

## SOFTLINES WASTEWATER TESTING

## TEST REPORT

Number: TURA230006975

Date of sampling	18/01/2023
Reporting Date	26/01/2023

Audit ID	132530	Audit firm	INTERTEK - TURKEY
Company name	PALBEN TURIZM MAKINE TEKSTIL INS.ISL.YAT.SAN.VE TIC.LTD.STI.		
Contact person	VERONICA BURKOMAN		
Type of tax - tax ID no	7200050079		
Address	COSB ATATURK MAH. CUMHURIYET CAD. D:51		
Region state province	TEKIRDAG		
Town city / village	CERKEZKOY		
Zip/Post code	-		
Country	TURKEY		

Type of wastewater discharge	
ETP	No ETP
Pre - treatment	NO
Equalization tank	NO
Type of waste discharge	Indirect discharge
Description of discharge	Discharge to Çerkezköy Organized industrial zone ETP
[If direct discharge] ambient temperature of receiving water body:	Not Applicable
Average total industrial wastewater generated:	1320 m3/day

Sludge	N/A
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Sampler accreditation certification number (ZDHC):		C74D106817207	
Sample description	Simple	Composite	Comments
(1) Untreated wastewater (BT)	X	[Dark Blue, composite sample at; 09:10, 10:10, 11:10, 12:10, 13:10, 14:10] [Sampling location: Latitude 41.29974, Longitude 27.95240]	pH; 9.64, 9.39, 9.36, 9.08, 9.19, 8.81; Flow Rate (m3/h); 57, 55, 57,55, 57, 55; Dissolved Oxygen (mg/L); 0.9, 1.3, 1.4, 1.5, 1.8, 1.4; Total Chlorine (mg/L); N/A; Persistent Foam; Not Visible
(2) Treated wastewater (AT)	X	X	X
(3) Sludge	X	X	X

Local Legal Data	
Local Legal Standard name [a]	ÇERKEZKÖY OSB II.KISIM FİRMALAR ATIKSU DEŞARJ KRİTERLERİ
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	TURA230006975
Received on	19/01/2023
Analysis carried out from	19/01/2023 to 26/01/2023
Arrival Temperature at Lab	6.1 °C
Comments	Samples received within 18:00 hours.
Reporting date	26/01/2023

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

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

NA = Not applicable

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(f)= parameter tested in field

(T)= handling temperature exceeded

(S) = The analysis was subcontracted to Intertek [Turkey] for testing.

# = Non accredited parameter

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

For and on behalf of

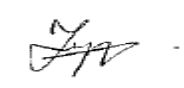
Intertek Testing Service Turkey Limited

Prepared and Checked By:



Eralp Anil  
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			Reporting Limit	Result Sample	Unit
		Foundational	Progressive	Aspirational		Before Treatment	
Temperature	SM 2550 B	35°C	30°C	25°C	N/A	27.2 (f)	°C
Temperature difference [°C]	SM 2550 B	Δ+15°C	Δ+10°C	Δ+5°C	N/A	N/A	°C
TSS	SM 2540 D	50 mg/L	15 mg/L	5 mg/L	5 mg/L	129	mg/L
COD	SM 5520 D	150 mg/L	80 mg/L	40 mg/L	40 mg/L	963	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	9.4	mg/L
pH	SM 4500-H+	6-9	6-9	6-9	N/A	9.33 (f)	
Colour [m-1]	ISO 7887-B	7;5;3	5;3;2	2;1;1	N/A	9.5;10.3;10	
BOD <sub>5</sub>	SM 5210-B	30 mg/L	15 mg/L	5 mg/L	5 mg/L	200	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	EPA3015 A& ISO11885	3 mg/L	0.5 mg/L	0.1 mg/L	0.1 mg/L	2.4	mg/L
AOX	ISO 9562	3 mg/L	0.5 mg/L	0.1 mg/L	0.1 mg/L	ND	mg/L
Oil and grease	USEPA 1664	10 mg/L	2 mg/L	0.5 mg/L	0.5 mg/L	31	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]	1800	[MPN/100-ml]
Foam	N/A	Not visible	Not visible	Not visible	N/A	Not Visible	
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			N/A	1.3 (f)	mg/L
Total Chlorine	ISO 7393-2	Sample and report only			0.2 mg/L	N/A	mg/L
Total Dissolved Solids (TDS)	SM 2540-C	Sample and report only			10 mg/L	4760	mg/L
Chloride	SM 4500-Cl C	Sample and report only			10 mg/L	2224	mg/L
Sulfate	SM 4500 SO4 E	Sample and report only			10 mg/L	223	mg/L
Wastewater Flowrate	N/A	Report only			N/A	1320	m <sup>3</sup> /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 analysis.

