

SOFTLINES WASTEWATER TESTING

TEST REPORT

Number:SHAT07664492

Date of sampling	08 Jun, 2023
Reporting Date	16 Jun, 2023

Audit ID	144409	Audit firm	INTERTEK - CHINA NORTH
Company name	JIANGSU PINYTEX TEXTILE DYEING & FINISHING CO., LTD		
Contact person	JIANG YINYIN		
Type of tax - tax ID no	9132041274132888XF		
Address	No.165 South Qingyang Road, Hutang Textiles Industrial Park, Wujin District		
Region state province	JIANGSU		
Town city / village	CHANGZHOU		
Zip/Post code	213162		
Country	MAINLAND CHINA		

Type of wastewater discharge	
ETP	Own ETP
Pre - treatment	YES
Equalization tank	YES
Type of waste discharge	Indirect discharge
Description of discharge	The water is discharged into the sewage system for further treatment on External ETP (receiving ETP name: 常州市武进纺织园污水处理厂)
[If direct discharge] ambient temperature of receiving water body	-
Average total industrial wastewater generated:	1000 m ³ /day

Sludge Disposal Pathway	E
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Sampler accreditation certification number (ZDHC):		C74D106817399	
Sample description	Simple	Composite	Comments
(1) Untreated wastewater (BT)	Black, grab sample at 10:25 Sampling location: Latitude 31°43'20"N, Longitude 119°59'38"E		
(2) Treated wastewater (AT)	Light yellow, grab sample at 10:32 Sampling location: Latitude 31°43'20"N, Longitude 119°59'39"E		
(3) Sludge	Black, composite sample at 10:40 Sampling location: Latitude 31°43'19"N, Longitude 119°59'41"E		

Local Legal Data	
Local Legal Standard name [a]	GB 4287-2012
Parameters (ZDHC WWG V2) exceeded local regulation:	-
Discharge permit provided:	Yes

Internal description – Intertek Lab Issuing Final Test Report	
Internal codification number	
Reference sample number	SHAT07664492
Received on	08 Jun, 2023
Analysis carried out from	08 Jun, 2023 PM to 15 Jun, 2023
Arrival Temperature at Lab	3.9°C
Comments	-
Reporting date	16 Jun, 2023

Internal description – Intertek Subcontracted Lab	
Internal codification number	
Reference sample number	
Received on	Not Applicable
Analysis carried out from	Not Applicable
Arrival Temperature at Lab	Not Applicable
Comments	Not Applicable
Reporting date	Not Applicable

Summary of test results		
Wastewater Test items	Sample 1 (Before treatment)	Sample 2 (After treatment)
Global effluent parameters ZDHC		-
Heavy metals		D
Alkylphenols (APs) & Alkylphenol ethoxylates (APEOs)	ND	
Chlorobenzenes and Chlorotoluenes	ND	
Chlorophenols	ND	
Azo dyes	D	
Carcinogenic dyes	ND	
Disperse dyes	ND	
Flame retardants	ND	
Glycols	ND	
Chlorinated solvents	ND	
Organotin compounds	ND	
Phthalates	ND	
Perfluorinated chemicals (PFCs)	ND	
Polycyclic aromatic hydrocarbons (PAHs)	ND	
Volatile organic compounds (VOCs)	ND	
Anti - Microbials & Biocides	ND	
Chlorinated parafins	ND	
N,N-di-methylformamide (DMFa)	ND	
Dyes-Navy Blue Colourant	ND	
Other/Miscellaneous Chemicals (^)	ND	
UV Absorbers	ND	

Remark (Indicated in each parameter)

ND = Not detected

D = Detected

* = See remark

@ = Maximum holding time exceeded,

red flag in the ZDHC Gateway – Wastewater Module (S) = The analysis was subcontracted to Intertek [xxxxx] for testing.

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(T)= handling temperature exceeded

Sludge Test items	Sample
Sludge Parameters – Step 1 - Metals	D
Sludge Parameters – Step 1 - Anions	ND
Sludge Parameters - Step 1 – Conventional	D
Sludge Parameters - Step 1 - MRSL - Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	D
Sludge Parameters - Step 1 - MRSL - Polycyclic Aromatic Hydrocarbons (PAHs)	ND
Sludge Parameters - Step 1 - MRSL – Chlorotoluenes	ND
Sludge Parameters - Step 2 – Metals	ND

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For and on behalf of
Intertek Testing Service Ltd., Shanghai



Nina Hu, Technical Manager

Test results

1. Global effluent parameters

Parameters	Test method (Please refer only to the SM used in the lab)	Limit			Lab Reporting Limit	Result Sample		Unit
		Foundational	Progressive	Aspirational		After Treatment		
Temperature	GB/T 13195-1991 / EPA 170.1	35°C	30°C	25°C	NA	-	°C	
Temperature difference [°C]	DIN 38 404-4 / USEPA 170.1 / SM 2550/ GB/T 13195 / IS 3025	Δ+15°C	Δ+10°C	Δ+5°C	NA	-	°C	
TSS	GB/T 11901-1989 / EPA 160.2	50 mg/L	15 mg/L	5 mg/L	5 mg/L	-	mg/L	
COD	HJ 828-2017 / ISO 6060	150 mg/L	80 mg/L	40 mg/L	40 mg/L	-	mg/L	
Total-N	HJ 636-2012 / ISO 5663	20 mg/L	10 mg/L	5 mg/L	5 mg/L	-	mg/L	
pH	HJ 1147 / EPA 150.1	6-9	6-9	6-9	NA	-		
Colour [m-1]	ISO 7887-B	7;5;3	5;3;2	2;1;1	NA	-		
BOD ₅	HJ 505-2009 / APHA 5210	30 mg/L	15 mg/L	8 mg/L	8 mg/L	-	mg/L	
Ammonium-N	HJ 535-2009 / ISO 11732	10 mg/L	1 mg/L	0.5 mg/L	0.5 mg/L	-	mg/L	
Total-P	GB/T 11893-1989 / ISO 11885	3 mg/L	0.5 mg/L	0.1 mg/L	0.1 mg/L	-	mg/L	
AOX	HJ/T 83-2001 / ISO 9562	3 mg/L	0.5 mg/L	0.1 mg/L	0.1 mg/L	-	mg/L	
Oil and grease	HJ 637-2018 / ISO 9377-2	10 mg/L	2 mg/L	0.5 mg/L	0.5 mg/L	-	mg/L	
Phenol	HJ 503-2009 / ISO 14402	0.5 mg/L	0.01 mg/L	0.001 mg/L	0.001 mg/L	-	mg/L	
E. Coli	SM 9221B / SM 9221F&G	126 [MPN/100-ml]	126 [MPN/100-ml]	126 [MPN/100-ml]	1.8 MPN/100-ml	-	[MPN/100-ml]	
Foam	/	Not visible	Not visible	Not visible	NA	-		
Cyanide	HJ484-2009 / ISO 6703 / ISO 14403	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.05 mg/L	-	mg/L	
Sulfide	GB/T 16489-1996 / APHA 4500-S2-D	0.5 mg/L	0.05 mg/L	0.01 mg/L	0.01 mg/L	-	mg/L	
Sulphite	HJ 84-2016 / SM 4500 SO ₃	2 mg/L	0.5 mg/L	0.2 mg/L	0.2 mg/L	-	mg/L	
Dissolved Oxygen (DO)	ISO 5814 / EPA 360.1 / SM 4500-O-G / HJ 506	Sample and report only	Sample and report only	Sample and report only	NA	-	mg/L	
Total Chlorine	ISO 7393-2 / USEPA 330.5 / SM4500-Cl-G / HJ 586	Sample and report only	Sample and report only	Sample and report only	0.2 mg/L	-	mg/L	
Total Dissolved Solids (TDS)	SM 2540-C / USEPA 160.1 / GB/T 5750.4-2006 / IS 3025 (Part 16)	Sample and report only	Sample and report only	Sample and report only	10 mg/L	-	mg/L	
Chloride	ISO 10304-1 / ISO 15923-1 / SM 4110 - B / SM 4110-C / SM 4500-Cl D or E / USEPA 300 / HJ 84-2016 / ISO 3025 (Part 32)	Sample and report only	Sample and report only	Sample and report only	10 mg/L	-	mg/L	

