



TEST REPORT 18-4489

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Sampling Date	Sampling	Technician	Incoming water	Raw wastewater	Discharged wastewater	Type	Option :
11/10/2018	UL Tunisia	Moahmed bakira	Single Grab	6-hour Composite	6-hour Composite	Direct Discharge	Option 2

Test Performing Period: 11/10/2018 – 6/11/2018

REMARKS

It is prohibited the partial reproduction, any changes or modifications of this test report.

Data related to the sample have been provided by the customer. The results are exclusively referred to the samples tested.

Conclusions/judgments are expressed with exclusive reference to parts detailed in the following pages and based on limits there specified.

Summary of tests

Test	Foundational Limit mg/l	Progressive Limit mg/l	Aspirational Limit mg/l	Incoming water	Raw wastewater	Discharged wastewater	Comment
Temperature (C°)	Δ15 / max. 35	Δ 10 or 30	Δ 5 or 25	-	-	//	Compliant to aspirational limit
BOD (5-day)	30	10	5	-	-	//	Above Foundational Limit
COD	150	80	40	-	-	//	Above Foundational Limit
TSS	50	15	5	-	-	//	Compliant to Progressive Limit
pH Value	6-9	6-9	6-9	-	-	//	Compliant to aspirational limit
Colour m-1 (436nm; 525nm; 620nm)	7;5;3	5,3,2	2;1;1	-	-	//	Compliant to Progressive Limit
Oil and Grease	10	2	0,5	-	-	//	Compliant to Progressive Limit
Total phenolics	0,5	0,01	0,001	-	-	//	Compliant to Foundational limit
AOX	5	1	0,1	-	-	//	Compliant to Progressive Limit
Total Nitrogen (Total-N)	20	10	5	-	-	//	Compliant to Progressive Limit
Ammonium Nitrogen (Ammonium-N)	10	1	0,5	-	-	//	Compliant to aspirational limit
Total Phosphorus (Total-P)	3	0,5	0,1	-	-	//	Compliant to aspirational limit
Coliform (Bacteria / 100ml)	400	100	25	-	-	//	Above Foundational Limit
Foam	Not visible	Not visible	Not visible	-	-	//	Compliant to aspirational limit
Cyanide	0,2	0,1	0,05	-	-	//	Compliant to aspirational limit
Sulfide	0,5	0,05	0,01	-	-	//	Compliant to Progressive Limit
Sulfite	2	0,5	0,2	-	-	//	Compliant to aspirational limit
Heavy Metals	Multiple	Multiple	Multiple	-	//	//	Compliant to Foundational limit
2A. Alkylphenol and Alkylphenol Ethoxylates				-	Not Detected	Not Detected	
2B. Chlorobenzenes and Chlorotoluenes				-	Not Detected	Not Detected	
2C. Chlorophenols				Not Detected	Not Detected	Detected	
2D. Dyes - Azo				-	Not Detected	Not Detected	
2E. Dyes - Carcinogenic				-	Not Detected	Not Detected	
2F. Dyes - Disperse (Sensitizing)				-	Not Detected	Not Detected	
2G. Flame Retardants				-	Not Detected	Not Detected	
2H. Glycols				-	Not Detected	Not Detected	
2I. Halogenated Solvents				Not Detected	Not Detected	Detected	
2J. Organotin Compounds				Not Detected	Detected	Detected	
2K. Perfluorinated and Polyfluorinated Chemicals (PFCS)				-	Not Detected	Not Detected	
2L. Phthalates				-	Not Detected	Not Detected	
2M. Polycyclic Aromatic Hydrocarbons (PAHs)				-	Not Detected	Not Detected	
2N. Volatile Organic Compounds (VOCs)				Not Detected	Not Detected	Detected	

// : Tested

- : Not tested



Results :

ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Sample Colour Description	-	Visual	-	-	Transparent	turbid Dark Brown	Light Blue
1. Conventional Parameters							
Temperature	-	USEPA 170.1 or GB/T 13195	-	°C	-	-	29.2
BOD (5-day)	-	EN 18991-1	5	mg/L	-	-	89
COD	-	ISO 6060	10	mg/L	-	-	323
TSS	-	ISO 11923	5	mg/L	-	-	24
pH Value	-	ISO 10523	-	-	-	-	6.8
Colour (436nm; 525nm; 620nm)	-	ISO 7887 (Method B)	-	m ⁻¹	-	-	2.53; 1.99; 1.99
Oil and Grease	-	ISO 9377-2,	0,5	mg/L	-	-	1.2
Total phenolics	-	ISO 14402	0,001	mg/L	-	-	0.35
AOX	-	ISO 9562,	0,1	mg/L	-	-	0.14
Total Nitrogen (Total-N)	-	ISO 5663	5	mg/L	-	-	6.31
Ammonium Nitrogen (Ammonium-N)	-	ISO 11732	0,5	mg/L	-	-	<0.5
Total Phosphorus (Total-P)	-	ISO 6878	0,1	mg/L	-	-	<0.1



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Coliform	-	ISO 9308	25	Bacteria / 100ml	-	-	9.3 10 ⁴
Foam	-	-	Not visible	-	-	-	Not visible
1. Anions							
Cyanide	-	USEPA 335.2, APHA 4500-CN, HJ 484, HJ 745 (for sludge)	0,05	mg/L	-	-	<0,05
Sulfide	-	ISO 10530	0,01	mg/L	-	-	<u>0.04</u>
Sulfite	-	ISO10304-3	0,2	mg/L	-	-	<u><0.2</u>
1. Metals							
Total Antimony (Sb)	7440-36-0	Acid Digestion followed by ICP/MS analysis	0,01	mg/L	-	n.d.	n.d.
Total Arsenic (As)	7440-38-2	Acid Digestion followed by ICP/MS analysis	0,005	mg/L	-	0.029	0.027.
Total Cadmium (Cd)	7440-43-9	Acid Digestion followed by ICP/MS analysis	0,01	mg/L	-	n.d.	n.d.
Total Chromium (Cr)	7440-47-3	Acid Digestion followed by ICP/MS analysis	0,05	mg/L	-	n.d.	n.d.
Total Hexavalent Chromium (Cr-VI)	7440-47-3, 18540-29-9	ISO 18412	0,001	mg/L	-	n.d.	n.d.
Total Cobalt (Co)	7440-48-4	Acid Digestion followed by ICP/MS analysis	0,01	mg/L	-	n.d.	n.d.



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Total Copper (Cu)	7440-50-8	Acid Digestion followed by ICP/MS analysis	0,25	mg/L	-	n.d.	n.d.
Total Lead (Pb)	7439-92-1	Acid Digestion followed by ICP/MS analysis	0,01	mg/L	-	n.d.	n.d.
Total Mercury (Hg)	7439-97-6	Acid Digestion followed by ICP/MS analysis	0,001	mg/L	-	n.d.	n.d.
Total Nickel (Ni)	7440-02-0	Acid Digestion followed by ICP/MS analysis	0,05	mg/L	-	n.d.	n.d.
Total Silver (Ag)	7440-22-4	Acid Digestion followed by ICP/MS analysis	0,005	mg/L	-	n.d.	n.d.
Total Zinc (Zn)	7440-66-6	Acid Digestion followed by ICP/MS analysis	0,5	mg/L	-	n.d.	n.d.
2A. Alkylphenols (APs) and Alkylphenol Ethoxylates (APEOs)							
Octylphenol (OP), mixed isomers	Multiple, including 140-66-9, 1806-26-4, 27193-28-8	With reference to ISO 18857-2 and ISO 18254-1.	5	µg/L	-	<5	<5
Nonylphenol (NP), mixed isomers	Multiple, including 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3, 90481-9002-93-1, 9036-19-5, 68987-90-6	With reference to ISO 18857-2 and ISO 18254-1.	5	µg/L	-	<5	<5
Octylphenol ethoxylates (OPEO)	Multiple, including 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4,	With reference to ISO 18857-2 and ISO 18254-1.	5	µg/L	-	<5	<5
Nonylphenol ethoxylates (NPEO)							
2B. Chlorobenzenes and Chlorotoluenes (COCs)							
Monochlorobenzenes	108-90-7	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2

