.8
		7th measurement (Time: 2.35 PM): 9.5
Average:		10.5
7	Total Chlorine (mg/L)	Effluent
		1st measurement (Time: 8.35 AM): 0
		2nd measurement (Time: 9.35 AM): 0
		3rd measurement (Time: 10.35 AM): 0
		4th measurement (Time: 11.35 AM): 0
		5th measurement (Time: 12.35 PM): 0
		6th measurement (Time: 1.35 PM): 0
		7th measurement (Time: 2.35 PM): 0
Average:		0
8	Conductivity (µS/cm) ms/cm	Effluent
		1st measurement (Time: 8.35 AM): 12.4
		2nd measurement (Time: 9.35 AM): 12.7
		3rd measurement (Time: 10.35 AM): 12.0
		4th measurement (Time: 11.35 AM): 11.8
		5th measurement (Time: 12.35 PM): 11.0
		6th measurement (Time: 1.35 PM): 12.2
		7th measurement (Time: 2.35 PM): 13.0
Average:		12.0

Prepared By: Manoj Prabhakar - K  
 Checked By: Devaraj - P

Date: 07-03-23  
 Date: 07-03-23

Issue 5 / Oct 2022  
 RST5-WW-D-001 (g2)



**In-situ Measurement Record (ZDHC WW Test Program)**

Factory Name: Shahi Exports Pvt Ltd  
 Factory Address: Unit 105, #156, KIADB Industrial area, Machanagalli, Shivmoga-571222  
 Sampling Date: 07-03-2023  
 Sampling Time: 2.00pm - 2.15pm  
 Sampling Location:  Incoming Water (Inlet)  Untreated Wastewater (Before Treatment)  Effluent (After Treatment)  Sludge  
 GPS Data: 13.87362, 75.64320

Sampling Method:  
 Grab  8-hr composite  
 Others, please specify: \_\_\_\_\_

Discharge Method:  
 Direct  Indirect  Zero Liquid Discharge (ZLD)

Calibration Record:  
 Equipment: pH Meter Inventory No.: \_\_\_\_\_  
 Equipment: Thermometer Inventory No.: \_\_\_\_\_  
 Calibration Point:  4.01  7.00  9.21 / 10.00\* (\*please delete the inappropriate one)

Standard Solution	Theoretical Value	Measured Value
pH Standard Solution #1	pH Value = at _____ °C	pH Value = at _____ °C
pH Standard Solution #2	pH Value = at _____ °C	pH Value = at _____ °C

Difference of the measured and theoretical values of pH Standard Solution #1 = \_\_\_\_\_  
 Difference of the measured and theoretical values of pH Standard Solution #2 = \_\_\_\_\_  
 Tolerance deviation: ± 0.1 pH Value

Conclusion: **PASS / FAIL**

**In-Situ Measurement Record:**

No.	Parameters	Results	
		Effluent	Receiving Body of Water Upstream
1	pH	1st measurement (Time: : ) at _____ °C	NA
		2nd measurement (Time: : ) at _____ °C	
		3rd measurement (Time: : ) at _____ °C	
		4th measurement (Time: : ) at _____ °C	
		5th measurement (Time: : ) at _____ °C	
		6th measurement (Time: : ) at _____ °C	
		7th measurement (Time: : ) at _____ °C	
		Average: _____ at _____ °C	
2	Temperature (°C)	1st measurement (Time: : )	1st measurement (Time: : )
		2nd measurement (Time: : )	2nd measurement (Time: : )
		3rd measurement (Time: : )	3rd measurement (Time: : )
		4th measurement (Time: : )	4th measurement (Time: : )
		5th measurement (Time: : )	5th measurement (Time: : )
		6th measurement (Time: : )	6th measurement (Time: : )
		7th measurement (Time: : )	7th measurement (Time: : )
		Average: _____	Average: _____

