SOFTLINES WASTEWATER TESTING

TEST REPORT

Number: TURA230068753

Date of sampling	21/06/2023
Reporting Date	11/07/2023

Audit ID	143760	Audit firm	INTERTEK
Company name	LOTUSTEX TEXTILE CO		
Contact person	Mr Burak Sokmek		
Type of tax - tax ID no	721593518		
Address	PRIVATE FREE ZONE, INDUSTRIAL ZO NE PLOTS NO: 9-10-11-12 SECTOR Z 10 TH OF RAMDAN CITY, EL SHARKEIA, EGYPT.		
Region state province	El SHARKEIA		
Town city / village	-		
Zip/Post code	-		
Country	Egypt		

Type of wastewater discharge	
ETP	No ETP
Pre - treatment	pH adjustment only
Equalization tank	Yes
Type of waste discharge	Indirect discharge
Description of discharge	Facility do pretreatment to its discharge then send it to PYRAMIDS ZONA FRANCA then to 10th of Ramadan CETP
[If direct discharge] ambient temperature of receiving water body:	N/A
Average total industrial wastewater generated:	520 m3 / day

Sludge	-

Sampler accreditation certification number (ZDHC):		**C74D106817902**	
Sample description	**Simple**	**Composite**	**Comments**
(1) Untreated wastewater (BT)	X	[Blue,Composite sample at 12:00,13:00,14:00,15:00,16:00,17:00] [Sampling location: Latitude 30.211737 N, Longitude 31.763558 E]	X
(2) Treated wastewater (AT)	X	X	X
(3) Sludge	X	X	X

Intertek Test Hizmetleri A.S.
Merkez Mahallesi Sanayi Cad. No.23 Altindag Plaza Yenibosna 34197 - ISTANBUL / TURKEY

Local Legal Data	
Local Legal Standard name [a]	N/A
Parameters (ZDHC WWG V2) exceeded local regulation:	N/A
Discharge permit provided:	N/A

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

Internal description – Intertek Subcontracted Lab	
Internal codification number	N/A
Reference sample number	TURA230068753
Received on	26/06/2023
Analysis carried out from	26/06/2023 to 11/07/2023
Arrival Temperature at Lab	22 ºC (T)
Comments	Samples received within 5 days.
Reporting date	11/07/2023

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

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

Remark (Indicated in each parameter)

ND = Not detected
D = Detected
* = See remark
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red flag in the ZDHC Gateway – Wastewater Module.
Probable error in results due to the holding time.
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(f)= parameter tested in field
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(S) = The analysis was subcontracted to Intertek [Turkey] for testing.
(^) = Borate, zinc salt would report ND when total boron or total zinc less than 100 µg/L.

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[a] = The local legal standard name and legal standard no. is referenced to discharge permit (or contractual agree by CETP) that provided

For and on behalf of
Intertek Testing Service Turkey Limited

Prepared and Checked By :
Eralp Anıl
Environmental Engineer
For Intertek Testing Services Turkey

Authorized By :
Zeynep Akın
Chemical Laboratory Manager
For Intertek Testing Services Turkey

