



Test Report: (7223)170-0043

Report Date: July 7, 2023

Factory Company Name: GULLE ENTEGRE TEKSTIL ISLETMELERI EML. DAN. SAN. VE TIC. A.S.
 Factory Address: ULAS OSB MAH. D100 CAD. NO: 33/1 ERGENE-2 OSB 59930 TEKIRDAG / TURKEY

Sampling Method & Description:	I001) Untreated wastewater	Composite	Navy Blue Liquid
	I002) Effluent	Composite	Navy Blue Liquid
	I003) Sludge	Grab	Brown Solid
	I004) Leachate	-	Not tested
	I005) Incoming water	-	Not tested

Discharge Type: **Indirect Discharge with Pretreatment**

On-site ETP / Pretreatment:	Yes	Homgenization Tank & Holding Time:	No
-----------------------------	-----	------------------------------------	----

Discharge Destination: ERGENE 2 ORGANIZED INDUSTRIAL ZONE

Permit Validation Date: 10.10.2025

Conventional, Anions & Heavy Metals Overall Category:	Meet discharge criteria	ZDHC MRSL Parameters:	Not detected
---	-------------------------	-----------------------	--------------

Sludge Parameters: Meet ZDHC Threshold Value

Sample Pick Up Date:	June 20, 2023	Sampler Number:	C74D106817995
----------------------	---------------	-----------------	---------------

Test Period: June 21, 2023 to July 7, 2023

Parameter(s) exceeded maximum holding time:	Not exceeded
---	--------------

Remark 1

Please refer to discharge criteria of the offsite ETP attached at the Appendix A.

Remark

The results of this report shall not be used for any regulatory compliance purposes.

Type of Process:	Textile	Average total industrial wastewater generated:	Equal or more than 15m3/day
Sludge Disposal Pathway:	Disposal Pathway A		
Type of Sludge:	Solid		

General enquiry and invoicing:
 Hasan Altingul
hasan.altingul@bureauveritas.com
 90 212 494 35 35 - Ext: 360

Technical enquiry:
 Sabiha Yazici
sabiha.yazici@bureauveritas.com
 90 212 494 35 35 - Ext: 426

Report reviewed by:

Report approved by:

Hasan Altingul, DEPUTY OPERATIONS MANAGER

Sabiha Yazici, SCM Technical Lead

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Bureau Veritas Consumer Products Services, Inc.

Yalçın Koreş Caddesi No:22 Erdiñ Binaları A Blok 2. Kule 1. Kat 34209 Güneşli, İstanbul / Turkey

Tel:+90.212.494 35 35 Fax:+90.212.494 35 60

Website:cps.bureauveritas.com



Test Report: (7223)170-0043

Report Date: July 7, 2023

Result Summary - ZDHC MRSL Wastewater Parameters

Test Items	Untreated wastewater	Effluent	Incoming water
1A) AP and APEOs	ND	NR	NR
1B) Anti-Microbials & Biocides	ND		NR
1C) Chlorinated Parafins	ND		NR
1D) Chlorobenzenes and Chlorotoluenes	ND		NR
1E) Chlorophenols	ND		NR
1F) DMFa	ND		NR
1G) Dyes - Carcinogenic or Equivalent Concern	ND		NR
1H) Dyes - Disperse (Sensitising)	ND		NR
1I) Dyes - Navy Blue Colourant	ND		NR
1J) Flame Retardants	ND		NR
1K) Glycols / Glycol Ethers	ND		NR
1L) Halogenated Solvents	ND		NR
1M) Organotin Compounds	ND		NR
1N) Other / Miscellaneous Chemicals	ND		NR
1O) PFCs	ND		NR
1P) Phthalates	ND		NR
1Q) PAHs	ND		NR
1R) Restricted Aromatic Amines	ND		NR
1S) UV Absorbers	ND		NR
1T) VOC	ND		NR



Test Report: (7223)170-0043

Report Date: July 7, 2023

Result Summary - ZDHC Heavy Metals, Conventional and Anions Wastewater Parameters