Prepared By: Mangal Deebakar . K  
 Checked By: Devasagi . P

Date: 07-03-23  
 Date: 07-03-23

Issue 8 / Oct 2022  
 R515-WW-Q-001 (g1)



**In-situ Measurement Record (ZDHC WW Test Program)**

Factory Name: \_\_\_\_\_  
 Factory Address: \_\_\_\_\_  
 Sampling Date: \_\_\_\_\_  
 Sampling Time: \_\_\_\_\_  
 Sampling Location:  Incoming Water (Inlet)  Untreated Wastewater (Before Treatment)  Effluent (After Treatment)  Sludge  
 GPS Data: \_\_\_\_\_

**In-Situ Measurement Record (Cont'd):**

No.	Parameters	Results
3	Visible Colour	1st measurement (Time: <u>2:00PM</u> ) Effluent: i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input checked="" type="checkbox"/> Others, please specify: <u>Grey</u> ii) Intensity: <input checked="" type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input checked="" type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
		2nd measurement (Time: : ): _____ i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
		3rd measurement (Time: : ): _____ i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
		4th measurement (Time: : ): _____ i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
		5th measurement (Time: : ): _____ i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
		6th measurement (Time: : ): _____ i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
		7th measurement (Time: : ): _____ i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive
	Average:	i) Colour: <input type="checkbox"/> Yellowish <input type="checkbox"/> Reddish <input type="checkbox"/> Brown <input type="checkbox"/> Blue <input type="checkbox"/> No Colour <input type="checkbox"/> Others, please specify: _____ ii) Intensity: <input type="checkbox"/> Light <input type="checkbox"/> Dark <input type="checkbox"/> Very Dark <input type="checkbox"/> Opaque <input type="checkbox"/> Others, please specify: _____ Determination: <input type="checkbox"/> Offensive <input type="checkbox"/> Not offensive

Prepared By: Manoj Prabhakar .K  
 Checked By: Devasai .P

Date: 07-03-23  
 Date: 07-03-23



SGS INDIA PRIVATE LIMITED  
TEST REQUEST FORMAT

I Type of Processing Facility & Activity:		E1 Dyeing / Printing / Finishing		Dyeing, Printing & Bleaching							
II ETP Owned by Factory:		Yes / NO		Yes							
III Discharge Destination:		Direct (if specify destination) / Indirect (if specify destination) / ZERO Discharge		Zero liquid Discharge							
S. No.	Sample Details*	Sampling Location*	GPS readings*	Testing Parameter	Test Method	Sampling Date*	Sampling Method*	Starting Time*	End Time*	Sample Quantity*	Remarks
1	Shahi Exports Pvt Ltd	RO Plant waste	13.87329 75.64325			07-03-23	Grab	8.30am	8.35am	1 litre	
2	Shahi Exports Pvt Ltd	Raw waste water	13.87282 75.64395			07-03-23	Composite	8.35am	2.35pm	8 litres	
3	Shahi Exports Pvt Ltd	Sludge	13.87362 75.64320			07-03-23	Grab	2.00pm	2.15pm	2kg	
4											
5											
6											

FULL NAME OF SAMPLER\* Manoj Peabakar - K  
 FULL NAME OF CUSTOMER\* SHAHI Exports Pvt - Ltd