Test results

1. Global effluent parameters

Parameters	Test method	Limit			Legal Requirement	Reporting Limit	Result Sample	Unit
		Foundational	Progressive	Aspirational			Before Treatment	
Temperature	SM 2550 B	35°C	30°C	25°C	N/A	N/A	N/A	°C
Temperature difference [ºC]	SM 2550 B	Δ+15ºC	Δ+10ºC	Δ+5ºC	N/A	N/A	N/A	°C
TSS	SM 2540 D	50 mg/L	15 mg/L	5 mg/L	N/A	5 mg/L	N/A	mg/L
COD	SM 5520 D	150 mg/L	80 mg/L	40 mg/L	N/A	40 mg/L	N/A	mg/L
Total-N	IS 3025 (Sum of SM4500-Norg B, SM4500-NO2- B, SM4500-NO3- E)	20 mg/L	10 mg/L	5 mg/L	N/A	5 mg/L	N/A	mg/L
pH	SM 4500-H+	6-9	6-9	6-9	N/A	N/A	N/A	
Colour [m-1]	ISO 7887-B	7;5;3	5;3;2	2;1;1	N/A	N/A	N/A	
BOD_5	SM 5210-B	30 mg/L	15 mg/L	5 mg/L	N/A	5 mg/L	N/A	mg/L
Ammonium-N	SM 4500 NH3 B& F	10 mg/L	1 mg/L	0.5 mg/L	N/A	0.5 mg/L	N/A	mg/L
Total-P	EPA3015 A& ISO11885	3 mg/L	0.5 mg/L	0.1 mg/L	N/A	0.1 mg/L	N/A	mg/L
AOX	ISO 9562	3 mg/L	0.5 mg/L	0.1 mg/L	N/A	0.1 mg/L	N/A	mg/L
Oil and grease	USEPA 1664	10 mg/L	2 mg/L	0.5 mg/L	N/A	0.5 mg/L	N/A	mg/L
Phenol	SM 5530-B& C	0.5 mg/L	0.01 mg/L	0.001 mg/L	N/A	0.001 mg/L	N/A	mg/L
E. Coli	ISO 9308-1	126 [MPN/100-ml]	126 [MPN/100-ml]	126 [MPN/100-ml]	N/A	126 [MPN/100-ml]	N/A	[MPN/100-ml]
Foam	N/A	Not visible	Not visible	Not visible	N/A	N/A	N/A	
Cyanide	SM 4500-CN-C&E	0.2 mg/L	0.1 mg/L	0.05 mg/L	N/A	0.05 mg/L	N/A	mg/L
Sulfide	SM 4500-S2-D	0.5 mg/L	0.05 mg/L	0.01 mg/L	N/A	0.01 mg/L	N/A	mg/L
Sulfite	SM 4500 SO32 C	2 mg/L	0.5 mg/L	0.2 mg/L	N/A	0.2 mg/L	N/A	mg/L
Dissolved Oxygen (DO)	SM 4500-O-G	Sample and report only			N/A	N/A	N/A	mg/L
Total Chlorine	ISO 7393-2	Sample and report only			N/A	0.2 mg/L	N/A	mg/L
Total Dissolved Solids (TDS)	SM 2540-C	Sample and report only			N/A	10 mg/L	N/A	mg/L
Chloride	SM 4500-Cl C	Sample and report only			N/A	10 mg/L	N/A	mg/L
Sulfate	SM 4500 SO4 E	Sample and report only			N/A	10 mg/L	N/A	mg/L
Wastewater Flowrate	N/A	Report only			N/A	N/A	N/A	m^3/day

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2. Heavy metals

Others; With reference to In House Testing Method "IHTM AL.2.439. Rev.3" (Modified from EPA 3015A ve EPA 6020B) followed by ICP-MS analysis.
Chromium (VI); With reference to ISO 18412 followed by spectrophotometric analysis.

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

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3. Alkylphenols (APs) & AlkylphenolEthoxylates (APEOs)

APs&APEOs (n=1,2):With reference to In House Testing Method, "IHTM AL.2.421. Rev.5" (modified from ISO 18857-1,ISO 18857-2,ASTM D7065) ZDHC Wastewater Guidelines dichloromethane extraction GC-MS analysis.
APs&APEOs (n>2): With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (modified from ISO 18254-1) LC-MS-MS analysis.

Alkylphenols (APs) & Alkylphenolethoxylates (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
Octylphenolethoxylates (OPEOs)	9002-93-1; 9036-19-5; 68987-90-6	0.005	0.005	ND	ppm
Nonylphenolethoxylates (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 In House Testing Method “IHTM AL.2.421 Rev.5” (modified from EPA 3510C, EPA 8260D, EPA 8270E) ZDHC Wastewater Guidelines Dichloromethane extraction followed by GC-MS analysis.

Chlorobenzenes & Chlorotoluenes	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-Dichlorobezene	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 In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 3510C, EPA 8270E) ZDHC Wastewater Guidelines followed by GC-MS analysis.

