

## SOFTLINES WASTEWATER TESTING

## TEST REPORT LA-230459

Number: SETTAVEX

Date of sampling	07/03/2023
Reporting Date	30/03/2023

Audit ID	132566	Audit firm	INTERTEK MOROCCO
Company name	SETTAVEX S.A		
Contact person	LAGHZAL BOUKHANJER		
Type of tax - tax ID no	TAX No. - 06125185		
Address	ZONE INDUSTRIELLE DE SETTAT – BP 668		
Region state province	CASABLANCA/SETTAT		
Town city / village	SETTAT		
Zip/Post code	26000		
Country	MOROCCO		

Type of wastewater discharge	
ETP	Own ETP
Pre - treatment	YES
Equalization tank	YES
Type of waste discharge	Indirect discharge
Description of discharge	
[If direct discharge] ambient temperature of receiving water bod	N/A
Average total industrial wastewater generated:	1600 m3/day

Sludge Disposal	C
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Sampler accreditation certification number (ZDHC):		C74D106819591	
Sample description	Simple	Composite	Comments
(1) Untreated wastewater (BT)		Navy composite sample at: 08h15,09h15,10h15,11h15,12h15,13h15	pH: 12.15, 12.5,13.0, 11.9, 12.6, 11.8
(2) Treated wastewater (AT)		Uncolored composite sample at: 08h30,09h30,10h30,11h30,12h30,13h30	pH: 7.8, 7.1, 6.9, 7.4, 6.9, 6.8

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(3) Sludge	Navy grab sample at: 13h45		pH: 6.24
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Local Legal Data	
Local Legal Standard name [a]	RADEEC
Parameters (ZDHC WWG V2) exceeded local regulation:	No exceeded
Discharge permit provided:	NO

Internal description – Intertek Lab Issuing Final Test Report	
Internal codification number	LA-230459
Reference sample number	SETTAVEX
Received on	13/03/2023
Analysis carried out from	13/03/2023 to 21/03/2023
Arrival Temperature at Lab	17°C
Comments	Maximum recommended temperature during transportation has been exceeded, so the results may not reflect the initial state of the sample. Maximum recommended holding time has been exceeded for some parameters but the analyzed parameters are not affected. (6 days)
Reporting date	30/03/2023

Internal description – Intertek Subcontracted Lab	
Internal codification number	N/A
Reference sample number	N/A
Received on	N/A
Analysis carried out from	N/A
Arrival Temperature at Lab	N/A
Comments	N/A
Reporting date	N/A

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

**Remark (Indicated in each parameter)**

ND = Not detected

D = Detected

\* = See remark

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

Probable error in results due to the holding time.

N/A = Not applicable

- = Did not perform

(f)= parameter tested in field

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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 Ibérica Spain S.L.U.