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ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
1,2-Dichlorobenzene	95-50-1	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,3-Dichlorobenzene	541-73-1	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,4-Dichlorobenzene	106-46-7	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,2,3-Trichlorobenzene	87-61-6	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,2,4-Trichlorobenzene	120-82-1	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,3,5-Trichlorobenzene	108-70-3	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,2,3,4-Tetrachlorobenzene	634-66-2	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,2,3,5-Tetrachlorobenzene	634-90-2	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
1,2,4,5-Tetrachlorobenzene	95-94-3	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
Pentachlorobenzene	608-93-5	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
Hexachlorobenzene	118-74-1	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2-Chlorotoluene	95-49-8	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
3-Chlorotoluene	108-41-8	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
4-Chlorotoluene	106-43-4	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,3-Dichlorotoluene	32768-54-0	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,4-Dichlorotoluene	95-73-8	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,5-Dichlorotoluene	19398-61-9	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,6-Dichlorotoluene	118-69-4	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
3,4-Dichlorotoluene	95-75-0	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
3,5-Dichlorotoluene	25186-47-4	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,3,4-Trichlorotoluene	7359-72-0	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,3,6-Trichlorotoluene	2077-46-5	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,4,5-Trichlorotoluene	6639-30-1	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,4,6-Trichlorotoluene	23749-65-7	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
3,4,5-Trichlorotoluene	21472-86-6	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,3,4,5-Tetrachlorotoluene	76057-12-0	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
2,3,4,6-Tetrachlorotoluene	875-40-1	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2,3,5,6-Tetrachlorotoluene	29733-70-8	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
Pentachlorotoluene	877-11-2	With reference to USEPA 8260B, USEPA 8270D	0,2	µg/L	-	<0,2	<0,2
2C. Chlorophenols							
2-Chlorophenol	95-57-8	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
3-Chlorophenol	108-43-0	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
4-Chlorophenol	106-48-9	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,3-Dichlorophenol	576-24-9	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,4-Dichlorophenol	120-83-2	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,5-Dichlorophenol	583-78-8	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,6-Dichlorophenol	87-65-0	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
3,4-Dichlorophenol	95-77-2	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
3,5-Dichlorophenol	591-35-5	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5

ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
2,3,4-Trichlorophenol	15950-66-0	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5



2,3,5-Trichlorophenol	933-78-8	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,3,6-Trichlorophenol	933-75-5	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,4,5-Trichlorophenol	95-95-4	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,4,6-Trichlorophenol	88-06-2	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	1.2
3,4,5-Trichlorophenol	609-19-8	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,3,4,5-Tetrachlorophenol	4901-51-3	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,3,4,6-Tetrachlorophenol	58-90-2	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2,3,5,6-Tetrachlorophenol	935-95-5	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
Pentachlorophenols	87-86-5	With reference to USEPA 8270D.	0,5	µg/L	<0,5	<0,5	<0,5
2D. Azo dyes							
4-Aminodiphenyl	92-67-1	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
Benzidine	92-87-5	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
4-Chloro-o-Toluidine	95-69-2	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2-Naphthylamine	91-59-8	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
o-Aminoazotoluene	97-56-3	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2-Amino-4-Nitrotoluene	99-55-8	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
p-Chloroaniline	106-47-8	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2,4-Diaminoanisole	615-05-4	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
4,4'-Diaminodiphenylmethane	101-77-9	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
3,3'-Dichlorobenzidine	91-94-1	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
3,3'-Dimethoxybenzidine	119-90-4	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
3,3'-Dimethylbenzidine	119-93-7	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
p-Cresidine	120-71-8	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
4,4'-Methylene-Bis(2-Chloroaniline)	101-14-4	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1