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Sulfate	ISO 10304-1 / ISO 15923-1 / SM 4500 SO ₄ , E, F, G / SM 4100 B, C / USEPA 300 / USEPA 9038 / HJ 84-2016 / ISO 3025 (Part 24)	Sample and report only	Sample and report only	Sample and report only	10 mg/L	-	mg/L
Wastewater Flowrate	/				NA	-	m ³ /day

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2. Heavy metals

With reference to ISO 11885, ISO 18412, ISO 12846, ISO 17852, US EPA 200.7, US EPA 200.8, US EPA 6010c, US EPA 6020a, US EPA 218.6 and by Inductively Coupled Argon Plasma-Mass Spectrometry (ICP-MS) analysis.

Heavy metals	CAS no.	Limit			Lab Reporting limit (mg/L)	Result	Unit
		Foundational	Progressive	Aspirational		Sample 2 (After treatment)	
Arsenic (As)	Various	0.05 mg/L	0.01 mg/L	0.005 mg/L	0.001	0.001	mg/L
Cadmium (Cd)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.0001	0.0002	mg/L
Mercury (Hg)	Various	0.01 mg/L	0.005 mg/L	0.001 mg/L	0.00005	0.00009	mg/L
Lead (Pb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.001	0.002	mg/L
Antimony (Sb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.001	-	mg/L
Cobalt (Co)	Various	0.05 mg/L	0.02 mg/L	0.01 mg/L	0.001	-	mg/L
Nickel (Ni)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.001	-	mg/L
Silver (Ag)	Various	0.1 mg/L	0.05 mg/L	0.005 mg/L	0.001	-	mg/L
Copper (Cu)	Various	1 mg/L	0.5 mg/L	0.25 mg/L	0.001	-	mg/L
Zinc (Zn)	Various	5.0 mg/L	1.0 mg/L	0.5 mg/L	0.001	-	mg/L
Total Chromium (Cr)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.001	-	mg/L
Chromium VI (Cr VI)	Various	0.05 mg/L	0.005 mg/L	0.001 mg/L	0.001	ND	mg/L
Barium	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.001	-	mg/L
Selenium	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.001	-	mg/L
Tin	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.001	-	mg/L

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3. Alkylphenols (APs) & AlkylphenolEthoxylates (APEOs)

NP/OP: With reference to ISO 18857-2 (modified dichloromethane extraction) or ASTM D7065 with GC-MS or LC-MS-MS analysis.
OPEO/NPEO (n>2): With reference to ASTM D7742 or ISO 18857-2

Alkylphenols (APs) & Alkylphenoethoxylates (APEOs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Octylphenol (OP), mixed isomers	140-66-9/ 1806-26-4/ 27193-28-8	0.005	0.005	ND	ppm
Nonylphenol (NP), mixed isomers	104-40-5/ 11066-49-2/ 25154-52-3/84852-15-3	0.005	0.005	ND	ppm
Octylphenoethoxylates (OPEOs)	9002-93-1; 9036-19-5; 68987-90-6	0.005	0.005	ND	ppm
Nonylphenoethoxylates (NPEOs)	9016-45-9/26027-38-3/ 37205-87-1/68412-54-4/127087-87-0	0.005	0.005	ND	ppm

4. Chlorobenzenes & Chlorotoluenes

With reference to USEPA 8260D, USEPA 8270E, Purge and Trap, Head Space, Dichloromethane extraction followed by GC-MS analysis.

Chlorobenzenes & Chlorotoluene	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Chlorobenzene	108-90-7	0.0002	0.0002	ND	ppm
1,2-Dichlorobenzene	95-50-1	0.0002	0.0002	ND	ppm
1,3-Dichlorobenzene	541-73-1	0.0002	0.0002	ND	ppm
1,4-Dichlorobenzene	106-46-7	0.0002	0.0002	ND	ppm
1,2,3-Trichlorobenzene	87-61-6	0.0002	0.0002	ND	ppm
1,2,4-Trichlorobenzene	120-82-1	0.0002	0.0002	ND	ppm
1,3,5-Trichlorobenzene	108-70-3	0.0002	0.0002	ND	ppm
1,2,3,4-Tetrachlorobenzene	634-66-2	0.0002	0.0002	ND	ppm
1,2,3,5-Tetrachlorobenzene	634-90-2	0.0002	0.0002	ND	ppm
1,2,4,5-Tetrachlorobenzene	95-94-3	0.0002	0.0002	ND	ppm
Pentachlorobenzene	608-93-5	0.0002	0.0002	ND	ppm
Hexachlorobenzene	118-74-1	0.0002	0.0002	ND	ppm
2-Chlorotoluene	95-49-8	0.0002	0.0002	ND	ppm
3-Chlorotoluene	108-41-8	0.0002	0.0002	ND	ppm
4-Chlorotoluene	106-43-4	0.0002	0.0002	ND	ppm
2,3-Dichlorotoluene	32768-54-0	0.0002	0.0002	ND	ppm
2,4-Dichlorotoluene	95-73-8	0.0002	0.0002	ND	ppm
2,5-Dichlorotoluene	19398-61-9	0.0002	0.0002	ND	ppm
2,6-Dichlorotoluene	118-69-4	0.0002	0.0002	ND	ppm
3,4-Dichlorotoluene	95-75-0	0.0002	0.0002	ND	ppm
3,5-Dichlorotoluene	25186-47-4	0.0002	0.0002	ND	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.0002	0.0002	ND	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.0002	0.0002	ND	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.0002	0.0002	ND	ppm