Miriam Laca , Environmental Manager

## Test results

### 1. Global effluent parameters

Parameters	Test method	Limit			Lab Reporting Limit	Result Sample	Unit
		Foundational	Progressive	Aspirational		After Treatment	
Temperature	EPA 170.1	35°C	30°C	25°C	N/A	N/A	°C
Temperature difference [°C]	EPA 170.1	Δ+15°C	Δ+10°C	Δ+5°C	N/A	N/A	°C
TSS	EPA 160.2	50 mg/L	15 mg/L	5 mg/L	4 mg/L	N/A	mg/L
COD	ISO 6060	150 mg/L	80 mg/L	40 mg/L	30 mg/L	N/A	mg/L
Total-N	ISO11905-01/DIN 38405-	20 mg/L	10 mg/L	5 mg/L	0.5 mg/L	N/A	mg/L
pH	EPA 150.1	6-9	6-9	6-9	3-13	N/A	und. pH
Colour [m-1]	ISO 7887-B	7;5;3	5;3;2	2;1;1	N/A	N/A	m-1
BOD <sub>5</sub>	EPA 5210	30 mg/L	15 mg/L	8 mg/L	3 mg/L	N/A	mg/L
Ammonium-N	ISO7150-1	10 mg/L	1 mg/L	0.5 mg/L	0.5 mg/L	N/A	mg/L
Total-P	EPA200.8	3 mg/L	0.5 mg/L	0.1 mg/L	0.05 mg/L	N/A	mg/L
AOX	ISO 9562	3 mg/L	0.5 mg/L	0.1 mg/L	0.05 mg/L	N/A	mg/L
Oil and grease	EPA1664-B	10 mg/L	2 mg/L	0.5 mg/L	0.5 mg/L	N/A	mg/L
Phenol	SM5530	0.5 mg/L	0.01 mg/L	0.001 mg/L	0.1 mg/L	N/A	mg/L
E. Coli	SM 9221B / SM 9221F&G	126 [MPN/100-ml]	126 [MPN/100-ml]	126 [MPN/100-ml]	100 [MPN/100-ml]	N/A	[MPN/100-ml]
Foam	/	Not visible	Not visible	Not visible	N/A	N/A	
Cyanide	ISO 6703/ EPA 335.2	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.01 mg/L	N/A	mg/L
Sulfide	SM 4500-S2-D	0.5 mg/L	0.05 mg/L	0.01 mg/L	0.1 mg/L	N/A	mg/L
Sulphite	SM 4500 SO3	2 mg/L	0.5 mg/L	0.2 mg/L	0.05 mg/L	N/A	mg/L
Dissolved Oxygen (DO)	ISO 5814	Sample and report only	Sample and report only	Sample and report only	1 mg/L	N/A	mg/L
Total Chlorine	USEPA 330.5	Sample and report only	Sample and report only	Sample and report only	0.05 mg/L	N/A	mg/L
Total Dissolved Solids (TDS)	SM 2540-C / USEPA 160.1	Sample and report only	Sample and report only	Sample and report only	10 mg/L	N/A	mg/L

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Chloride	SM 4110-C	Sample and report only	Sample and report only	Sample and report only	1 mg/L	N/A	mg/L
Sulfate	SM 4110-C	Sample and report only	Sample and report only	Sample and report only	5 mg/L	N/A	mg/L
Wastewater Flowrate	/				N/A	N/A	m3/day

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## 2. Heavy metals

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

Heavy metals	CAS no.	Limit			Lab Reporting limit (mg/L)	Result Sample 2 (After treatment)	Unit
		Foundational	Progressive	Aspirational			
Arsenic (As)	Various	0.05 mg/L	0.01 mg/L	0.005 mg/L	0.0005	0.0012	mg/L
Cadmium (Cd)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.0002	ND	mg/L
Mercury (Hg)	Various	0.01 mg/L	0.005 mg/L	0.001 mg/L	0.0003	ND	mg/L
Lead (Pb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.0005	0.0029	mg/L
Antimony (Sb)	Various	0.1 mg/L	0.05 mg/L	0.01 mg/L	0.0005	N/A	mg/L
Cobalt (Co)	Various	0.05 mg/L	0.02 mg/L	0.01 mg/L	0.001	N/A	mg/L
Nickel (Ni)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.001	N/A	mg/L
Silver (Ag)	Various	0.1 mg/L	0.05 mg/L	0.005 mg/L	0.005	N/A	mg/L
Copper (Cu)	Various	1 mg/L	0.5 mg/L	0.25 mg/L	0.001	N/A	mg/L
Zinc (Zn)	Various	5.0 mg/L	1.0 mg/L	0.5 mg/L	0.01	N/A	mg/L
Total Chromium (Cr)	Various	0.2 mg/L	0.1 mg/L	0.05 mg/L	0.001	N/A	mg/L
Chromium VI (Cr VI)	Various	0.05 mg/L	0.005 mg/L	0.001 mg/L	0.05	ND	mg/L
Barium	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.001	N/A	mg/L
Selenium	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.002	N/A	mg/L
Tin	Various	Sample and Report only	Sample and Report only	Sample and Report only	0.001	N/A	mg/L

