SOFTLINES WASTEWATER TESTING

TEST REPORT

Number: TURA220139115_REV01

Date of sampling	30/11/2022
Reporting Date	09/12/2022

Audit ID	123102	Audit firm	INTERTEK - TURKEY
Company name	BORKAN TEKSTIL SAN. VE TIC. LTD. STI		
Contact person	CANAN DEMİR		
Type of tax - tax ID no	1800029541		
Address	HARAMIDERE BEYSAN SAN. SITESI GOCMEN SOKAK NO 3		
Region state province	ISTANBUL		
Town city / village	BEYLIKDUZU		
Zip/Post code	34522		
Country	TURKEY		

Type of wastewater discharge	
ETP	Own ETP
Pre - treatment	YES
Equalization tank	YES
Type of waste discharge	Indirect discharge
Description of discharge	The mill has a wastewater treatment plant discharges to municipalities ETP through sewage system.
[If direct discharge] ambient temperature of receiving water body:	Not Applicable
Average total industrial wastewater generated:	720 m3/day

Sludge Disposal	A	

Sampler accreditation certification number (ZDHC):		**C74D106817191**	
Sample description	**Simple**	**Composite**	**Comments**
(1) Untreated wastewater (BT)	[Black, grab sample at 15:15] [Sampling location: Latitude 40.99, Longitude 28.68]	X	X
(2) Treated wastewater (AT)	[Pink, grab sample at 15:30] [Sampling location: Latitude 40.99, Longitude 28.68]	X	pH; 7.32 Dissolved Oxygen; 2.52; Total chlorine; 0 Persistent foam; Not Observed

(3) Sludge	[Black, grab sample at 15:20] [Sampling location: Latitude 40.99, Longitude 28.68]	X	pH: 7.18

Local Legal Data	
Local Legal Standard name [a]	İSKİ GENEL MÜDÜRLÜĞÜ ATIKSULARIN KANALİZASYONA DEŞARJ YÖNETMELİĞİ
Parameters (ZDHC WWG V2) exceeded local regulation:	No exceeded
Discharge permit provided:	Yes

Internal description – Intertek Lab Issuing Final Test Report	
Internal codification number	Not Applicable
Reference sample number	TURA220139115
Received on	30/11/2022
Analysis carried out from	30/11/2022 to 09/12/2022
Arrival Temperature at Lab	9.8 ºC
Comments	Samples received within 4 hours. In this REV01 report; Numerical typo were corrected in flame retardants results. This report replaced the report no TURA220139115 dated on 09 December, 2022 and must be used instead of it. Report no TURA220139115 dated on 09 December, 2022 is invalid. Revise Date:12/12/2022
Reporting date	09/12/2022

Internal description – Intertek Subcontracted Lab	
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

SOFTLINES WASTEWATER TESTING

TEST REPORT

Number: TURA220139115_REV01

Summary of test results		
Wastewater Test items	**Sample 1 (Before treatment)**	**Sample 2 (After treatment)**
Global effluent parameters ZDHC	**N/A**	**D**
Heavy metals	**N/A**	**D**
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	**D**	**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**

Remark (Indicated in each parameter)

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D = Detected
* = See remark
@ = Maximum holding time exceeded,
red flag in the ZDHC Gateway – Wastewater Module.
Probable error in results due to the holding time.

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

SOFTLINES WASTEWATER TESTING

TEST REPORT

Number: TURA220139115_REV01

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	ND
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 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