2,4,6-Trichlorotoluene	23749-65-7	0.0002	0.0002	ND	ppm
3,4,5-Trichlorotoluene	21472-86-6	0.0002	0.0002	ND	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.0002	0.0002	ND	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.0002	0.0002	ND	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.0002	0.0002	ND	ppm
Pentachlorotoluene	877-11-2	0.0002	0.0002	ND	ppm

5. Chlorophenols

With reference to US EPA 8270E solvent extraction, derivatization with KOH, acetic anhydride followed by GC-MS;with reference to BS EN 12673-1999 solvent extraction and derivatization are included.

Chlorophenols	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
2-Chlorophenol	95-57-8	0.0005	0.0005	ND	ppm
3-Chlorophenol	108-43-0	0.0005	0.0005	ND	ppm
4-Chlorophenol	106-48-9	0.0005	0.0005	ND	ppm
2,3-Dichlorophenol	576-24-9	0.0005	0.0005	ND	ppm
2,4-Dichlorophenol	120-83-2	0.0005	0.0005	ND	ppm
2,5-Dichlorophenol	583-78-8	0.0005	0.0005	ND	ppm
2,6-Dichlorophenol	87-65-0	0.0005	0.0005	ND	ppm
3,4-Dichlorophenol	95-77-2	0.0005	0.0005	ND	ppm
3,5-Dichlorophenol	591-35-5	0.0005	0.0005	ND	ppm
2,3,4-Trichlorophenol	15950-66-0	0.0005	0.0005	ND	ppm
2,3,5-Trichlorophenol	933-78-8	0.0005	0.0005	ND	ppm
2,3,6-Trichlorophenol	933-75-5	0.0005	0.0005	ND	ppm
2,4,5-Trichlorophenol	95-95-4	0.0005	0.0005	ND	ppm
2,4,6-Trichlorophenol	88-06-2	0.0005	0.0005	ND	ppm
3,4,5-Trichlorophenol	609-19-8	0.0005	0.0005	ND	ppm
2,3,4,5-Tetrachlorophenol	4901-51-3	0.0005	0.0005	ND	ppm
2,3,4,6-Tetrachlorophenol	58-90-2	0.0005	0.0005	ND	ppm
2,3,5,6-Tetrachlorophenol	935-95-5	0.0005	0.0005	ND	ppm
Pentachlorophenol (PCP)	87-86-5	0.0005	0.0005	ND	ppm

6. Azo dyes

With reference to EN 14362-1/3, and by Gas Chromatographic - Mass Spectrometric (GC-MS) or and Liquid Chromatography-tandem Mass Spectrometry (LC-MS-MS) analysis.

Azo Dyes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	0.0001	0.0001	ND	ppm
4,4'-Diaminodiphenylmethane	101-77-9	0.0001	0.0001	ND	ppm
4,4'-Oxydianiline	101-80-4	0.0001	0.0001	ND	ppm
4-Chloroaniline	106-47-8	0.0001	0.0001	0.0005	ppm
3,3'-Dimethoxybenzidine	119-90-4	0.0001	0.0001	ND	ppm
3,3'-Dimethylbenzidine	119-93-7	0.0001	0.0001	ND	ppm
p-Cresidine	120-71-8	0.0001	0.0001	ND	ppm
2,4,5-Trimethylaniline	137-17-7	0.0001	0.0001	ND	ppm
4,4'-Thiodianiline	139-65-1	0.0001	0.0001	ND	ppm
4-Aminoazobenzene	60-09-3	0.0001	0.0001	ND	ppm
4-methoxy-m-phenylenediamine	615-05-4	0.0001	0.0001	ND	ppm
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	0.0001	0.0001	ND	ppm
2,6-Xylidine	87-62-7	0.0001	0.0001	ND	ppm
o-Anisidine	90-04-0	0.0001	0.0001	ND	ppm
2-Naphthylamine	91-59-8	0.0001	0.0001	ND	ppm
3,3'-Dichlorobenzidine	91-94-1	0.0001	0.0001	ND	ppm
4-Aminobiphenyl	92-67-1	0.0001	0.0001	ND	ppm
Benzidine	92-87-5	0.0001	0.0001	ND	ppm
o-Toluidine	95-53-4	0.0001	0.0001	ND	ppm
2,4-Xylidine	95-68-1	0.0001	0.0001	ND	ppm
4-Chloro-o-toluidine	95-69-2	0.0001	0.0001	ND	ppm
4-Methyl-m-phenylenediamine	95-80-7	0.0001	0.0001	ND	ppm
o-Aminoazotoluene	97-56-3	0.0001	0.0001	ND	ppm
5-Nitro-o-toluidine	99-55-8	0.0001	0.0001	ND	ppm
2-Naphthylammoniumacetate	553-00-4	0.0001	0.0001	ND	ppm
2,4,5-trimethylaniline hydrochloride	21436-97-5	0.0001	0.0001	ND	ppm
4-chloro-o-toluidinium chloride	3165-93-3	0.0001	0.0001	ND	ppm
4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7	0.0001	0.0001	ND	ppm

7. Carcinogenic dyes

By Liquid Chromatography-tandem Mass Spectrometry (LC-MS-MS) analysis.

Carcinogenic dyes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
C.I. Direct Black 38	1937-37-7	0.5	0.5	ND	ppm
C.I. Direct Blue 6	2602-46-2	0.5	0.5	ND	ppm
C.I. Acid Red 26	3761-53-3	0.5	0.5	ND	ppm
C.I. Basic Red 9	569-61-9	0.5	0.5	ND	ppm
C.I. Direct Red 28	573-58-0	0.5	0.5	ND	ppm
C.I. Basic Violet 14	632-99-5	0.5	0.5	ND	ppm
C.I. Disperse Blue 1	2475-45-8	0.5	0.5	ND	ppm
C.I. Disperse Blue 3	2475-46-9	0.5	0.5	ND	ppm
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	0.5	0.5	ND	ppm
C.I. Basic Green 4 (malachite green chloride)	569-64-2	0.5	0.5	ND	ppm
C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	0.5	0.5	ND	ppm
C.I. Basic Green 4 (malachite green)	10309-95-2	0.5	0.5	ND	ppm
Disperse Orange 11	82-28-0	0.5	0.5	ND	ppm
Basic violet 3 with >0.1% of Michler's Ketoneb	548-62-9	0.5	0.5	ND	ppm
C.I. Acid Violet 49	1694-09-3	0.5	0.5	ND	ppm

8. Disperse dyes

By Liquid Chromatography-tandem Mass Spectrometry (LC-MS-MS) analysis.