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**3. Alkylphenols (APs) & AlkylphenolEthoxylates (APEOs)**

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

OPEO/NPEO (n>2): With reference to ASTM D7742 or ISO 18857-2

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

**4. Chlorobenzenes & Chlorotoluenes**

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

Chlorobenzenes & 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



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2,4-Dichlorotoluene	95-73-8	0.0002	0.0002	ND	ppm
2,5-Dichlorotoluene	19398-61-9	0.0002	0.0002	ND	ppm
2,6-Dichlorotoluene	118-69-4	0.0002	0.0002	ND	ppm
3,4-Dichlorotoluene	95-75-0	0.0002	0.0002	ND	ppm
3,5-Dichlorotoluene	25186-47-4	0.0002	0.0002	ND	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.0002	0.0002	ND	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.0002	0.0002	ND	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.0002	0.0002	ND	ppm
2,4,6-Trichlorotoluene	23749-65-7	0.0002	0.0002	ND	ppm
3,4,5-Trichlorotoluene	21472-86-6	0.0002	0.0002	ND	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.0002	0.0002	ND	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.0002	0.0002	ND	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.0002	0.0002	ND	ppm
Pentachlorotoluene	877-11-2	0.0002	0.0002	ND	ppm

### 5. Chlorophenols

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

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

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2,3,4,6-Tetrachlorophenol	58-90-2	0.0005	0.0005	ND	ppm
2,3,5,6-Tetrachlorophenol	935-95-5	0.0005	0.0005	ND	ppm
Pentachlorophenol (PCP)	87-86-5	0.0005	0.0005	ND	ppm

## 6. Azo dyes

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

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

**7. Carcinogenic dyes**

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

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

**8. Disperse dyes**

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

Disperse dyes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Disperse Yellow 1	119-15-3	0.05	0.05	ND	ppm
Disperse Blue 102	12222-97-8	0.05	0.05	ND	ppm
Disperse Blue 106	12223-01-7	0.05	0.05	ND	ppm
Disperse Yellow 39	12236-29-2	0.05	0.05	ND	ppm
Disperse Orange 37/59/76	13301-61-6	0.05	0.05	ND	ppm
Disperse Brown 1	23355-64-8	0.05	0.05	ND	ppm
Disperse Orange 1	2581-69-3	0.05	0.05	ND	ppm
Disperse Yellow 3	2832-40-8	0.05	0.05	ND	ppm
Disperse Red 11	2872-48-2	0.05	0.05	ND	ppm
Disperse Red 1	2872-52-8	0.05	0.05	ND	ppm

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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