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 In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 3510C, ISO 14362-1) ZDHC Wastewater Guidelines followed by GC-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	ND	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

With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (modified from DIN 54231) ZDHC Wastewater Guidelines followed by LC-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

With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (modified from DIN 54231) ZDHC Wastewater Guidelines followed by LC-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
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

With reference to In House Testing Method "IHTM AL.2.421. Rev.5"(Modified from EPA 3510C,EPA 527,ISO 22032) ZDHC Wastewater Guidelines followed by GC-MS and ICP-MS analysis.
With reference to In House Testing Method “IHTM AL.2.421. Rev.5” (Modified from EPA 3510C, EPA 8321B) ZDHC Wastewater Guidelines followed by LC-MS-MS 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	0.1	ND	ppm
Diboron trioxide	1303-86-2	0.1	0.1	ND	ppm
Disodium octaborate	12008-41-2	0.1	0.1	ND	ppm
Disodium tetraborate anhydrous	1303-96-4 / 1330-43-4	0.1	0.1	ND	ppm

Tetraboron disodium heptaoxide, hydrate	12267-73-1	0.1	0.1	ND	ppm

10. Glycols

With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 3510C) ZDHC Wastewater Guidelines followed by 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 In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 8260D, EPA 5021A) ZDHC Wastewater Guidelines followed by Headspace GC-MS analysis.

Chlorinated solvents	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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 In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 3510C, ISO 17353) ZDHC Wastewater Guidelines followed by GC-MS analysis.

Organotin compounds	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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
Triclyclohexyltin (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 In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 3510C, EPA 8270E, ISO 18856, ISO 14389) ZDHC Wastewater Guidelines followed by GC-MS analysis.

Phthalates	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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 linearakyl 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 In House Testing Method "IHTM AL.2.421. Rev.5" (modified from DIN 38407-42, CEN/TS 15968) ZDHC Wastewater Guidelines followed by LC-MS-MS analysis.
FTOH: With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (modified from EPA 3510C, CEN/TS 15968, Journal of Chromatography A, 1178 (2008) 199-205) ZDHC Wastewater Guidelines followed by GC-MS analysis.

Perfluorinated chemicals (PFCs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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-FOSEalcohol)	24448-09-7	0.00001	0.00001	ND	ppm
N-Ethyl-Perfluoro-octane-sulfon-amido-ethanol(N-Et-FOSEalcohol)	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 In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 3510C, EPA 8270E, DIN 38407-39) ZDHC Wastewater Guidelines followed by GC-MS analysis.

Polycyclic aromatic hydrocarbons (PAHs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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 In House Testing Method "IHTM AL.2.421. Rev.5" (modified from EPA 8260D ve EPA 5021A) ZDHC Wastewater Guidelines followed by Headspace GC-MS analysis.

Volatile organic compounds (VOCs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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

With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from EPA 3510C, EPA 8270E) ZDHC Wastewater Guidelines Solvent

Anti - Microbials & Biocides	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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

With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (modified from EPA 3510C, ISO 12010) ZDHC Wastewater Guidelines Solvent extraction, followed by GC-ECNI-MS analysis.

Chlorinated paraffins	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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 In House Testing Method "IHTM AL.2.475. Rev.0" (modified from DIN 54439) followed by GC-MS analysis.

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

*Report for mock leather only

20. Dyes-Navy Blue Colourant

With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (modified from DIN 54231) ZDHC Wastewater Guidelines followed by LC-MS analysis.

Dyes-Navy Blue Colourant	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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 In House Testing Method "IHTM AL.2.421. Rev.5" ZDHC Wastewater Guidelines followed by LC-MS-MS analysis.
Quinoline: With reference to In House Testing Method "IHTM AL.2.421. Rev.5" (Modified from DIN 54231) ZDHC Wastewater Guidelines followed by LC-MS-MS analysis.
Borate salt: determined as total boron and total zinc with reference to In House Testing Method "IHTM AL.2.428. Rev.5" (Modified from EPA 3051A, ISO 17294-2 ve EPA 6020B) ZDHC Wastewater Guidelines followed by ICP-MS analysis.

Other/Miscellaneous Chemicals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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 Boron	Boron:ND Zinc: ND	ppm

22. UV Absorbers

With reference to In House Testing Method "IHTM AL.2.421 Rev.5" ZDHC Wastewater Guidelines followed by GC-MS analysis.

UV Absorbers	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	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.
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 [Turkey] 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

Others: With reference to In House Testing Method "IHTM AL.2.428. Rev.5"(EPA 3051A, ISO 17294-2 ve EPA 6020B'den modifiye edilmiştir) ZDHC Wastewater Guidelines followed by ICP-MS analysis.Chromium VI: With reference to In House Testing Method "IHTM AL.2.428. Rev.5"(ISO 18412, TS EN ISO 18412'den modifiye edilmiştir.) ZDHC Wastewater Guidelines followed by Colourimetric UV/VIS analysis.