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4,4'-Oxydianiline	101-80-4	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
4,4'-Thiodianiline	139-65-1	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
o-Toluidine	95-53-4	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2,4-Toluylenediamine	95-80-7	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2,4,5-Trimethylaniline	137-17-7	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
o-Anisidine	90-04-0	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
p-Aminoazobenzene	60-09-3	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2,4-Xylidine	95-68-1	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2,6-Xylidine	87-62-7	With reference to USEPA 8270D, EN 14362-1, EN 14362-3 or Solvent extraction with sodium dithionite reduction followed by GC/MS and HPLC analysis.	0,1	µg/L	-	<0,1	<0,1
2E. Carcinogenic dyes							
Acid Red 26	3761-53-3	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Basic Blue 26	2580-56-5	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Basic Green 4 (malachite green)	10309-95-2	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Basic Green 4 (malachite green chloride)^	569-64-2	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Basic Green 4 (malachite green oxalate)^	2437-29-8	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Basic Red 9	569-61-9	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Basic Violet 14	632-99-5	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Direct Black 38	1937-37-7	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Direct Blue 6	2602-46-2	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Direct Red 28	573-58-0	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Disperse Blue 1	2475-45-8	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Disperse Blue 3	2475-46-9	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
Disperse Orange 11	82-28-0	Solvent extraction followed by LC/MS analysis.	500	µg/L	-	<500	<500
2F. Disperse dyes							
Disperse Brown 1	23355-64-8	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Blue 7	3179-90-6	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Disperse Blue 26	3860-63-7	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Blue 35	12222-75-2, 56524-77-7	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Blue 102	12222-97-8	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Blue 106	12223-01-7	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Blue 124	61951-51-7	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Orange 1	2581-69-3	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Orange 3	730-40-5	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Orange 37/59/76	13301-61-6	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Red 1	2872-52-8	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Red 11	2872-48-2	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Red 17	3179-89-3	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Yellow 1	119-15-3	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Yellow 3	2832-40-8	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Disperse Yellow 9	6373-73-5	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Yellow 39	12236-29-2	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
Disperse Yellow 49	54824-37-2	Solvent extraction followed by LC/MS analysis.	50	µg/L	-	<50	<50
2G. Flame retardants							
Polybrominated biphenyls (PBBs)	59536-65-1	With reference to ISO 22032	5	µg/L	-	<5	<5
Pentabromodiphenyl ethers (PentaBDE)	32534-81-9	With reference to ISO 22032	5	µg/L	-	<5	<5
Octabromodiphenyl ethers (OctaBDE)	32536-52-0	With reference to ISO 22032	5	µg/L	-	<5	<5
Decabromodiphenyl ethers (DecaBDE)	1163-19-5	With reference to ISO 22032	5	µg/L	-	<5	<5
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	With reference to ISO 22032	5	µg/L	-	<5	<5
Tris(1-aziridiny)phosphine oxide) (TEPA)	545-55-1	With reference to ISO 22032	5	µg/L	-	<5	<5
Tetrabromobisphenol A (TBBPA)	79-94-7	With reference to ISO 22032	5	µg/L	-	<5	<5
Hexabromocyclododecane (HBCDD)	134237-50-6, 134237-51-7, 134237-52-8, 25637-99-4, 3194-	With reference to ISO 22032	5	µg/L	-	<5	<5
Bis(2,3-dibromopropyl)phosphate (BIS)	5412-25-9	With reference to ISO 22032	5	µg/L	-	<5	<5