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

Borate salt: determined as total boron via ICP analysis

Flame retardants	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	0.025	0.025	ND	ppm
Decabromodiphenyl ether (DecaBDE)	1163-19-5	0.025	0.025	ND	ppm
Tris(2,3-dibromopropyl) phosphate (TRIS)	126-72-7	0.025	0.025	ND	ppm
Pentabromodiphenyl ether (PentaBDE)	32534-81-9	0.025	0.025	ND	ppm
Octabromodiphenyl ether (OctaBDE)	32536-52-0	0.025	0.025	ND	ppm
Bis(2,3-dibromopropyl) phosphate	5412-25-9	0.025	0.025	ND	ppm
Tris(1-aziridinyl)phosphine oxide (TEPA)	545-55-1	0.025	0.025	ND	ppm
Polybromobiphenyls (PBBs)	59536-65-1	0.025	0.025	ND	ppm
Tetrabromobisphenol A (TBBPA)	79-94-7	0.025	0.025	ND	ppm
Hexabromocyclododecane (HBCDD)	3194-55-6	0.025	0.025	ND	ppm
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	0.025	0.025	ND	ppm
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	0.025	0.025	ND	ppm
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	13674-84-5	0.025	0.025	ND	ppm
Decabromobiphenyl (DecaBB)	13654-09-6	0.025	0.025	ND	ppm
Dibromobiphenyls (DiBB)	Various	0.025	0.025	ND	ppm
Octabromobiphenyls (OctaBB)	Various	0.025	0.025	ND	ppm
Dibromopropylether	21850-44-2	0.025	0.025	ND	ppm
Heptabromodiphenyl ether (HeptaBDE)	68928-80-3	0.025	0.025	ND	ppm
Hexabromodiphenyl ether (HexaBDE)	36483-60-0	0.025	0.025	ND	ppm
Monobromobiphenyls (MonoBB)	Various	0.025	0.025	ND	ppm
Monobromodiphenylethers (MonoBDEs)	Various	0.025	0.025	ND	ppm
Nonabromobiphenyls (NonaBB)	Various	0.025	0.025	ND	ppm
Nonabromodiphenyl ether (NonaBDE)	63936-56-1	0.025	0.025	ND	ppm
Tetrabromodiphenyl ether (TetraBDE)	40088-47-9	0.025	0.025	ND	ppm
Tribromodiphenylethers (TriBDEs)	Various	0.025	0.025	ND	ppm
Boric acid	10043-35-3 / 11113-50-1	0.1	0.1	0.7	ppm
Diboron trioxide	1303-86-2	0.1	0.1	0.4	ppm
Disodium octaborate	12008-41-2	0.1	0.1	0.5	ppm
Disodium tetraborate anhydrous	1303-96-4 / 1330-43-4	0.1	0.1	1.6	ppm
Tetraboron disodium heptaoxide, hydrate	12267-73-1	0.1	0.1	0.6	ppm

**10. Glycols**

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

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

**11. Chlorinated solvents**

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

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

**12. Organotin compounds**

With reference to ISO 17353, Derivatisation with NaB (C<sub>2</sub>H<sub>5</sub>)<sub>4</sub>, with GC-MS analysis.

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

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Tripropyltin Compounds (TPT)	Various	0.00001	0.00001	ND	ppm
Tetraoctyltin compounds (TeOT)	Various	0.00001	0.00001	ND	ppm
Tetraethyltin Compounds (TeET)	Various	0.00001	0.00001	ND	ppm

**13. Phthalates**

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

Phthalates	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	0.001	0.01	ND	ppm
Dimethoxyethyl phthalate (DMEP)	117-82-8	0.001	0.01	ND	ppm
Di-n-octyl phthalate (DNOP)	117-84-0	0.001	0.01	ND	ppm
Di-iso-decyl phthalate (DIDP)	26761-40-0/68515-49-1	0.001	0.01	ND	ppm
Di-iso-nonyl phthalate (DINP)	28553-12-0/68515-48-0	0.001	0.01	ND	ppm
Di-n-hexyl phthalate (DnHP)	84-75-3	0.001	0.01	ND	ppm
Dibutyl phthalate (DBP)	84-74-2	0.001	0.01	ND	ppm
Butyl benzyl phthalate (BBP)	85-68-7	0.001	0.01	ND	ppm
Diethyl phthalate (DEP)	84-66-2	0.001	0.01	ND	ppm
Di-n-propyl phthalate (DPRP)	131-16-8	0.001	0.01	ND	ppm
Di-iso-butyl phthalate (DIBP)	84-69-5	0.001	0.01	ND	ppm
Di-cyclohexyl phthalate (DCHP)	84-61-7	0.001	0.01	ND	ppm
Di-iso-octyl phthalate (DIOP)	27554-26-3	0.001	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	0.001	0.01	ND	ppm
1,2-benzenedicarboxylic acid, di-C6-11-branched alkyl esters, C7-rich (DIHP)	71888-89-6	0.001	0.01	ND	ppm
Di-n-pentylphthalates	131-18-0	0.001	0.01	ND	ppm
Diisopentylphthalates	605-50-5	0.001	0.01	ND	ppm
Dinonyl phthalate (DNP)	84-76-4	0.001	0.01	ND	ppm