Sludge Parameters – Step 1 - Metals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	5	5	N/A	ppm
Arsenic	Various	5	5	N/A	ppm
Barium	Various	200	200	N/A	ppm
Cadmium	Various	1	1	N/A	ppm
Cobalt	Various	400	400	N/A	ppm
Copper	Various	50	50	N/A	ppm
Lead	Various	5	5	N/A	ppm
Nickel	Various	20	20	N/A	ppm
Selenium	Various	5	5	N/A	ppm
Silver	Various	50	50	N/A	ppm
Total Chromium	Various	50	50	N/A	ppm
Zinc	Various	400	400	N/A	ppm
Chromium (VI)	Various	20	20	N/A	ppm
Mercury	Various	1	1	N/A	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	N/A	ppm

25. Sludge Parameteres - Step 1 – Conventional

Sludge Parameters – Step 1 - Conventional	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
pH	USEPA SW 9045D	N/A	N/A	N/A	N/A
% Solids	USEPA 160.3	N/A	N/A	N/A	%
Paint Filter Test	USEPA 9095B	N/A	N/A	N/A	N/A
Fecal Coliform	ISO 7899-2	10 MPN/g	10 MPN/g	N/A	MPN/g

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

APs/APEOs (n=1,2): With reference to In House Testing Method, "IHTM AL.2.428. Rev.5" (modified from EPA 3540C, ISO 18857-2 ZDHC Wastewater Guidelines dichloromethane extraction GC-MS analysis.
APs/APEOs (n>2):With reference to In House Testing Method "IHTM AL.2.428. Rev.5" (modified from EPA 3550C, ISO 18254-1) LC-MS-MS analysis.

Sludge Parameters - Step 1 - MRSL - Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	Test Method	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	N/A	ppm
Nonylphenol (NP), mixed isomers	104-40-5; 11066-49-2; 25154-52-3; 84852-15-3	0.4	0.4	N/A	ppm
Octylphenol ethoxylates (OPEO)	9002-93-1; 9036-19-5; 68987-90-6	0.4	0.4	N/A	ppm
Octylphenol (OP), mixed isomers	140-66-9; 1806-26-4; 27193-28-8	0.4	0.4	N/A	ppm

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

With reference to In House Testing Method "IHTM AL.2.428. Rev.5" (modified from EPA 3540C, EPA 8270E, DIN 38407-39) ZDHC Wastewater Guidelines followed by 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	N/A	ppm
Acenaphthylene	208-96-8	0.2	0.2	N/A	ppm
Anthracene	120-12-7	0.2	0.2	N/A	ppm
Benzo[a]anthracene	56-55-3	0.2	0.2	N/A	ppm
Benzo[a]pyrene (BaP)	50-32-8	0.2	0.2	N/A	ppm
Benzo[b]fluoranthene	205-99-2	0.2	0.2	N/A	ppm
Benzo[e]pyrene	192-97-2	0.2	0.2	N/A	ppm
Benzo[ghi]perylene	191-24-2	0.2	0.2	N/A	ppm
Benzo[j]fluoranthene	205-82-3	0.2	0.2	N/A	ppm
Benzo[k]fluoranthene	207-08-9	0.2	0.2	N/A	ppm
Chrysene	218-01-9	0.2	0.2	N/A	ppm
Dibenz[a,h]anthracene	53-70-3	0.2	0.2	N/A	ppm
Fluoranthene	206-44-0	0.2	0.2	N/A	ppm
Fluorene	86-73-7	0.2	0.2	N/A	ppm
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	0.2	N/A	ppm
Naphthalene	91-20-3	0.2	0.2	N/A	ppm
Phenanthrene	85-01-8	0.2	0.2	N/A	ppm
Pyrene	129-00-0	0.2	0.2	N/A	ppm