Disperse dyes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Disperse Yellow 1	119-15-3	0.05	0.05	ND	ppm
Disperse Blue 102	12222-97-8	0.05	0.05	ND	ppm
Disperse Blue 106	12223-01-7	0.05	0.05	ND	ppm
Disperse Yellow 39	12236-29-2	0.05	0.05	ND	ppm
Disperse Orange 37/59/76	13301-61-6	0.05	0.05	ND	ppm
Disperse Brown 1	23355-64-8	0.05	0.05	ND	ppm
Disperse Orange 1	2581-69-3	0.05	0.05	ND	ppm
Disperse Yellow 3	2832-40-8	0.05	0.05	ND	ppm
Disperse Red 11	2872-48-2	0.05	0.05	ND	ppm
Disperse Red 1	2872-52-8	0.05	0.05	ND	ppm
Disperse Red 17	3179-89-3	0.05	0.05	ND	ppm
Disperse Blue 7	3179-90-6	0.05	0.05	ND	ppm
Disperse Blue 26	3860-63-7	0.05	0.05	ND	ppm
Disperse Yellow 49	54824-37-2	0.05	0.05	ND	ppm
Disperse Blue 35	12222-75-2	0.05	0.05	ND	ppm
Disperse Blue 124	61951-51-7	0.05	0.05	ND	ppm
Disperse Yellow 9	6373-73-5	0.05	0.05	ND	ppm

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Disperse Orange 3	730-40-5	0.05	0.05	ND	ppm
Disperse Blue 35	56524-77-7	0.05	0.05	ND	ppm

9. Flame retardants

Other flame retardant substances: With reference to USEPA 8270E, ISO 22032, USEPA 527 and USEPA 8321B, Dichloromethane GC-MS or LC-MS-MS analysis.

Borate salt: determined as total boron via ICP analysis

Flame retardants	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	0.025	0.025	ND	ppm
Decabromodiphenyl ether (DecaBDE)	1163-19-5	0.025	0.025	ND	ppm
Tris(2,3-dibromopropyl) phosphate (TRIS)	126-72-7	0.025	0.025	ND	ppm
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	0.025	0.025	ND	ppm
Octabromodiphenyl ether (OctaBDE)	32536-52-0	0.025	0.025	ND	ppm
Bis(2,3-dibromopropyl) phosphate	5412-25-9	0.025	0.025	ND	ppm
Tris(1-aziridinyl)phosphine oxide (TEPA)	545-55-1	0.025	0.025	ND	ppm
Polybromobiphenyls (PBBs)	59536-65-1	0.025	0.025	ND	ppm
Tetrabromobisphenol A (TBBPA)	79-94-7	0.025	0.025	ND	ppm
Hexabromocyclododecane (HBCDD)	3194-55-6	0.025	0.025	ND	ppm
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	0.025	0.025	ND	ppm
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	0.025	0.025	ND	ppm
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	0.025	0.025	ND	ppm
Decabromobiphenyl (DecaBB)	13654-09-6	0.025	0.025	ND	ppm
Dibromobiphenyls (DiBB)	Various	0.025	0.025	ND	ppm
Octabromobiphenyls (OctaBB)	Various	0.025	0.025	ND	ppm
Dibromopropylether	21850-44-2	0.025	0.025	ND	ppm
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	0.025	0.025	ND	ppm
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	0.025	0.025	ND	ppm
Monobromobiphenyls (MonoBB)	Various	0.025	0.025	ND	ppm
Monobromodiphenylethers (MonoBDEs)	Various	0.025	0.025	ND	ppm
Nonabromobiphenyls (NonaBB)	Various	0.025	0.025	ND	ppm
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	0.025	0.025	ND	ppm
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	0.025	0.025	ND	ppm
Tribromodiphenylethers (TriBDEs)	Various	0.025	0.025	ND	ppm
Boric acid**	10043-35-3 / 11113-50-1	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm
Diboron trioxide**	1303-86-2	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm
Disodium octaborate**	12008-41-2	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm
Disodium tetraborate anhydrous**	1303-96-4 / 1330-43-4	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm
Tetraboron disodium heptaoxide, hydrate**	12267-73-1	0.1 ppm in Boron	0.1 ppm in Boron	ND	ppm

** Report total boron directly, no conversion from Boron salt.



10. Glycols

With reference to US EPA 8270E, Liquid extraction, LC-MS or GC-MS analysis.

Glycols	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Bis(2-methoxyethyl)-ether	111-96-6	0.05	0.05	ND	ppm
2-ethoxyethanol	110-80-5	0.05	0.05	ND	ppm
2-ethoxyethyl acetate	111-15-9	0.05	0.05	ND	ppm
Ethylene glycol dimethyl ether	110-71-4	0.05	0.05	ND	ppm
2-methoxyethanol	109-86-4	0.05	0.05	ND	ppm
2-methoxyethylacetate	110-49-6	0.05	0.05	ND	ppm
2-methoxypropylacetate	70657-70-4	0.05	0.05	ND	ppm
Triethylene glycol dimethyl ether	112-49-2	0.05	0.05	ND	ppm

11. Chlorinated solvents

With reference to US EPA 8260B, and by Headspace Gas Chromatography Mass Spectrometric (HS-GC/MS) analysis.

Chlorinated solvents	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
1,2-Dichloroethane	107-06-2	0.001	0.001	ND	ppm
Methylene chloride	75-09-2	0.001	0.001	ND	ppm
Trichloroethene	79-01-6	0.001	0.001	ND	ppm
Tetrachloroethene	127-18-4	0.001	0.001	ND	ppm

12. Organotin compounds

With reference to ISO 17353, Derivatisation with NaB (C₂H₅)₄, with GC-MS analysis.

Organotin compounds	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Mono-, di- and tri-methyltin derivatives	Various	0.00001	0.00001	ND	ppm
Mono-, di- and tri-butyltin derivatives	Various	0.00001	0.00001	ND	ppm
Mono-, di- and tri-phenyltin derivatives	Various	0.00001	0.00001	ND	ppm
Mono-, di- and tri-octyltin derivatives	Various	0.00001	0.00001	ND	ppm
Tricyclohexyltin (TCyHT)	Various	0.00001	0.00001	ND	ppm
Dipropyltin compounds (DPT)	Various	0.00001	0.00001	ND	ppm
Tetrabutyltin compounds (TeBT)	Various	0.00001	0.00001	ND	ppm
Tripropyltin Compounds (TPT)	Various	0.00001	0.00001	ND	ppm
Tetraoctyltin compounds (TeOT)	Various	0.00001	0.00001	ND	ppm
Tetraethyltin Compounds (TeET)	Various	0.00001	0.00001	ND	ppm

13. Phthalates

With reference to USEPA 8270E, ISO 18856, Dichloromethane extraction GC-MS analysis.