**14. Perfluorinated chemicals (PFCs)**

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

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

Perfluorinated chemicals (PFCs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Perfluoro-octanoic acid (PFOA)	335-67-1	0.00001	0.00001	ND	ppm
Perfluoro-octane-sulfonic acid (L-PFOS)	1763-23-1	0.00001	0.00001	ND	ppm
Perfluoro-octane-sulfon-amide (PFOSA)	754-91-6	0.00001	0.00001	ND	ppm
N-Methyl-perfluoro-octane-sulfon-amide (N-Me-FOSA)	31506-32-8	0.00001	0.00001	ND	ppm
N-Ethyl-perfluoro-octane-sulfon-amide (N-Et-FOSA)	4151-50-2	0.00001	0.00001	ND	ppm
N-Methyl-perfluoro-octane-sulfon-amido-ethanol (N-Me-FOSE alcohol)	24448-09-7	0.00001	0.00001	ND	ppm
N-Ethyl-Perfluoro-octane-sulfon-amido-ethanol (N-Et-FOSE alcohol)	1691-99-2	0.00001	0.00001	ND	ppm
1H, 1H, 2H, 2H-Perfluorodecanesulfonic acid (8:2 FTS)	39108-34-4	0.001	0.001	ND	ppm
2-Perfluorooctylethanol (8:2 FTOH)	678-39-7	0.001	0.001	ND	ppm
1H,1H,2H,2H-Perfluorodecyl acrylate (8:2 FTA)	27905-45-9	0.001	0.001	ND	ppm
1H,1H,2H,2H-Perfluorodecyl methacrylate (8:2 FTMA)	1996-88-9	0.001	0.001	ND	ppm
Methyl perfluorooctanoate (Me-PFOA)	376-27-2	0.001	0.001	ND	ppm
Ethyl perfluorooctanoate Et-PFOA	3108-24-5	0.001	0.001	ND	ppm

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

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

Polycyclic aromatic hydrocarbons (PAHs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Benzo(a)pyrene (BaP)	50-32-8	0.001	0.001	ND	ppm
Anthracene	120-12-7	0.001	0.001	ND	ppm
Pyrene	129-00-0	0.001	0.001	ND	ppm
Benzo(ghi)perylene	191-24-2	0.001	0.001	ND	ppm
Benzo(e)pyrene	192-97-2	0.001	0.001	ND	ppm
Indeno (1,2,3-cd)pyrene	193-39-5	0.001	0.001	ND	ppm
Benzo(j)fluoranthene	205-82-3	0.001	0.001	ND	ppm
Benzo(b)fluoranthene	205-99-2	0.001	0.001	ND	ppm
Fluoranthene	206-44-0	0.001	0.001	ND	ppm
Benzo(k)fluoranthene	207-08-09	0.001	0.001	ND	ppm



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Acenaphthylene	208-96-8	0.001	0.001	ND	ppm
Chrysene	218-01-9	0.001	0.001	ND	ppm
Dibenz(a,h)anthracene	53-70-3	0.001	0.001	ND	ppm
Benzo(a)anthracene	56-55-3	0.001	0.001	ND	ppm
Acenaphthene	83-32-9	0.001	0.001	ND	ppm
Phenanthrene	85-01-8	0.001	0.001	ND	ppm
Fluorene	86-73-7	0.001	0.001	ND	ppm
Naphthalene	91-20-3	0.001	0.001	ND	ppm

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

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

With reference to HJ 1067 or EPA 8260D or ISO 11423-1.

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

\*Report for mock leather only

**17. Anti - Microbials & Biocides**

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

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

**18. Chlorinated paraffins**

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

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

Chlorinated paraffins	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
Short-chain Chlorinated paraffin (C10 – C13)	85535-84-8	0.025	0.025	ND	ppm
Medium-chain Chlorinated paraffins (MCCPs) (C14-C17)	85535-85-9	0.100	0.500	ND	ppm

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

With reference to EPA 8015, EPA 8270E.