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Tris(2,3-dibromopropyl) phosphate (TRIS)	126-72-7	With reference to ISO 22032	5	µg/L	-	<5	<5
2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	With reference to ISO 22032	5	µg/L	-	<5	<5
Tris(1,3-dichloro-2-propyl) phosphate (TDCPP)	13674-87-8	With reference to ISO 22032	5	µg/L	-	<5	<5
Short Chain Chlorinated Paraffins (SCCP), C ₁₀ -C ₁₃	85535-84-8	With reference to ISO 22032	5	µg/L	-	<5	<5
2H. Glycols							
Bis(2-methoxyethyl)-ether	111-96-6	With reference to USEPA 8270D	50	µg/L	-	<50	<50
2-Ethoxyethanol	110-80-5	With reference to USEPA 8270D	50	µg/L	-	<50	<50
2-Ethoxyethyl acetate	111-15-9	With reference to USEPA 8270D	50	µg/L	-	<50	<50
Ethylene glycol dimethyl ether	110-71-4	With reference to USEPA 8270D	50	µg/L	-	<50	<50
2-Methoxyethanol	109-86-4	With reference to USEPA 8270D	50	µg/L	-	<50	<50
2-Methoxyethylacetate	110-49-6	With reference to USEPA 8270D	50	µg/L	-	<50	<50
2-Methoxypropylacetate	70657-70-4	With reference to USEPA 8270D	50	µg/L	-	<50	<50
Triethylene glycol dimethyl ether	112-49-2	With reference to USEPA 8270D	50	µg/L	-	<50	<50



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
2I. Halogenated solvents							
1,2-Dichloroethane	107-06-2	With reference to USEPA 8260B,	1	µg/L	<1	<1	<1
Methylene chloride	75-09-2	With reference to USEPA 8260B,	1	µg/L	<1	<1	2.6
Trichloroethene	79-01-6	With reference to USEPA 8260B,	1	µg/L	<1	<1	<1
Tetrachloroethene	127-18-4	With reference to USEPA 8260B,	1	µg/L	<1	<1	45.8
2J. Organotin Compounds							
Mono-, di- and tri-methyltin derivatives	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Monomethyltin (MMT)	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Dimethyltin (DMT)	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Trimethyltin (TMT)	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Mono-, di- and tri-butyltin derivatives	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Monobutyltin (MBT)	1118-46-3, 78763-54-9	With reference to ISO17353	0,01	µg/L	<0,01	0,475	0,150
Dibutyltin (DBT)	1002-53-5	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Tributyltin (TB T)	56573-85-4	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Mono-, di- and tri-octyltin derivatives	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Monooctyltin (MOT)	15231-57-9	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Diocetyltn (DOT)	94410-05-6, 12531-44-4	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Triocetyltn (TOT)	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Mono-, di- and tri-phenyltin derivatives	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Monophenyltin (MPhT)	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Diphenyltin (DPhT)	Multiple	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
Triphenyltin (TPhT)	892-20-6, 668-34-8	With reference to ISO17353	0,01	µg/L	<0,01	<0,01	<0,01
2K. Perfluorinated / Polyfluorinated Chemicals (PFCs)							
PFOS	1763-23-1	With reference to DIN38407-42	0,01	µg/L	-	<0,01	<0,01
PFOA	335-67-1	With reference to DIN38407-42	0,01	µg/L	-	<0,01	<0,01
PFBS	375-73-5, 59933-66-3, 29420-49-3, 29420-43-3	With reference to DIN38407-42	0,01	µg/L	-	<0,01	<0,01