Phthalates	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	0.01	0.01	ND	ppm
Dimethoxyethyl phthalate (DMEP)	117-82-8	0.01	0.01	ND	ppm
Di-n-octyl phthalate (DNOP)	117-84-0	0.01	0.01	ND	ppm
Di-iso-decyl phthalate (DIDP)	26761-40-0/68515-49-1	0.01	0.01	ND	ppm
Di-iso-nonyl phthalate (DINP)	28553-12-0/68515-48-0	0.01	0.01	ND	ppm
Di-n-hexyl phthalate (DnHP)	84-75-3	0.01	0.01	ND	ppm
Dibutyl phthalate (DBP)	84-74-2	0.01	0.01	ND	ppm
Butyl benzyl phthalate (BBP)	85-68-7	0.01	0.01	ND	ppm
Diethyl phthalate (DEP)	84-66-2	0.01	0.01	ND	ppm
Di-n-propyl phthalate (DPRP)	131-16-8	0.01	0.01	ND	ppm
Di-iso-butyl phthalate (DIBP)	84-69-5	0.01	0.01	ND	ppm
Di-cyclohexyl phthalate (DCHP)	84-61-7	0.01	0.01	ND	ppm
Di-iso-octyl phthalate (DIOP)	27554-26-3	0.01	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	0.01	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C6-11-branched alkyl esters, C7-rich (DIHP)	71888-89-6	0.01	0.01	ND	ppm
Di-n-pentylphthalates	131-18-0	0.01	0.01	ND	ppm
Diisopentylphthalates	605-50-5	0.01	0.01	ND	ppm
Dinonyl phthalate (DNP)	84-76-4	0.01	0.01	ND	ppm

14. Perfluorinated chemicals (PFCs)

PFCs: With reference to EPA 537:2020 with LC-MSMS

FTOH: With reference to BS EN 12673-1999, EPA 8270, GC-MS, Derivatization with acetic anhydride followed by GC-MS

Perfluorinated chemicals (PFCs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Perfluoro-octanoic acid (PFOA)	335-67-1	0.00001	0.00001	ND	ppm
Perfluoro-octane-sulfonic acid (L-PFOS)	1763-23-1	0.00001	0.00001	ND	ppm
Perfluoro-octane-sulfon-amide (PFOSA)	754-91-6	0.00001	0.00001	ND	ppm
N-Methyl-perfluoro-octane-sulfon-amide (N-Me-FOSA)	31506-32-8	0.00001	0.00001	ND	ppm
N-Ethyl-perfluoro-octane-sulfon-amide (N-Et-FOSA)	4151-50-2	0.00001	0.00001	ND	ppm
N-Methyl-perfluoro-octane-sulfon-amido-ethanol (N-Me-FOSE also)	24448-09-7	0.00001	0.00001	ND	ppm

N-Ethyl-Perfluoro-octane-sulfon-amido-ethanol (N-Et-FOSE alcohol)	1691-99-2	0.00001	0.00001	ND	ppm
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	0.001	0.001	ND	ppm
2-Perfluorooctylethanol (8:2 FTOH)	678-39-7	0.001	0.001	ND	ppm
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	0.001	0.001	ND	ppm
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	0.001	0.001	ND	ppm
Methyl perfluorooctanoate (Me-PFOA)	376-27-2	0.001	0.001	ND	ppm
Ethyl perfluorooctanoate Et-PFOA	3108-24-5	0.001	0.001	ND	ppm

15. Polycyclic aromatic hydrocarbons (PAHs)

With reference to US EPA 8270E, DIN 38407-39, solvent extraction GC-MS analysis.

Polycyclic aromatic hydrocarbons (PAHs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Benzo(a)pyrene (BaP)	50-32-8	0.001	0.001	ND	ppm
Anthracene	120-12-7	0.001	0.001	ND	ppm
Pyrene	129-00-0	0.001	0.001	ND	ppm
Benzo(ghi)perylene	191-24-2	0.001	0.001	ND	ppm
Benzo(e)pyrene	192-97-2	0.001	0.001	ND	ppm
Indeno (1,2,3-cd)pyrene	193-39-5	0.001	0.001	ND	ppm
Benzo(j)fluoranthene	205-82-3	0.001	0.001	ND	ppm
Benzo(b)fluoranthene	205-99-2	0.001	0.001	ND	ppm
Fluoranthene	206-44-0	0.001	0.001	ND	ppm
Benzo(k)fluoranthene	207-08-09	0.001	0.001	ND	ppm
Acenaphthylene	208-96-8	0.001	0.001	ND	ppm
Chrysene	218-01-9	0.001	0.001	ND	ppm
Dibenz(a,h)anthracene	53-70-3	0.001	0.001	ND	ppm
Benzo(a)anthracene	56-55-3	0.001	0.001	ND	ppm
Acenaphthene	83-32-9	0.001	0.001	ND	ppm
Phenanthrene	85-01-8	0.001	0.001	ND	ppm
Fluorene	86-73-7	0.001	0.001	ND	ppm
Naphthalene	91-20-3	0.001	0.001	ND	ppm

16. Volatile organic compounds (VOCs)

With reference to ISO 11423-1 Headspace or Purge and trap, GC-MS analysis. USEPA 8260D, add ISO 20595 static headspace for determination of VOC in wastewater. With reference to ISO 11423-1 Headspace or Purge and trap, GC-MS analysis. EPA 8270, BS EN 12673-1999. With reference to HJ 1067 or EPA 8260D or ISO 11423-1.

Volatile organic compounds (VOCs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Benzene	71-43-2	0.001	0.001	ND	ppm
Xylene	1330-20-7	0.001	0.001	ND	ppm
o-cresol	95-48-7	0.001	0.001	ND	ppm
p-cresol	106-44-5	0.001	0.001	ND	ppm
m-cresol	108-39-4	0.001	0.001	ND	ppm
Toluene*	108-88-3	0.001	0.001	ND	ppm

*Report for mock leather only

17. Anti - Microbials & Biocides

OPP, Triclosan: With reference to USEPA 8270E Solvent extraction, derivatization with KOH, acetic anhydride followed by GC-MS analysis; with reference to BS EN 12673-1999 an alternative method of solvent extraction and derivatization are included. Permethrin: With reference to USEPA 8270E Solvent extraction, followed by GC-MS analysis; With reference to ISO 14154:2005 without derivatization and determination by LC-MS or LC-MS-MS analysis.