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

Test results

1. Global effluent parameters

Parameters	Test method	Limit			Reporting Limit	Result Sample	Unit
		Foundational	Progressive	Aspirational		Before Treatment	
Temperature	SM 2550 B	35°C	30°C	25°C	N/A	17.9	°C
Temperature difference [ºC]	SM 2550 B	Δ+15ºC	Δ+10ºC	Δ+5ºC	N/A	N/A	°C
TSS	SM 2540 D	50 mg/L	15 mg/L	5 mg/L	5 mg/L	50	mg/L
COD	SM 5520 D	150 mg/L	80 mg/L	40 mg/L	40 mg/L	362	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	5 mg/L	ND	mg/L
pH	SM 4500-H+	6-9	6-9	6-9	N/A	7.32	
Colour [m-1]	ISO 7887-B	7;5;3	5;3;2	2;1;1	N/A	5.6; 8.2; 4.5	
BOD_5	SM 5210-B	30 mg/L	15 mg/L	5 mg/L	5 mg/L	170	mg/L
Ammonium-N	SM 4500 NH3 B& F	10 mg/L	1 mg/L	0.5 mg/L	0.5 mg/L	ND	mg/L
Total-P	EPA 3015 A & ISO 11885	3 mg/L	0.5 mg/L	0.1 mg/L	0.1 mg/L	ND	mg/L
AOX	ISO 9562	3 mg/L	0.5 mg/L	0.1 mg/L	0.1 mg/L	0.2	mg/L
Oil and grease	USEPA 1664	10 mg/L	2 mg/L	0.5 mg/L	0.5 mg/L	5	mg/L
Phenol	SM 5530-B& C	0.5 mg/L	0.01 mg/L	0.001 mg/L	0.001 mg/L	ND	mg/L
E. Coli	ISO 9308-1	126 [MPN/100-ml]	126 [MPN/100-ml]	126 [MPN/100-ml]	126 [MPN/100-ml]	>10000	[MPN/100-ml]
Foam	N/A	Not visible	Not visible	Not visible	N/A	ND	
Cyanide	SM 4500-CN-C&E	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.05 mg/L	ND	mg/L
Sulfide	SM 4500-S2-D	0.5 mg/L	0.05 mg/L	0.01 mg/L	0.01 mg/L	ND	mg/L
Sulfite	EPA 377.1	2 mg/L	0.5 mg/L	0.2 mg/L	0.2 mg/L	ND	mg/L
Dissolved Oxygen (DO)	SM 4500-O-G	Sample and report only	Sample and report only	Sample and report only	N/A	2.52	mg/L
Total Chlorine	ISO 7393-2	Sample and report only	Sample and report only	Sample and report only	0.2 mg/L	ND	mg/L
Total Dissolved Solids (TDS)	SM 2540-C	Sample and report only	Sample and report only	Sample and report only	10 mg/L	4124	mg/L

Chloride	SM 4500-Cl C	Sample and report only	Sample and report only	Sample and report only	10 mg/L	1875	mg/L
Sulfate	SM 4500 SO4 E	Sample and report only	Sample and report only	Sample and report only	10 mg/L	224	mg/L
Wastewater Flowrate	N/A	N/A	N/A	N/A	N/A	720	m3/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)	Result Sample 2 (After treatment)	Unit
		Foundational	Progressive	Aspirational			
Arsenic (As)	Various	0.05 mg/L	0.01 mg/L	0.005 mg/L	0.005 mg/L	ND	mg/L
Cadmium (Cd)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.01 mg/L	ND	mg/L
Mercury (Hg)	Various	0.01 mg/L	0.005 mg/L	0.001 mg/L	0.001 mg/L	ND	mg/L
Lead (Pb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.01 mg/L	ND	mg/L
Antimony (Sb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.01 mg/L	ND	mg/L
Cobalt (Co)	Various	0.05 mg/L	0.02 mg/L	0.01 mg/L	0.01 mg/L	ND	mg/L
Nickel (Ni)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.05 mg/L	ND	mg/L
Silver (Ag)	Various	0.1 mg/L	0.05 mg/L	0.005 mg/L	0.005 mg/L	ND	mg/L
Copper (Cu)	Various	1 mg/L	0.5 mg/L	0.25 mg/L	0.25 mg/L	ND	mg/L
Zinc (Zn)	Various	5.0 mg/L	1.0 mg/L	0.5 mg/L	0.5 mg/L	ND	mg/L
Total Chromium (Cr)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.05 mg/L	ND	mg/L
Chromium VI (Cr VI)	Various	0.05 mg/L	0.005 mg/L	0.001 mg/L	0.001 mg/L	ND	mg/L
Barium (Ba)	Various	Sample and Report only	Sample and Report only	Sample and Report only	Sample and Report only	0.03	mg/L
Selenium (Se)	Various	Sample and Report only	Sample and Report only	Sample and Report only	Sample and Report only	ND	mg/L
Tin (Sn)	Various	Sample and Report only	Sample and Report only	Sample and Report only	Sample and Report only	ND	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Octylphenol (OP), mixed isomers	140-66-9/ 1806-26-4/ 27193-28-8	0.005	ND	ppm
Nonylphenol (NP), mixed isomers	104-40-5/ 11066-49-2/ 25154-52-3/84852-15-3	0.005	ND	ppm
Octylphenolethoxylates (OPEOs)	9002-93-1; 9036-19-5; 68987-90-6	0.005	ND	ppm
Nonylphenolethoxylates (NPEOs)	9016-45-9/26027-38-3/ 37205-87-1/68412-54-4/127087-87-0	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Chlorobenzene	108-90-7	0.0002	ND	ppm
1,2-Dichlorobenzene	95-50-1	0.0002	ND	ppm
1,3-Dichlorobenzene	541-73-1	0.0002	ND	ppm
1,4-Dichlorobezene	106-46-7	0.0002	ND	ppm
1,2,3-Trichlorobenzene	87-61-6	0.0002	ND	ppm
1,2,4-Trichlorobenzene	120-82-1	0.0002	ND	ppm
1,3,5-Trichlorobenzene	108-70-3	0.0002	ND	ppm
1,2,3,4-Tetrachlorobenzene	634-66-2	0.0002	ND	ppm
1,2,3,5-Tetrachlorobenzene	634-90-2	0.0002	ND	ppm
1,2,4,5-Tetrachlorobenzene	95-94-3	0.0002	ND	ppm
Pentachlorobenzene	608-93-5	0.0002	ND	ppm
Hexachlorobenzene	118-74-1	0.0002	ND	ppm
2-Chlorotoluene	95-49-8	0.0002	ND	ppm
3-Chlorotoluene	108-41-8	0.0002	ND	ppm
4-Chlorotoluene	106-43-4	0.0002	ND	ppm
2,3-Dichlorotoluene	32768-54-0	0.0002	ND	ppm
2,4-Dichlorotoluene	95-73-8	0.0002	ND	ppm
2,5-Dichlorotoluene	19398-61-9	0.0002	ND	ppm
2,6-Dichlorotoluene	118-69-4	0.0002	ND	ppm
3,4-Dichlorotoluene	95-75-0	0.0002	ND	ppm