Chromium (VI); With reference to ISO 18412 followed by spectrophotometric analysis.

Heavy metals	CAS no.	Limit			Reporting limit (mg/L)	Result Sample 2 (Before 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	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			0.001 mg/L	0.016	mg/L
Selenium (Se)	Various	Sample and Report only			0.001 mg/L	ND	mg/L
Tin (Sn)	Various	Sample and Report only			0.001 mg/L	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, 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) & 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 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-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 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 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) (ppm)	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
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 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 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 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	N/A	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 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	N/A	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 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
AEAA [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	0.1	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.





**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 Parameters - 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 Parameters - 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.	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

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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	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	Total metals and anions threshold values (mg/kg)	Disposal pathways						
		A and B (Leachate result in mg/L)	C (Leachate result in mg/L)	D (Leachate result in mg/L)	E (Leachate result in mg/L)	F (Leachate result in mg/L)	G (Leachate result in mg/L)	G (Total metals limit in mg/L)
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					< 0.2 mg/kg				
Aromatic									
Hydrocarbons (PAHs)									
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



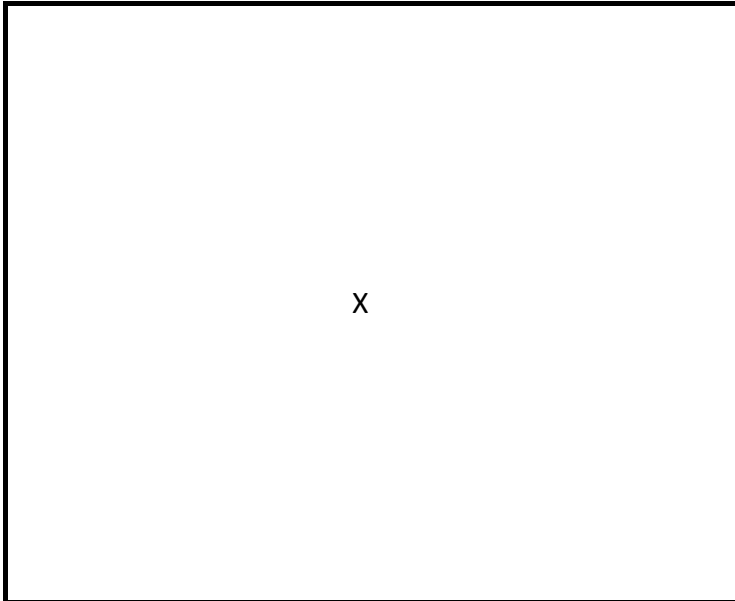


Photo of before treatment area

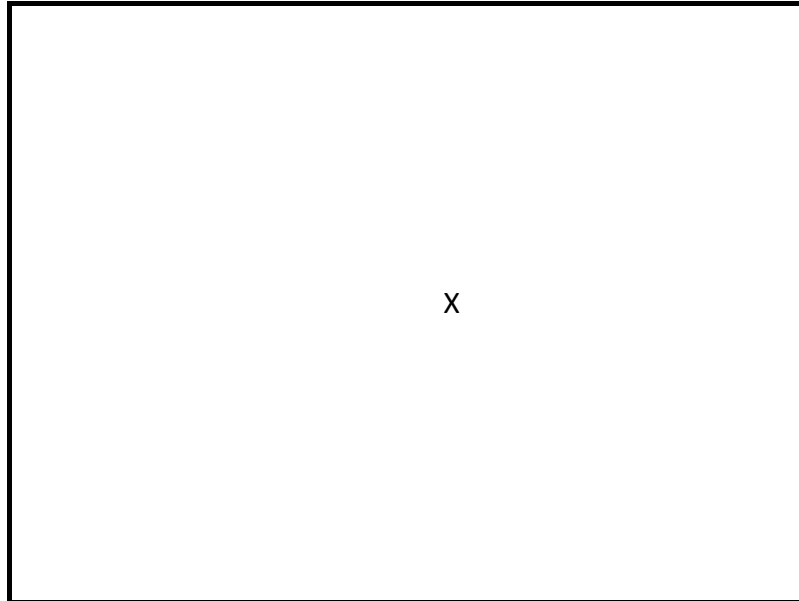


Photo of after treatment area

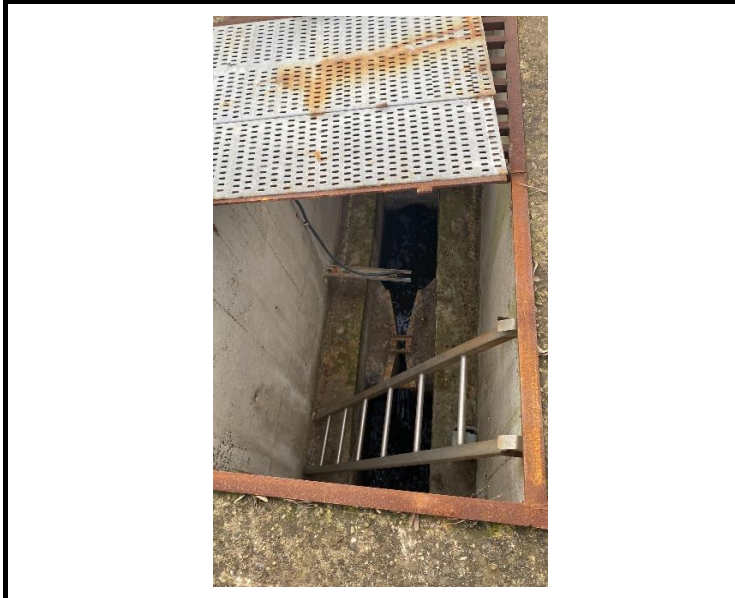


Photo of sampling point (before treatment)

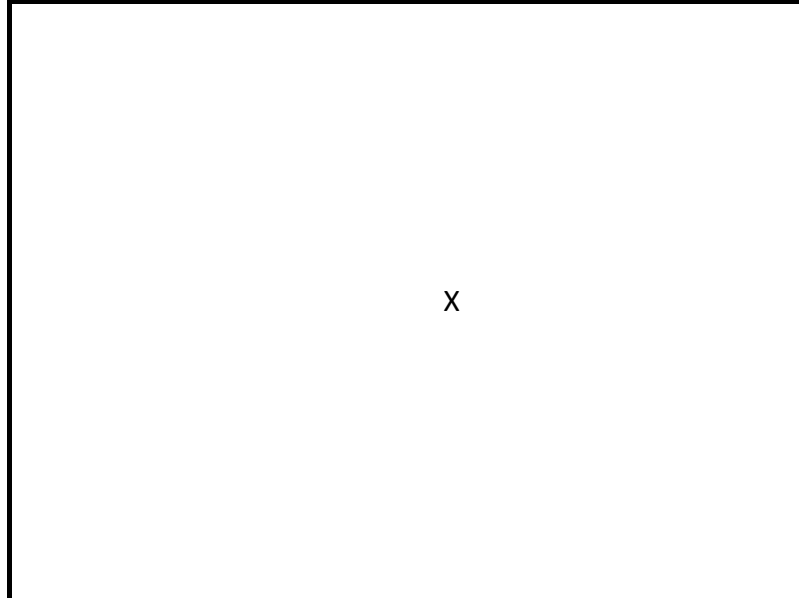


Photo of sampling point (after treatment)



Photo of facility gate

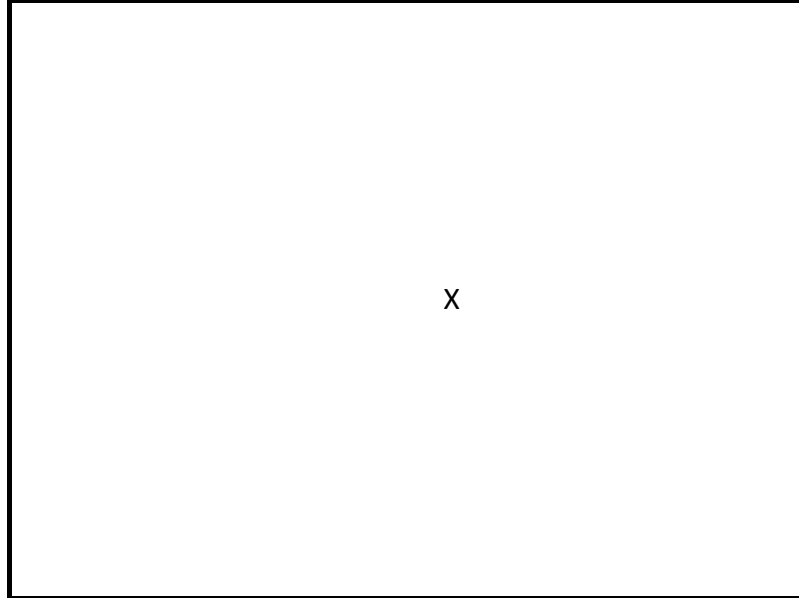


Photo of sampling point (Sludge)

Testing period: From 19/01/2023 to 26/01/2023

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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