Anti - Microbials & Biocides	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
o-Phenylphenol (+salts)	90-43-7	0.1	0.1	ND	ppm
Triclosan	3380-34-5	0.1	0.1	ND	ppm
Permethrin	Multiple	0.5	0.5	ND	ppm

18. Chlorinated paraffins

For MCCP: With reference to EPA 3510, analysis by ISO18219-2:2021 with GC-MS-NCI or LC-MS-MS analysis.

For SCCP: With reference to EPA 3510, analysis by ISO18219-1:2021, ISO 12010:2019 with GC-MS-NCI or LC-MS-MS analysis.

Chlorinated paraffins	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Short-chain Chlorinated paraffin (C10 – C13)	85535-84-8	0.025	0.025	ND	ppm
Medium-chain Chlorinated paraffins (MCCPs) (C14-C17)	85535-85-9	0.500	0.500	ND	ppm

19. N,N-di-methylformamide (DMFa)

With reference to EPA 8015, EPA 8270E.

N,N-di-methylformamide (DMFa)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Dimethyl formamide; N,N-dimethylformamide(DMFa)	68-12-2	1	1	ND	ppm

*Report for mock leather only

20. Dyes-Navy Blue Colourant

By Liquid extraction, LC-MS analysis.

Dyes-Navy Blue Colourant	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Component 1: C39H23Cl-CrN7O12S 2Na	118685-33-9	0.5	0.5	ND	ppm
Component 2: C46H-30CrN10O20S2 3Na	Not Allocated	0.5	0.5	ND	ppm

21. Other/Miscellaneous Chemicals

Others: With reference to Liquid extraction, LC-MS-MS analysis. Borate salt: determined as total boron and total zinc via ICP analysis.

Other/Miscellaneous Chemicals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
AEEA [2-(2-aminoethylamino)ethanol]	111-41-1	0.5	0.5	ND	ppm
Bisphenol A	80-05-7	0.01	0.01	ND	ppm
Thiourea	62-56-6	0.05	0.05	ND	ppm
Quinoline	91-22-5	0.05	0.05	ND	ppm
Borate, zinc salt (^)	12767-90-7	0.1 ppm in Boron & 0.1 ppm in Zinc	0.1 ppm in Boron & 0.1 ppm in Zinc	Boron:ND Zinc:4.89	ppm

22. UV Absorbers

With reference to USEPA 8270, ISO 22032, USEPA 527 and USEPA 8321B, dichloromethane extractionGC-MS or LC-MS-MS analysis.

UV Absorbers	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol(UV-350)	36437-37-3	0.1	0.1	ND	ppm
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.1	0.1	ND	ppm
2-benzotriazol-2-yl-4,6-di-tertbutylphenol (UV-320)	3846-71-7	0.1	0.1	ND	ppm
2,4-Di-tert-butyl-6-(5-chlorobenzotriazole-2-yl) phenol (UV-327)	3864-99-1	0.1	0.1	ND	ppm

Remark

ND = Not detected

D = Detected

(f)= parameter tested in field

@ = Maximum holding time exceeded,

red flag in the ZDHC Gateway – Wastewater Module (S) = The samples were subcontracted to Intertek [xxxxx] for testing.

Probable error in results due to the holding time.

N/A = Not applicable

- = Did not perform

(T)= handling temperature exceeded

= Non accredited parameter

(S) = The samples were subcontracted to Intertek [xxxxx] for testing.

(^) = Borate, zinc salt would report ND when total boron or total zinc less than 100 µg/L.

23. Sludge Parameters – Step 1 - Metals

Other heavy metals: With reference to acid/peroxide digestion EPA 3050, EPA 3051A, EPA 6010D, EPA 200.8 or EPA 6020B, HJ 803 with ICP/OES, or ICP-MS analysis. Chromium VI: With reference to alkaline digestion USEPA 3060a, USEPA 3051A, USEPA 7196, USEPA 200.8 or USEPA 7199, HJ 1082 with Colourimetric UV/VIS, or Colourimetric IC analysis. Mercury: With reference to Dissolution, acid digestion USEPA 7473, USEPA 7471 b, USEPA 3051A or USEPA 3051a USEPA 7471b, USEPA 200.8 or USEPA 6020b, GB/T 22105.1, HJ 923 with CVAA or ICP MS analysis.

Sludge Parameters – Step 1 - Metals	CAS No.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	5	5	49	ppm
Arsenic	Various	5	5	25	ppm
Barium	Various	200	200	ND	ppm
Cadmium	Various	1	1	ND	ppm
Cobalt	Various	400	400	ND	ppm
Copper	Various	50	50	291	ppm
Lead	Various	5	5	33	ppm
Nickel	Various	20	20	111	ppm
Selenium	Various	5	5	ND	ppm
Silver	Various	50	50	ND	ppm
Total Chromium	Various	50	50	1242	ppm
Zinc	Various	400	400	17984	ppm
Chromium (VI)	Various	20	20	ND	ppm
Mercury	Various	1	1	ND	ppm

24. Sludge Parameters – Step 1 - Anions

With reference to USEPA 9013, USEPA 9014, USEPA 9213, HJ745 with Colourimetry or ISE analysis.

Sludge Parameters – Step 1 - Anions	CAS No.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Cyanide	-	20	20	ND	ppm

25. Sludge Parameters - Step 1 – Conventional

Sludge Parameters – Step 1 - Conventional	Test Method	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
pH	USEPA SW 9045D / HJ962	N/A	N/A	7.92 (f)	N/A
% Solids	USEPA 160.3 / HJ613	N/A	N/A	24.4	%
Paint Filter Test	USEPA SW-846 / USEPA 9095B	N/A	N/A	Pass	N/A
Fecal Coliform	USEPA 1681	10 MPN/g	10 MPN/g	ND	MPN/g

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

With reference to USEPA 3540/3541, USEPA 3550, ISO 18857-2, ASTM D7065, ISO 18254-1, with GC-MS and LC-MS-MS analysis.