3,5-Dichlorotoluene	25186-47-4	0.0002	ND	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.0002	ND	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.0002	ND	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.0002	ND	ppm
2,4,6-Trichlorotoluene	23749-65-7	0.0002	ND	ppm
3,4,5-Trichlorotoluene	21472-86-6	0.0002	ND	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.0002	ND	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.0002	ND	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.0002	ND	ppm
Pentachlorotoluene	877-11-2	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
2-Chlorophenol	95-57-8	0.0005	ND	ppm
3-Chlorophenol	108-43-0	0.0005	ND	ppm
4-Chlorophenol	106-48-9	0.0005	ND	ppm
2,3-Dichlorophenol	576-24-9	0.0005	ND	ppm
2,4-Dichlorophenol	120-83-2	0.0005	ND	ppm
2,5-Dichlorophenol	583-78-8	0.0005	ND	ppm
2,6-Dichlorophenol	87-65-0	0.0005	ND	ppm
3,4-Dichlorophenol	95-77-2	0.0005	ND	ppm
3,5-Dichlorophenol	591-35-5	0.0005	ND	ppm
2,3,4-Trichlorophenol	15950-66-0	0.0005	ND	ppm
2,3,5-Trichlorophenol	933-78-8	0.0005	ND	ppm
2,3,6-Trichlorophenol	933-75-5	0.0005	ND	ppm
2,4,5-Trichlorophenol	95-95-4	0.0005	ND	ppm
2,4,6-Trichlorophenol	88-06-2	0.0005	ND	ppm
3,4,5-Trichlorophenol	609-19-8	0.0005	ND	ppm
2,3,4,5-Tetrachlorophenol	4901-51-3	0.0005	ND	ppm
2,3,4,6-Tetrachlorophenol	58-90-2	0.0005	ND	ppm
2,3,5,6-Tetrachlorophenol	935-95-5	0.0005	ND	ppm
Pentachlorophenol (PCP)	87-86-5	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	0.0001	ND	ppm
4,4'-Diaminodiphenylmethane	101-77-9	0.0001	ND	ppm
4,4'-Oxydianiline	101-80-4	0.0001	ND	ppm
4-Chloroaniline	106-47-8	0.0001	ND	ppm
3,3'-Dimethoxybenzidine	119-90-4	0.0001	ND	ppm
3,3'-Dimethylbenzidine	119-93-7	0.0001	ND	ppm
p-Cresidine	120-71-8	0.0001	ND	ppm
2,4,5-Trimethylaniline	137-17-7	0.0001	ND	ppm
4,4'-Thiodianiline	139-65-1	0.0001	ND	ppm
4-Aminoazobenzene	60-09-3	0.0001	ND	ppm
4-methoxy-m-phenylenediamine	615-05-4	0.0001	ND	ppm
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	0.0001	ND	ppm
2,6-Xylidine	87-62-7	0.0001	ND	ppm
o-Anisidine	90-04-0	0.0001	ND	ppm
2-Naphthylamine	91-59-8	0.0001	ND	ppm
3,3'-Dichlorobenzidine	91-94-1	0.0001	ND	ppm
4-Aminobiphenyl	92-67-1	0.0001	ND	ppm
Benzidine	92-87-5	0.0001	ND	ppm
o-Toluidine	95-53-4	0.0001	ND	ppm
2,4-Xylidine	95-68-1	0.0001	ND	ppm
4-Chloro-o-toluidine	95-69-2	0.0001	ND	ppm
4-Methyl-m-phenylenediamine	95-80-7	0.0001	ND	ppm
o-Aminoazotoluene	97-56-3	0.0001	ND	ppm
5-Nitro-o-toluidine	99-55-8	0.0001	ND	ppm
2-Naphthylammoniumacetate	553-00-4	0.0001	ND	ppm
2,4,5-trimethylaniline hydrochloride	21436-97-5	0.0001	ND	ppm
4-chloro-o-toluidinium chloride	3165-93-3	0.0001	ND	ppm
4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	39156-41-7	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
C.I. Direct Black 38	1937-37-7	0.5	ND	ppm
C.I. Direct Blue 6	2602-46-2	0.5	ND	ppm
C.I. Acid Red 26	3761-53-3	0.5	ND	ppm
C.I. Basic Red 9	569-61-9	0.5	ND	ppm
C.I. Direct Red 28	573-58-0	0.5	ND	ppm
C.I. Basic Violet 14	632-99-5	0.5	ND	ppm
C.I. Disperse Blue 1	2475-45-8	0.5	ND	ppm
C.I. Disperse Blue 3	2475-46-9	0.5	ND	ppm
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	0.5	ND	ppm
C.I. Basic Green 4 (malachite green chloride)	569-64-2	0.5	ND	ppm
C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	0.5	ND	ppm
C.I. Basic Green 4 (malachite green)	10309-95-2	0.5	ND	ppm
Disperse Orange 11	82-28-0	0.5	ND	ppm
Basic violet 3 with >0.1% of Michler´s Ketoneb	548-62-9	0.5	ND	ppm
C.I. Acid Violet 49	1694-09-3	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Disperse Yellow 1	119-15-3	0.05	ND	ppm
Disperse Blue 102	12222-97-8	0.05	ND	ppm
Disperse Blue 106	12223-01-7	0.05	ND	ppm
Disperse Yellow 39	12236-29-2	0.05	ND	ppm
Disperse Orange 37/59/76	13301-61-6	0.05	ND	ppm
Disperse Brown 1	23355-64-8	0.05	ND	ppm
Disperse Orange 1	2581-69-3	0.05	ND	ppm
Disperse Yellow 3	2832-40-8	0.05	ND	ppm
Disperse Red 11	2872-48-2	0.05	ND	ppm
Disperse Red 1	2872-52-8	0.05	ND	ppm
Disperse Red 17	3179-89-3	0.05	ND	ppm
Disperse Blue 7	3179-90-6	0.05	ND	ppm