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

\*Report for mock leather only

**20. Dyes-Navy Blue Colourant**

By Liquid extraction, LC-MS analysis.

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

**21. Other/Miscellaneous Chemicals**

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

Other/Miscellaneous Chemicals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result Sample 1 (Before treatment)	Unit
AEEA [2-(2-aminoethylamino)ethanol]	111-41-1	0.5	0.5	ND	ppm
Bisphenol A	80-05-7	0.01	0.01	ND	ppm
Thiourea	62-56-6	0.05	0.05	ND	ppm
Quinoline	91-22-5	0.05	0.05	ND	ppm
Borate, zinc salt	12767-90-7	0.1	0.1	1.5	ppm

## 22. UV Absorbers

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

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

## Remark

ND = Not detected

D = Detected

(f)= parameter tested in field

@ = Maximum holding time exceeded,

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

Probable error in results due to the holding time.

N/A = Not applicable

- = Did not perform

(T)= handling temperature exceeded

# = Non accredited parameter

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

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

Sludge Parameters – Step 1 - Metals	CAS No.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	0.25	5	0.69	ppm
Arsenic	Various	0.25	5	1.13	ppm
Barium	Various	0.25	200	36.2	ppm
Cadmium	Various	0.1	1	0.26	ppm
Cobalt	Various	0.25	400	2.45	ppm
Copper	Various	0.25	50	116	ppm
Lead	Various	0.25	5	32.4	ppm
Nickel	Various	0.25	20	99.5	ppm
Selenium	Various	0.5	5	8.47	ppm
Silver	Various	2.5	50	ND	ppm
Total Chromium	Various	0.25	50	73.1	ppm
Zinc	Various	2.5	400	437	ppm
Chromium (VI)	Various	5	20	ND	ppm
Mercury	Various	0.1	1	1.1	ppm

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

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

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

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

Sludge Parameters – Step 1 - Conventional	Test Method	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
pH	USEPA SW 9045D / HJ962	3-13	N/A	7.8 (f)	uds. pH
% Solids	USEPA 160.3 / HJ613	N/A	N/A	4	%
Paint Filter Test	USEPA SW-846 / USEPA 9095B	N/A	N/A	FAIL	N/A
Fecal Coliform	USEPA 1681	10 MPN/g	10 MPN/g	ND	MPN/g

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

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

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

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

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

Sludge Parameters - Step 1 - MRSL - Polycyclic Aromatic Hydrocarbons (PAHs)	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Acenaphthene	83-32-9	0.2	0.2	ND	ppm
Acenaphthylene	208-96-8	0.2	0.2	ND	ppm
Anthracene	120-12-7	0.2	0.2	ND	ppm
Benzo[a]anthracene	56-55-3	0.2	0.2	ND	ppm
Benzo[a]pyrene (BaP)	50-32-8	0.2	0.2	ND	ppm
Benzo[b]fluoranthene	205-99-2	0.2	0.2	ND	ppm
Benzo[e]pyrene	192-97-2	0.2	0.2	ND	ppm
Benzo[ghi]perylene	191-24-2	0.2	0.2	ND	ppm
Benzo[j]fluoranthene	205-82-3	0.2	0.2	ND	ppm
Benzo[k]fluoranthene	207-08-9	0.2	0.2	ND	ppm

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Chrysene	218-01-9	0.2	0.2	ND	ppm
Dibenz[a,h]anthracene	53-70-3	0.2	0.2	ND	ppm
Fluoranthene	206-44-0	0.2	0.2	ND	ppm
Fluorene	86-73-7	0.2	0.2	ND	ppm
Indeno[1,2,3-cd]pyrene	193-39-5	0.2	0.2	ND	ppm
Naphthalene	91-20-3	0.2	0.2	ND	ppm
Phenanthrene	85-01-8	0.2	0.2	ND	ppm
Pyrene	129-00-0	0.2	0.2	ND	ppm