Sludge Parameters - Step 1 - MRSL - Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Nonylphenol ethoxylates (NPEO)	9016-45-9; 26027-38-3; 37205-87-1; 68412-54-4; 127087-87-0	0.4	0.4	ND	ppm
Nonylphenol (NP), mixed isomers	104-40-5; 11066-49-2; 25154-52-3; 84852-15-3	0.4	0.4	0.8	ppm
Octylphenol ethoxylates (OPEO)	9002-93-1; 9036-19-5; 68987-90-6	0.4	0.4	ND	ppm
Octylphenol (OP), mixed isomers	140-66-9; 1806-26-4; 27193-28-8	0.4	0.4	ND	ppm

27. Sludge Parameteres - Step 1 - MRSL - PolycyclicAromatic Hydrocarbons (PAHs)

With reference to US EPA 3540/3541, US EPA 3550, US EPA 3640, US EPA 827, HJ 805-2016 with GC-MS analysis.

Sludge Parameteres - Step 1 - MRSL - Polycyclic Aromatic Hydrocarbons (PAHs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Acenaphthene	83-32-9	0.2	0.2	ND	ppm
Acenaphthylene	208-96-8	0.2	0.2	ND	ppm
Anthracene	120-12-7	0.2	0.2	ND	ppm
Benzo[a]anthracene	56-55-3	0.2	0.2	ND	ppm
Benzo[a]pyrene (BaP)	50-32-8	0.2	0.2	ND	ppm
Benzo[b]fluoranthene	205-99-2	0.2	0.2	ND	ppm
Benzo[e]pyrene	192-97-2	0.2	0.2	ND	ppm
Benzo[ghi]perylene	191-24-2	0.2	0.2	ND	ppm
Benzo[j]fluoranthene	205-82-3	0.2	0.2	ND	ppm
Benzo[k]fluoranthene	207-08-9	0.2	0.2	ND	ppm
Chrysene	218-01-9	0.2	0.2	ND	ppm
Dibenz[a,h]anthracene	53-70-3	0.2	0.2	ND	ppm
Fluoranthene	206-44-0	0.2	0.2	ND	ppm
Fluorene	86-73-7	0.2	0.2	ND	ppm
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	0.2	ND	ppm
Naphthalene	91-20-3	0.2	0.2	ND	ppm
Phenanthrene	85-01-8	0.2	0.2	ND	ppm
Pyrene	129-00-0	0.2	0.2	ND	ppm

28. Sludge Parameteres - Step 1 - MRSL – Chlorotoluenes

With reference to US EPA 3540/3541, US EPA 3550, US EPA 3650, US EPA 827, HJ 605 with GC-MS analysis.

Sludge Parameteres - Step 1 - MRSL – Chlorotoluenes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
2-Chlorotoluene	95-49-8	0.2	0.2	ND	ppm
3-Chlorotoluene	108-41-8	0.2	0.2	ND	ppm
4-Chlorotoluene	106-43-4	0.2	0.2	ND	ppm
2,3-Dichlorotoluene	32768-54-0	0.2	0.2	ND	ppm
2,4-Dichlorotoluene	95-73-8	0.2	0.2	ND	ppm
2,5-Dichlorotoluene	19398-61-9	0.2	0.2	ND	ppm
2,6-Dichlorotoluene	118-69-4	0.2	0.2	ND	ppm
3,4-Dichlorotoluene	95-75-0	0.2	0.2	ND	ppm
3,5-Dichlorotoluene	25186-47-4	0.2	0.2	ND	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.2	0.2	ND	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.2	0.2	ND	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.2	0.2	ND	ppm
2,4,6-Trichlorotoluene	23749-65-7	0.2	0.2	ND	ppm

3,4,5-Trichlorotoluene	21472-86-6	0.2	0.2	ND	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.2	0.2	ND	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.2	0.2	ND	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	0.2	ND	ppm
Pentachlorotoluene	877-11-2	0.2	0.2	ND	ppm

29. Sludge Parameteres - Step 2 – Metals

With reference to toxicity leachate extraction procedure EPA 1311 followed by Acid digestion, EPA 3051A, , with ICP-OES, ICP-MS or ISO 11885, ISO 17294-2, USEPA 200.7, USEPA 200.8, USEPA 6010c, USEPA 6020a analysis.

Chromium VI: With reference to toxicity leachate extraction procedure EPA 1311 followed by ISO 18412, USEPA 7196 or USEPA 7199

Colourimetric UV/VIS, or Colourimetric IC analysis.

Mercury: With reference to toxicity leachate extraction procedure EPA 1311 followed by acid digestion EPA 7471b , EPA 3051a with ISO 12846 or ISO 17852, EPA 6020b CVAA or ICP MS analysis.

Sludge Parameteres - Step 2 – Metals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	0.6	0.6	ND	ppm
Arsenic	Various	0.5	0.5	ND	ppm
Barium	Various	35	35	-	ppm
Cadmium	Various	0.15	0.15	-	ppm
Cobalt	Various	80	80	-	ppm
Copper	Various	10	10	ND	ppm
Lead	Various	0.5	0.5	ND	ppm
Nickel	Various	3.5	3.5	ND	ppm
Selenium	Various	0.5	0.5	-	ppm
Silver	Various	5	5	-	ppm
Total Chromium	Various	5	5	ND	ppm
Zinc	Various	50	50	ND	ppm
Chromium (VI)	Various	2.5	2.5	-	ppm
Mercury	Various	0.05	0.05	-	ppm

Appendix 1: Reference to ZDHC WWSG v2.1 Table 4B

Parameters	Total metals and anions threshold values (mg/kg)	A and B (Leachate result in mg/L)	Disposal pathways					
			C	D	E	F	G	G
			(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Total metals limit in mg/kg)
Arsenic	10	Report only if required to test	5	2.75	0.5	0.5	0.5	75
Cadmium	3		1	0.58	0.15	0.15	0.15	85
Total Chromium	100		15	10	5	5	5	3000
Lead	10		5	2.75	0.5	0.5	0.5	840
Antimony	12		15	7.8	0.6	0.6	0.6	Sample and report only
Barium	700		100	67.5	35	35	35	
Cobalt	1600		80	80	80	80	80	4300
Copper	200		25	17.5	10	10	10	
Nickel	70		20	11.75	3.5	3.5	3.5	420
Selenium	10		1	0.75	0.5	0.5	0.5	100
Silver	100		5	5	5	5	5	Sample and report only
Zinc	1000		250	150	50	50	50	7500
Chromium VI	50		5	3.75	2.5	2.5	2.5	50
Mercury	1		0.2	0.125	0.05	0.05	0.05	57

Appendix 2: reference to ZDHC WWSG v2.1 Table 4C

Parameters	Disposal pathways						
	A and B	C	D	E	F	G	
pH		5 – 11 s.u.	5 – 11 s.u.	5 – 11 s.u.	6.5 – 9 s.u.	6.5 – 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	
Fecal Coliform					< 1000 (MPN/g)		
Paint Filter Test			Pass Paint filter test				Sample and report only
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers			< 0.4 mg/kg				
Polycyclic Aromatic Hydrocarbons (PAHs)			< 0.2 mg/kg				
Chlorotoluenes							