Disperse Blue 26	3860-63-7	0.05	ND	ppm
Disperse Yellow 49	54824-37-2	0.05	ND	ppm
Disperse Blue 35	12222-75-2	0.05	ND	ppm
Disperse Blue 124	61951-51-7	0.05	ND	ppm
Disperse Yellow 9	6373-73-5	0.05	ND	ppm
Disperse Orange 3	730-40-5	0.05	ND	ppm
Disperse Blue 35	56524-77-7	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 GC-ECNI-MS analysis.

Flame retardants	CAS no.	Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	0.005	ND	ppm
Decabromodiphenyl ether (DecaBDE)	1163-19-5	0.005	ND	ppm
Tris(2,3-dibromopropyl) phosphate (TRIS)	126-72-7	0.005	ND	ppm
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	0.005	ND	ppm
Octabromodiphenyl ether (OctaBDE)	32536-52-0	0.005	ND	ppm
Bis(2,3-dibromopropyl) phosphate	5412-25-9	0.005	ND	ppm
Tris(1-aziridinyl)phosphine oxide) (TEPA)	545-55-1	0.005	ND	ppm
Polybromobiphenyls (PBBs)	59536-65-1	0.005	ND	ppm
Tetrabromobisphenol A (TBBPA)	79-94-7	0.005	ND	ppm
Hexabromocyclododecane (HBCDD)	3194-55-6	0.005	ND	ppm
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	0.005	ND	ppm
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	0.005	ND	ppm
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	0.005	ND	ppm
Decabromobiphenyl (DecaBB)	13654-09-6	0.005	ND	ppm
Dibromobiphenyls (DiBB)	Various	0.005	ND	ppm
Octabromobiphenyls (OctaBB)	Various	0.005	ND	ppm
Dibromopropylether	21850-44-2	0.005	ND	ppm
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	0.005	ND	ppm
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	0.005	ND	ppm
Monobromobiphenyls (MonoBB)	Various	0.005	ND	ppm
Monobromodiphenylethers (MonoBDEs)	Various	0.005	ND	ppm
Nonabromobiphenyls (NonaBB)	Various	0.005	ND	ppm
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	0.005	ND	ppm
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	0.005	ND	ppm
Tribromodiphenylethers (TriBDEs)	Various	0.005	ND	ppm
Boric acid	10043-35-3 / 11113-50-1	0.005	0.872	ppm
Diboron trioxide	1303-86-2	0.005	0.491	ppm
Disodium octaborate	12008-41-2	0.005	ND	ppm
Disodium tetraborate anhydrous	1303-96-4 / 1330-43-4	0.005	ND	ppm
Tetraboron disodium heptaoxide, hydrate	12267-73-1	0.005	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Bis(2-methoxyethyl)-ether	111-96-6	0.05	ND	ppm
2-ethoxyethanol	110-80-5	0.05	ND	ppm
2-ethoxyethyl acetate	111-15-9	0.05	ND	ppm
Ethylene glycol dimethyl ether	110-71-4	0.05	ND	ppm
2-methoxyethanol	109-86-4	0.05	ND	ppm
2-methoxyethylacetate	110-49-6	0.05	ND	ppm
2-methoxypropylacetate	70657-70-4	0.05	ND	ppm
Triethylene glycol dimethyl ether	112-49-2	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
1,2-Dichloroethane	107-06-2	0.001	ND	ppm
Methylene chloride	75-09-2	0.001	ND	ppm
Trichloroethene	79-01-6	0.001	ND	ppm