28. Sludge Parameteres - Step 1 - MRSL – Chlorotoluenes

With reference to In House Testing Method "IHTM AL.2.428 Rev.5" (modified from EPA 3510C, EPA 8260D, EPA 8270E) ZDHC Wastewater Guidelines followed by 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	N/A	ppm
3-Chlorotoluene	108-41-8	0.2	0.2	N/A	ppm
4-Chlorotoluene	106-43-4	0.2	0.2	N/A	ppm
2,3-Dichlorotoluene	32768-54-0	0.2	0.2	N/A	ppm
2,4-Dichlorotoluene	95-73-8	0.2	0.2	N/A	ppm
2,5-Dichlorotoluene	19398-61-9	0.2	0.2	N/A	ppm
2,6-Dichlorotoluene	118-69-4	0.2	0.2	N/A	ppm
3,4-Dichlorotoluene	95-75-0	0.2	0.2	N/A	ppm
3,5-Dichlorotoluene	25186-47-4	0.2	0.2	N/A	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.2	0.2	N/A	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.2	0.2	N/A	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.2	0.2	N/A	ppm
2,4,6-Trichlorotoluene	23749-65-7	0.2	0.2	N/A	ppm
3,4,5-Trichlorotoluene	21472-86-6	0.2	0.2	N/A	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.2	0.2	N/A	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.2	0.2	N/A	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	0.2	N/A	ppm
Pentachlorotoluene	877-11-2	0.2	0.2	N/A	ppm

29. Sludge Parameteres - Step 2 – Metals

Others: With reference to ISO 17294-2 with ICP-MS analyses.
Chromium VI: With reference to Toxicity leachate extraction procedure ISO 18412 with Colourimetric UV/VIS analyses.
Mercury: With reference to EPA 6020b with ICP-MS analysis.

Sludge Parameteres - Step 2 – Metals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	0.12	0.6	N/A	ppm
Arsenic	Various	0.1	0.5	N/A	ppm
Barium	Various	7	35	N/A	ppm
Cadmium	Various	0.03	0.15	N/A	ppm
Cobalt	Various	16	80	N/A	ppm
Copper	Various	2	10	N/A	ppm
Lead	Various	0.1	0.5	N/A	ppm
Nickel	Various	0.7	3.5	N/A	ppm
Selenium	Various	0.1	0.5	N/A	ppm
Silver	Various	1	5	N/A	ppm
Total Chromium	Various	1	5	N/A	ppm
Zinc	Various	10	50	N/A	ppm
Chromium (VI)	Various	0.5	2.5	N/A	ppm
Mercury	Various	0.01	0.05	N/A	ppm

Remark

ND = Not detected
D = Detected
(f)= parameter tested in field
@ = Maximum holding time exceeded,
red flag in the ZDHC Gateway – Wastewater Module.
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 [Turkey] for testing.

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

Parameters		Disposal pathways						
	Total metals and anions threshold values (mg/kg)	A and B (Leachate result in mg/L)	C (Leachate result in mg/L)	D (Leachate result in	E (Leachate result in mg/L)	F (Leachate result in	G (Leachate result in	G (Total metals limit in
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	
Copper	200		25	17.5	10	10	10	4300
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	

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

Parameters	Disposal pathways					
	A and B	C	D	E	F	G
pH	Sample and report only	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
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

X

Photo of before treatment area

X

Photo of after treatment area

Photo of sampling point (before treatment)

X

Photo of sampling point (after treatment)

X

Photo of Sludge Area

X

Photo of Sampling Point (Sludge)

X

Photo of facility gate

Photo of wastewater sample (before treatment)

X

Photo of wastewater sample (after treatment)

X

Photo of sludge sample

SAMPLING PROTOCOL (PAGE 1 OF 3)

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ZDHC Monitoring

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

Facility Name	Lotustex Textile Co.
Address and Contact:	Mr. Burak Sokmek -Private free zone, industrial zone plot No. 9-10-11-12 Sector 2 10th of Ramadan City
Facility type : (tick all applicable)	☑ Dyeing and Finishing ☐ Fabric Mill ☐ Laundry, Washing and Finishing ☐ Natural Leather processing ☐ Printing ☐ Synthetic Leather processing
Date of sampling:	
Sample General ID (if applicable):	☐ direct discharge ☑ with pre-treatment discharge to: ☑ indirect discharge ☐ without treatment ☐ Zero Liquid Discharge (ZLD) ☐ with own ETP ☐ MMCF
Discharge description:	Facility just adjust pH Then send its effluent to 10th of Ramadan CETP
Weather conditions:	on sampling day: 34°C — on day before: 34°C

Fill in all above information as applicable.