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

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

Sludge Parameters - Step 1 - MRSL – Chlorotoluenes	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
2-Chlorotoluene	95-49-8	0.2	0.2	ND	ppm
3-Chlorotoluene	108-41-8	0.2	0.2	ND	ppm
4-Chlorotoluene	106-43-4	0.2	0.2	ND	ppm
2,3-Dichlorotoluene	32768-54-0	0.2	0.2	ND	ppm
2,4-Dichlorotoluene	95-73-8	0.2	0.2	ND	ppm
2,5-Dichlorotoluene	19398-61-9	0.2	0.2	ND	ppm
2,6-Dichlorotoluene	118-69-4	0.2	0.2	ND	ppm
3,4-Dichlorotoluene	95-75-0	0.2	0.2	ND	ppm
3,5-Dichlorotoluene	25186-47-4	0.2	0.2	ND	ppm
2,3,4-Trichlorotoluene	7359-72-0	0.2	0.2	ND	ppm
2,3,6-Trichlorotoluene	2077-46-5	0.2	0.2	ND	ppm
2,4,5-Trichlorotoluene	6639-30-1	0.2	0.2	ND	ppm
2,4,6-Trichlorotoluene	23749-65-7	0.2	0.2	ND	ppm
3,4,5-Trichlorotoluene	21472-86-6	0.2	0.2	ND	ppm
2,3,4,5-Tetrachlorotoluene	76057-12-0	0.2	0.2	ND	ppm
2,3,5,6-Tetrachlorotoluene	29733-70-8	0.2	0.2	ND	ppm
2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	0.2	ND	ppm
Pentachlorotoluene	877-11-2	0.2	0.2	ND	ppm

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**29. Sludge Parameteres - Step 2 – Metals**

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

Chromium VI: With reference to toxicity leachate extraction procedure EPA 1311 followed by ISO 18412, USEPA 7196 or USEPA 7199 Colourimetric UV/VIS, or Colourimetric IC analysis.

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

Sludge Parameteres - Step 2 – Metals	CAS no.	Lab Reporting limit (ppm)	ZDHC Reporting limit (ppm)	Result	Unit
Antimony	Various	0.0005	0.6	N/A	ppm
Arsenic	Various	0.0005	0.5	N/A	ppm
Barium	Various	0.001	35	N/A	ppm
Cadmium	Various	0.0002	0.15	N/A	ppm
Cobalt	Various	0.001	80	N/A	ppm
Copper	Various	0.001	10	N/A	ppm
Lead	Various	0.0005	0.5	ND	ppm
Nickel	Various	0.001	3.5	ND	ppm
Selenium	Various	0.002	0.5	N/A	ppm
Silver	Various	0.005	5	N/A	ppm
Total Chromium	Various	0.001	5	N/A	ppm
Zinc	Various	0.01	50	N/A	ppm
Chromium (VI)	Various	0.05	2.5	N/A	ppm
Mercury	Various	0.0003	0.05	N/A	ppm

## 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	D	E	F	G	G
			(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Leachate result in mg/L)	(Total metals limit in mg/kg)
Arsenic	10	Report only if required to test	5	2.75	0.5	0.5	0.5	75
Cadmium	3		1	0.58	0.15	0.15	0.15	85
Total Chromium	100		15	10	5	5	5	3000
Lead	10		5	2.75	0.5	0.5	0.5	840
Antimony	12		15	7.8	0.6	0.6	0.6	Sample and report only
Barium	700		100	67.5	35	35	35	
Cobalt	1600		80	80	80	80	80	
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	57



**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 Sludge Area



Photo of Sampling Point (Sludge)



Photo of facility gate

Testing period: From 13/03/2023 to 21/03/2023

Testing period Subcontracted Lab (if applicable): N/A

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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 negligence or wilful misconduct.