Tetrachloroethene	127-18-4	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Mono-, di-and tri-methyltin derivatives	Various	0.00001	ND	ppm
Mono-, di-and tri-butyltin derivatives	Various	0.00001	ND	ppm
Mono-, di-and tri-phenyltin derivatives	Various	0.00001	ND	ppm
Mono-, di-and tri-octyltin derivatives	Various	0.00001	ND	ppm
Triclyclohexyltin (TCyHT)	Various	0.00001	ND	ppm
Dipropyltin compounds (DPT)	Various	0.00001	ND	ppm
Tetrabutyltin compounds (TeBT)	Various	0.00001	ND	ppm
Tripropyltin Compounds (TPT)	Various	0.00001	ND	ppm
Tetraoctyltin compounds (TeOT)	Various	0.00001	ND	ppm
Tetraethyltin Compounds (TeET)	Various	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	0.01	ND	ppm
Dimethoxyethyl phthalate (DMEP)	117-82-8	0.01	ND	ppm
Di-n-octyl phthalate (DNOP)	117-84-0	0.01	ND	ppm
Di-iso-decyl phthalate (DIDP)	26761-40-0/68515-49-1	0.01	ND	ppm
Di-iso-nonyl phthalate (DINP)	28553-12-0/68515-48-0	0.01	ND	ppm
Di-n-hexyl phthalate (DnHP)	84-75-3	0.01	ND	ppm
Dibutyl phthalate (DBP)	84-74-2	0.01	ND	ppm
Butyl benzyl phthalate (BBP)	85-68-7	0.01	ND	ppm
Diethyl phthalate (DEP)	84-66-2	0.01	ND	ppm
Di-n-propyl phthalate (DPRP)	131-16-8	0.01	ND	ppm
Di-iso-butyl phthalate (DIBP)	84-69-5	0.01	ND	ppm
Di-cyclohexyl phthalate (DCHP)	84-61-7	0.01	ND	ppm
Di-iso-octyl phthalate (DIOP)	27554-26-3	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C7-11-branched and linearakyl esters (DHNUP)	68515-42-4	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C6-11-branched alkyl esters, C7-rich (DIHP)	71888-89-6	0.01	ND	ppm
Di-n-pentylphthalates	131-18-0	0.01	ND	ppm
Diisopentylphthalates	605-50-5	0.01	ND	ppm
Dinonyl phthalate (DNP)	84-76-4	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Perfluorooctane sulfonate (PFOS) and related substances	Various	0.00001	ND	ppm
Perfluorooctanoic acid (PFOA) and related substances	Various	0.00001	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Benzo(a)pyrene (BaP)	50-32-8	0.001	ND	ppm
Anthracene	120-12-7	0.001	ND	ppm
Pyrene	129-00-0	0.001	ND	ppm
Benzo(ghi)perylene	191-24-2	0.001	ND	ppm
Benzo(e)pyrene	192-97-2	0.001	ND	ppm
Indeno (1,2,3-cd)pyrene	193-39-5	0.001	ND	ppm
Benzo(j)fluoranthene	205-82-3	0.001	ND	ppm
Benzo(b)fluoranthene	205-99-2	0.001	ND	ppm
Fluoranthene	206-44-0	0.001	ND	ppm
Benzo(k)fluoranthene	207-08-09	0.001	ND	ppm
Acenaphthylene	208-96-8	0.001	ND	ppm
Chrysene	218-01-9	0.001	ND	ppm
Dibenz(a,h)anthracene	53-70-3	0.001	ND	ppm
Benzo(a)anthracene	56-55-3	0.001	ND	ppm
Acenaphthene	83-32-9	0.001	ND	ppm
Phenanthrene	85-01-8	0.001	ND	ppm
Fluorene	86-73-7	0.001	ND	ppm
Naphthalene	91-20-3	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Benzene	71-43-2	0.001	ND	ppm
Xylene	1330-20-7	0.001	ND	ppm
o-cresol	95-48-7	0.001	ND	ppm
p-cresol	106-44-5	0.001	ND	ppm
m-cresol	108-39-4	0.001	ND	ppm
Toluene	108-88-3	0.001	ND	ppm