Sample Type and Details (see also page 2)

☐ **Effluent Discharge** ○ **direct:** or ○ **indirect**

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

◇ **with Homogenisation / Equalisation Tank (HT) present:**

Hydraulic Retention Time (HRT): 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** ☐ **Untreated WW** ☐ **Incoming Water** ☐ **MMCF**

☐ **Sludge** with below disposal pathway*): age of sludge : days / weeks

○ A	○ B	○ C	○ D	○ E	○ 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: ○ m³/h ○ L/sec ○ other unit (specify): ○ per facility info ○ measured ○ estimated

☐ **Process Chemical** ○ liquid ○ solid (powder / granulate / pieces) ◇ 'in process' ◇ from warehouse/storage

Times of sampling (if applicable)									
	Untreated:	1 11	2 12	3 13	4 14	5 15	6 16	7	or Grab:
	Effluent (indirect):*)	1	2	3	4	5	6	7	or Grab:
	Incoming:	1	2	3	4	5	6	7	or Grab:
	Sludge (liquid):	1	2	3	4	5	6	7	**Solid sludge:**

(for direct discharge, see below)

Picture ID (or Date & Time / Interval):

GPS coordinates of sampling points:

Incoming W.:	Lat.: ○N ○S	30.211536	Long.: ○E ○W	31.763264
Untreated WW:	Lat.: ○N ○S		Long.: ○E ○W	
Effluent:	Lat.: ○N ○S		Long.: ○E ○W	
Sludge:	Lat.: ○N ○S		Long.: ○E ○W	

Intertek Test Hizmetleri A.S.
Merkez Mahallesi Sanayi Cad. No.23 Altindag Plaza Yenibosna 34197 - ISTANBUL / TURKEY

SAMPLING PROTOCOL (PAGE 2 OF 3)

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ZDHC Monitoring

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

☑ Composite Sample ☐ Grab Sample (enter data in column for **Averaged Readings** and in field at right) Volume of aliquot(s): mL

Time of discrete effluent sample **	1	2	3	4	5	6	7	Averaged Readings or Grab Sample:
pH:								8.95
Temp. of WW discharge	°C	°C	°C	°C	°C	°C	°C	30.2 °C
receiving water	°C	°C	°C	°C	°C	°C	°C	°C
Flow rate:	L/s	L/s	L/s	L/s	L/s	L/s	L/s	46 m³/d avg.
Dissolved Oxygen:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	1-9 mg/L
Total Chlorine:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Persistent foam:	O yes O no	O yes O no	O yes O no	O yes O no	O yes O no	O yes O no	O yes O 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: O automated sampling ✓ with beaker/bowl O 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	T ambient air [°C]	Odour	Colour	Foaming	Floating matter
Incoming				O yes O no	O yes O no
Untreated				O yes O no	O yes O no
Effluent				O yes O no	O yes O no
Sludge					

Field Testing QA/QC

Parameter	Lab Control Sample target value	Lab Control Sample measured value	Accuracy [%]
pH			
Total Chlorine			

Other observations:

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

Rev 10b-3 - use with Guideline CS009 TR (Issue 10b)

SAMPLING PROTOCOL (PAGE 3 OF 3)

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ZDHC Monitoring

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):

Rania Sayed
rania.sayed@intertek.com

Facility Name:

Lotustex Textile Co.

Sampler's ZDHC accreditation no.:

C74D106817902

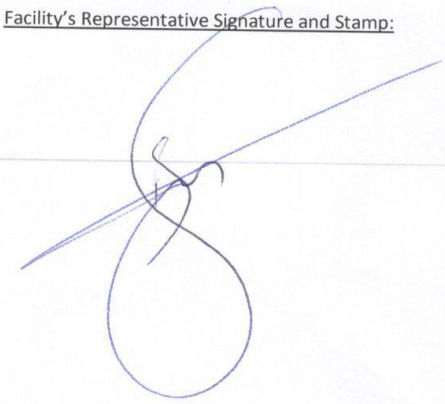
Facility's Representative name:

Hasan Burak Sakmeh

Sampler's Signature:

Rania Sayed

Facility's Representative Signature and Stamp:



Testing period: 26/06/2023 to 11/07/2023

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End of report