Appendix 2: reference to ZDHC WWSG v2.1 Table 4D

Parameters	Disposal pathways					
	A and B	C	D	E	F	G
Cyanide	Report only if required to test	100 mg/kg	85 mg/kg	70 mg/kg	70 mg/kg	70 mg/kg





Photo of wastewater before treatment area



Photo of wastewater after treatment area



Photo of wastewater sampling point (before treatment)



Photo of wastewater sampling point (after treatment)



Photo of Sludge Area



Photo of Sludge Sampling Point



Photo of facility gate



Photo of wastewater sample (before treatment)

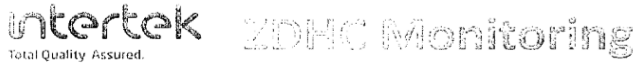


Photo of wastewater sample (after treatment)



Photo of sludge sample

SAMPLING PROTOCOL (PAGE 1 OF 3)



Sampling Protocol for Wastewater and Sludge acc. ZDHC SAP 2.1 incl. Apdx. E

Facility Name: 江苏联益纺织染整有限公司

Address and Contact: 江苏省常州市武进区遥观镇 联益工业园

Facility type: [x] Dyeing and Finishing [] Fabric Mill [] Laundry, Washing and Finishing [] Natural Leather processing [] Printing [] Synthetic Leather processing

Date of sampling: 2023.6.8

Sample General ID (if applicable): STJ7664492 [] direct discharge [] with pre-treatment discharge to: [x] indirect discharge [] without treatment [] Zero Liquid Discharge (ZLD) [x] with own ETP [] MMCF

Discharge description: 污水送往常州市武进区遥观镇污水处理厂

Weather conditions: on sampling day: 晴天 on day before: 晴天

Fill in all above information as applicable.

Sample Type and Details (see also page 2)

[x] Effluent [] direct: or [x] indirect Discharge Enter sampling times in Sample Details (page 2), and measure field parameters. Enter sampling time(s) for indirect discharge. Field parameters are not required, except on client's request. [] Facility has WWTP [] Plant is in operating condition [x] with Homogenisation / Equalisation Tank (HT) present: Hydraulic Retention Time (HRT): 2.1 h (= Volume of tank [m³] / Flow rate [m³/h]) If HRT > 12h, grab sampling for both untreated and treated wastewater from a point after the HT can be applied.

[] Pre-treated WW without sludge [x] Untreated WW [x] Incoming Water [] MMCF [] Sludge with below disposal pathway*): [] A [] B [] C [] D [] E age of sludge: 7 days / weeks [] F [] G >1000 °C offsite incineration Landfill with significant control Building products processed >1000 °C Landfill with limited control Incineration / Building products processed <1000 °C Landfill with no control Land application

* if supplier cannot provide information, pathway "F" shall be assumed.

Sludge volume generated: 3 Om³/h OL/sec [] other unit (specify): 吨 [] per facility info [] measured [] estimated

Table with 7 columns (1-7) and rows for Untreated, Effluent (indirect), Incoming, and Sludge (liquid). Includes values for 'or Grab' sampling.

(for direct discharge, see below)

Picture ID (or Date & Time / Interval): IM6, 22, 30608-10264

GPS coordinates of sampling points:

Table with columns for Incoming W., Untreated WW, Effluent, and Sludge. Includes Latitude and Longitude coordinates for each point.



SAMPLING PROTOCOL (PAGE 2 OF 3)

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Sample Details *) Field parameters usually are required only for direct discharge. If client requests also for indirect discharge, use below fields.

Time of discrete effluent sample **	<input type="checkbox"/> Composite Sample							<input type="checkbox"/> Grab Sample (enter data in column for Averaged Readings and in field at right)	
	1	2	3	4	5	6	7	Volume of aliquot(s): mL	
pH:								Averaged Readings or Grab Sample:	
Temp. WW discharge of receiving water	°C	°C	°C	°C	°C	°C	°C	°C	°C
Flow rate:	L/s	L/s	L/s	L/s	L/s	L/s	L/s	L/s	m ³ /d avg.
Dissolved Oxygen:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Chlorine:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

Persistent foam: yes no yes no yes no yes no yes no yes no yes no yes no

**) time when discrete sample for composite was taken. Use comment field if number of samples is greater than seven, or if above fields are otherwise not sufficient.
Note: 1.0 m³/h = 0.27 L/s; 1.0 L/s = 86.4 m³/d; 1 m³/h = 0.042 m³/d; multiply the flow rate in m³/h by the daily operation time of the ETP to get flow rate in m³/d;

Sampling procedure: automated sampling with beaker/bowl other:

Wastewater Flow Data (Effluent/Discharge)

System: Flow meter (in facility) Pipe (O) Flume (U) Wier (V)

Diameter [cm]

Water Depth [cm]

Flow Speed [cm/sec]

General Field Parameters and Sensory Data (enter as far as applicable)

Type ambient air [°C] Odour Colour Foaming Floating matter

	Type	ambient air [°C]	Odour	Colour	Foaming	Floating matter
Incoming					<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> yes <input type="radio"/> no
Untreated					<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> yes <input checked="" type="radio"/> no
Effluent	32		微臭	黑色	<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> yes <input checked="" type="radio"/> no
Sludge	30		微臭	黑色	<input type="radio"/> yes <input checked="" type="radio"/> no	<input type="radio"/> yes <input checked="" type="radio"/> no

Field Testing QA/QC

Parameter Lab Control Sample target value Lab Control Sample measured value Accuracy [%]

pH
Total Chlorine

Other observations: 平均流量 1000 m³/d. 污泥附 7.92

Additional notes (e.g., alternatively measured flow and readings, abbreviations used, etc):



SAMPLING PROTOCOL (PAGE 3 OF 3)

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ZDHC Wastewater Sampling - Facility Confirmation

The Wastewater samples have been collected under the facility's normal production scale and wastewater flow rate. The sampler listed below was on-site and collected the samples.

Sampling person (name & email address):

luh.guo@intertek.com

Facility Name:

江苏研华电子科技有限公司

Sampler's ZDHC accreditation no.:

C740106817399

Facility's Representative name:

姜银银



Sampler's Signature:

luh

Facility's Representative Signature and Stamp:



SOFTLINES WASTEWATER TESTING

TEST REPORT

Number:SHAT07664492

Testing period: From 08 Jun, 2023 PM to 15 Jun, 2023
Testing period Subcontracted Lab (if applicable): Not Applicable

End of report

This report is made solely on the basis of your instructions and/or information and materials supplied. Results refer only to samples received in the lab. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.