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 extraction, followed by GC-MS analysis.

Anti - Microbials & Biocides	CAS no.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
o-Phenylphenol (+salts)	90-43-7	0.001	ND	ppm
Triclosan	3380-34-5	0.001	ND	ppm
Permethrin	Multiple	0.005	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Short-chain Chlorinated paraffin (C10 – C13)	85535-84-8	0.005	ND	ppm
Medium-chain Chlorinated paraffins (MCCPs) (C14-C17)	85535-85-9	0.005	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit

Dimethyl formamide; N,N-dimethylformamide(DMFa)	68-12-2	1	ND	ppm

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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
Component 1: C39H23Cl-CrN7O12S 2Na	118685-33-9	0.5	ND	ppm
Component 2: C46H-30CrN10O20S2 3Na	Not Allocated	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.	Reporting limit (ppm)	Result Sample 1 (Before treatment) (ppm)	Unit
AEEA [2-(2-aminoethylamino)ethanol]	111-41-1	0.5	ND	
Bisphenol A	80-05-7	0.01	ND	
Thiourea	62-56-6	0.05	ND	
Quinoline	91-22-5	0.05	ND	
Borate, zinc salt	12767-90-7	0.01 in Boron	ND	

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.	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	ND	ppm

2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.1	ND	ppm
2-benzotriazol-2-yl-4,6-di-tertbutylphenol (UV-320)	3846-71-7	0.1	ND	ppm
2,4-Di-tert-butyl-6-(5-chlorobenzotriazole-2-yl) phenol (UV-327)	3864-99-1	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 [xxxxx] for testing.