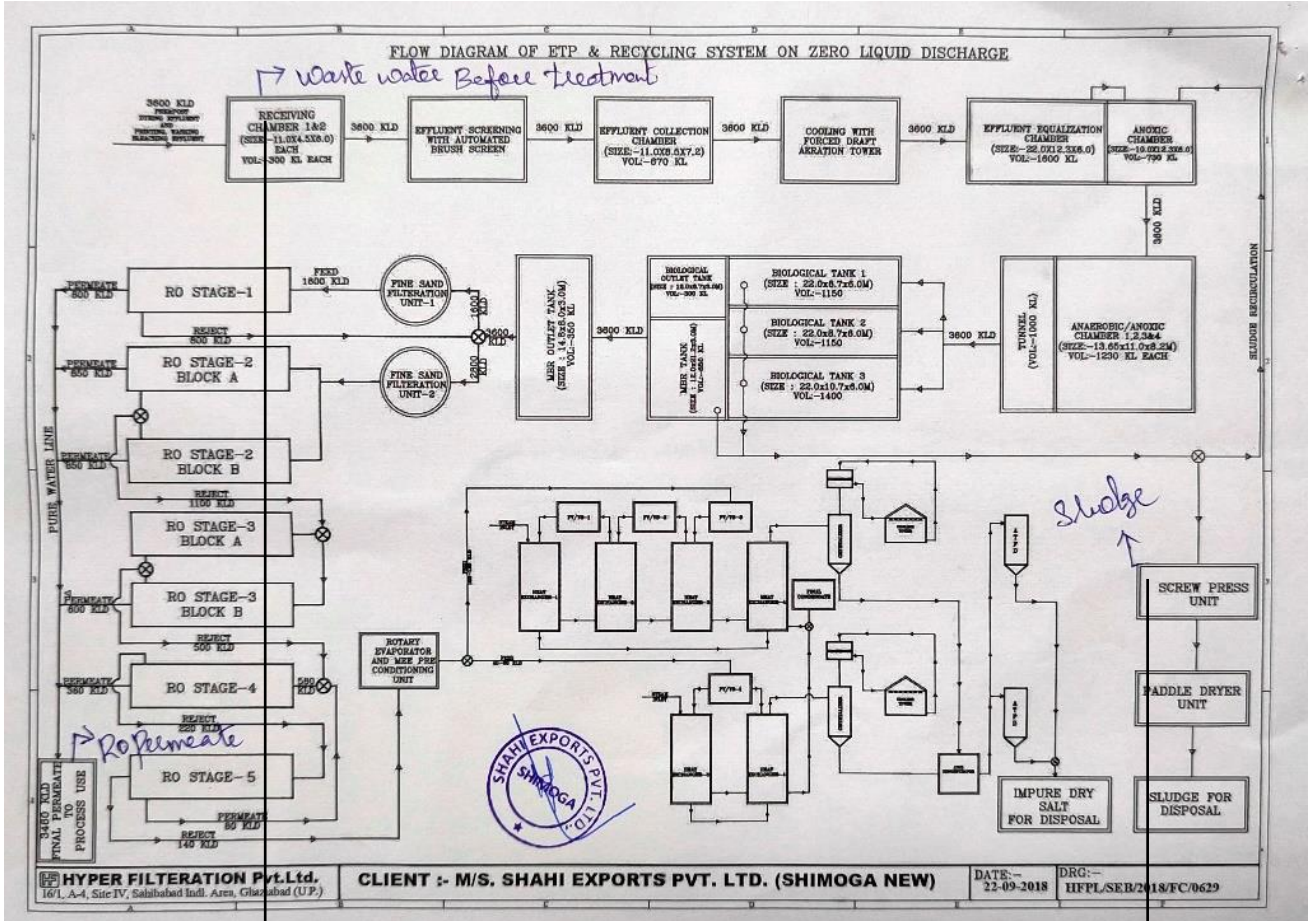


SIGNATURE OF SAMPLER\* [Signature]  
 SIGNATURE OF CUSTOMER\* [Signature]

\*Details are to be filled in case sampling is done by SGS



## PIPING PLAN



UNTREATED WASTEWATER

SLUDGE



## SAMPLING PHOTOS

UNTREATED WASTEWATER	SLUDGE
GPS Data: 13.87282 N, 75.64395 E	GPS Data: 13.87262 N, 75.64320 E
SAMPLING LOCATION, CLOSE-UP VIEW	SAMPLING LOCATION, CLOSE-UP VIEW
	
SAMPLING LOCATION, FAR VIEW	SAMPLING LOCATION, FAR VIEW
	