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
PFHxA	307-24-4	With reference to DIN38407-42	0,01	µg/L	-	<0,01	<0,01
6:2 FTOH	647-42-7	With reference to DIN38407-42	1	µg/L	-	<1	<1
8:2 FTOH	678-39-7	With reference to DIN38407-42	1	µg/L	-	<1	<1
2L. Phthalates							
Di(2-Ethyl Hexyl) Phthalate (DEHP)	117-81-7	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Bis(2-methoxyethyl)phthalate (DMEP)	117-82-8	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Di-N-Octyl Phthalate (DNOP)	117-84-0	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Di-Iso-Decyl Phthalate (DIDP)	26761-40-0, 68515-49-1	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Di-Iso-Nonyl Phthalate (DINP)	28553-12-0, 68515-48-0	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Di-N-Hexyl Phthalate (DNHP)	84-75-3	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Dibutyl Phthalate (DBP)	84-74-2	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Benzyl Butyl Phthalate (BBP)	85-68-7	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Dinonyl phthalate (DNP)	84-76-4	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Diethyl Phthalate (DEP)	84-66-2	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Di-N-Propyl Phthalate (DPRP)	131-16-8	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Di-Iso-Butyl Phthalate (DIBP)	84-69-5	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Dicyclohexyl Phthalate (DCHP)	84-61-7	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
Di-Iso-Octyl Phthalate (DIOP)	27554-26-3	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
1,2-Benzenedicarboxylic acid, Di-C7-11 Branched and Linear Alkyl Esters (DHNUP)	68515-42-4	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
1,2-Benzenedicarboxylic acid, Di-C6-8 Branched Alkyl Esters, C7-rich (DIHP)	71888-89-6	With reference to USEPA 8270D, ISO 18856, or solvent extraction followed by GC/MS analysis	10	µg/L	-	<10	<10
2M. Polycyclic Aromatic Hydrocarbons (PAHs)							
Bezo[a]pyrene	50-32-8	With reference to USEPA 8270	1	µg/L	-	<1	<1
Anthracene	120-12-7	With reference to USEPA 8270	1	µg/L	-	<1	<1
Pyrene	129-00-0	With reference to USEPA 8270	1	µg/L	-	<1	<1
Benzo[ghi]perylene	191-24-2	With reference to USEPA 8270	1	µg/L	-	<1	<1
Benzo[e]pyrene	192-97-2	With reference to USEPA 8270	1	µg/L	-	<1	<1



ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
Indeno[1,2,3-cd]pyrene	193-39-5	With reference to USEPA 8270	1	µg/L	-	<1	<1
Benzo[j]fluoranthene	205-82-3	With reference to USEPA 8270	1	µg/L	-	<1	<1
Benzo[b]fluoranthene	205-99-2	With reference to USEPA 8270	1	µg/L	-	<1	<1
Fluoranthene	206-44-0	With reference to USEPA 8270	1	µg/L	-	<1	<1
Benzo[k]fluoranthene	207-08-9	With reference to USEPA 8270	1	µg/L	-	<1	<1
Acenaphthylene	208-96-8	With reference to USEPA 8270	1	µg/L	-	<1	<1
Chrysene	218-01-9	With reference to USEPA 8270	1	µg/L	-	<1	<1
Dibenz[a,h]anthracene	53-70-3	With reference to USEPA 8270	1	µg/L	-	<1	<1
Benzo[a]anthracene	56-55-3	With reference to USEPA 8270	1	µg/L	-	<1	<1
Acenaphthene	83-32-9	With reference to USEPA 8270	1	µg/L	-	<1	<1
Phenanthrene	85-01-8	With reference to USEPA 8270	1	µg/L	-	<1	<1
Fluorene	86-73-7	With reference to USEPA 8270	1	µg/L	-	<1	<1
Naphthalene	91-20-3	With reference to USEPA 8270	1	µg/L	-	<1	<1

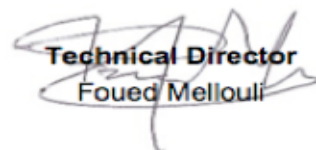


ITEMS	CAS No.	METHODS	Reporting Limit	UNIT	Incoming Water	Raw Wastewater	Discharged Wastewater (Direct Discharge)
2N. Volatile Organic Compounds (VOCs)							
Benzene	71-43-2	ISO 11423-1	1	µg/L	<1	<1	<1
Xylene	1330-20-7	ISO 11423-1	1	µg/L	<1	<1	<1
o-cresol	95-48-7	ISO 11423-1	1	µg/L	<1	<1	<1
p-cresol	106-44-5	ISO 11423-1	1	µg/L	<1	2.7	<1
m-cresol	108-39-4	ISO 11423-1	1	µg/L	<1	<1	<1

Remarks:

n.d. = Not Detected


Laboratory Supervisor
Mohamed Bakira


Technical Director
Foued Mellouli



SAMPLING PHOTOS



Incoming Water



Raw Wastewater



Discharged wastewater