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.	Reporting limit	Result	Unit
Antimony	Various	5	ND	ppm
Arsenic	Various	5	ND	ppm
Barium	Various	200	ND	ppm
Cadmium	Various	1	ND	ppm
Cobalt	Various	400	ND	ppm
Copper	Various	50	57	ppm
Lead	Various	5	ND	ppm
Nickel	Various	20	ND	ppm
Selenium	Various	5	ND	ppm
Silver	Various	50	795	ppm
Total Chromium	Various	50	60	ppm
Zinc	Various	400	ND	ppm
Chromium (VI)	Various	20	ND	ppm
Mercury	Various	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.	Reporting limit	Result	Unit
Cyanide	-	20	ND	ppm

25. Sludge Parameteres - Step 1 – Conventional

Sludge Parameters – Step 1 - Conventional	CAS no.	Reporting limit	Result	Unit
pH	USEPA SW 9045D	N/A	7.18	ppm
% Solids	USEPA 160.3	N/A	78.96%	ppm
Paint Filter Test	USEPA 9095B	N/A	ND	ppm
Fecal Coliform	ISO 7899-2	10 MPN/g	ND	ppm

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	CAS no.	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	ND	ppm
Nonylphenol (NP), mixed isomers	104-40-5; 11066-49-2; 25154-52-3; 84852-15-3	0.4	ND	ppm
Octylphenol ethoxylates (OPEO)	9002-93-1; 9036-19-5; 68987-90-6	0.4	ND	ppm

Octylphenol (OP), mixed isomers	140-66-9; 1806-26-4; 27193-28-8	0.4	ND	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.	Reporting limit (ppm)	Result	Unit
Acenaphthene	83-32-9	0.2	ND	ppm
Acenaphthylene	208-96-8	0.2	ND	ppm
Anthracene	120-12-7	0.2	ND	ppm
Benzo[a]anthracene	56-55-3	0.2	ND	ppm
Benzo[a]pyrene (BaP)	50-32-8	0.2	ND	ppm
Benzo[b]fluoranthene	205-99-2	0.2	ND	ppm
Benzo[e]pyrene	192-97-2	0.2	ND	ppm
Benzo[ghi]perylene	191-24-2	0.2	ND	ppm
Benzo[j]fluoranthene	205-82-3	0.2	ND	ppm
Benzo[k]fluoranthene	207-08-9	0.2	ND	ppm
Chrysene	218-01-9	0.2	ND	ppm
Dibenz[a,h]anthracene	53-70-3	0.2	ND	ppm
Fluoranthene	206-44-0	0.2	ND	ppm
Fluorene	86-73-7	0.2	ND	ppm
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	ND	ppm
Naphthalene	91-20-3	0.2	ND	ppm
Phenanthrene	85-01-8	0.2	ND	ppm
Pyrene	129-00-0	0.2	ND	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.	Reporting limit (ppm)	Result	Unit
Other isomers of mono-, di-, tri-, tetra- and penta-chlorotoluene	Multiple	0.2	ND	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.	Reporting limit (ppm)	Result	Unit
Antimony	Various	0.12	N/A	ppm
Arsenic	Various	0.1	N/A	ppm
Barium	Various	7	N/A	ppm
Cadmium	Various	0.03	N/A	ppm
Cobalt	Various	16	N/A	ppm
Copper	Various	2	N/A	ppm
Lead	Various	0.1	N/A	ppm
Nickel	Various	0.7	N/A	ppm
Selenium	Various	0.1	N/A	ppm
Silver	Various	1	ND	ppm
Total Chromium	Various	1	N/A	ppm
Zinc	Various	10	N/A	ppm
Chromium (VI)	Various	0.5	N/A	ppm
Mercury	Various	0.01	N/A	ppm

x x

Photo of before treatment area

Photo of after treatment area

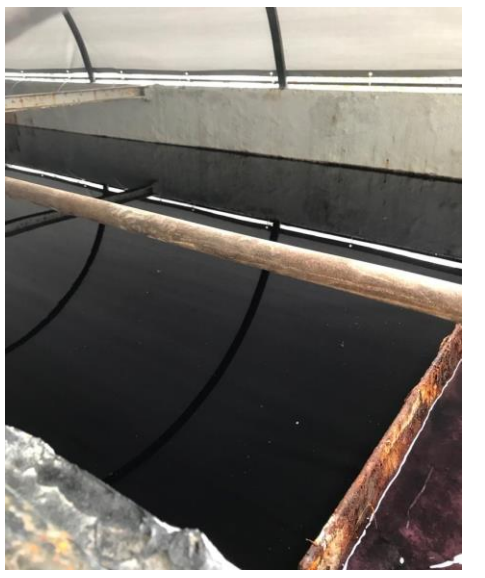

Photo of sampling point (before treatment)

Photo of sampling point (after treatment)

Photo of facility gate

Testing period: From 30/11/2022 to 09/12/2022

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End of report