Test Items	Untreated wastewater	Effluent	Incoming water	
Antimony	NR	NR	NR	
Chromium (VI)		NA	NR	
Barium		NR	NR	
Selenium		NR	NR	
Tin		NR	NR	
Arsenic		Meet	NR	
Total Chromium		NR	NR	
Cobalt		NR	NR	
Cadmium		Meet	NR	
Copper		NR	NR	
Lead		Meet	NR	
Nickel		NR	NR	
Silver		NR	NR	
Zinc		NR	NR	
Mercury		Meet	NR	
pH			NR	NR
Temperature difference			NR	
E.coli			NR	
Colour			NR	
Persistent Foam			NR	
Wastewater Flowrate			NR	
Ammonium-Nitrogen			NR	
AOX			NR	
BOD ₅			NR	
COD			NR	
DO			NR	
Oil & Grease			NR	
Total Phenols / Phenol Index			NR	
Total Chlorine			NR	
TDS			NR	
Total Nitrogen			NR	
Total Phosphorus		NR		
TSS		NR		
Chloride		NR		
Cyanide, total		NR		
Sulfate		NR		
Sulfide		NR		
Sulfite		NR		



Test Report: (7223)170-0043

Report Date: July 7, 2023

Result Summary - ZDHC Sludge Parameters

Test Items	Sludge	Leachate
Antimony	ND	NR
Arsenic	ND	NR
Barium	ND	NR
Cadmium	ND	NR
Coblat	ND	NR
Copper	ND	NR
Lead	ND	NR
Nickel	ND	NR
Selenium	ND	NR
Silver	ND	NR
Total Chromium	ND	NR
Zinc	ND	NR
Chromium (VI)	ND	NR
Mercury	ND	NR
Cyanide	Refer to result	NR
pH	Refer to result	
% Solids	Refer to result	
Paint Filter Test	Refer to result	
Fecal Coliform	Refer to result	
AP and APEOs	ND	
PAHs	ND	
Chlorotoluenes	ND	

Note / Key:

Meet	=	Meet Foundational Limit / Meet Discharge Criteria
Not Meet	=	Exceed Foundational Limit / Exceed Discharge Criteria
NR	=	Not requested / Not required
NA	=	Not applicable
D	=	Detected
ND	=	Not detected
Refer to result	=	Legal parameter(s) and/or parameter(s) requested by factory, please refer to test result



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC MRSL Parameters

Test Parameters	Results of Test Items					Requirements [Textile]		
	I001	I002	I003 [#]	I004 [#]	I005	Wastewater	Sludge [#]	Leachate [#]
	(µg/L)	(µg/L)	(mg/kg)	(mg/L)	(µg/L)	(µg/L)	(mg/kg)	-
1A) AP and APEOs: including all isomers								
NPEO	ND	NR	ND	NR	NR	5	0,4	-
NP, mixed isomers	ND		ND		NR			
OPEO	ND		ND		NR			
OP, mixed isomers	ND		ND		NR			
1B) Anti-Microbials & Biocides								
o-Phenylphenol (+salts)	ND	NR	NR	NR	NR	100	-	-
Triclosan	ND				NR			
Permethrin	ND				NR			
1C) Chlorinated Parafins								
MCCPs (C14-C17)	ND	NR	NR	NR	NR	500	-	-
SCCPs (C10-C13)	ND				NR			
1D) Chlorobenzenes and Chlorotoluenes								
1,2-dichlorobenzene	ND	NR	NR	NR	NR	0,2	-	-
Other isomers of mono-, di-, tri-, tetra-, penta- and hexa- chlorobenzene	ND				NR			
Other isomers of mono-, di-, tri-, tetra- and penta- chlorotoluene	ND		ND		NR		0,2	
1E) Chlorophenols								
2-chlorophenol	ND	NR	NR	NR	NR	0,5	-	-
3-chlorophenol	ND				NR			
4-chlorophenol	ND				NR			
2,3-dichlorophenol	ND				NR			
2,4-dichlorophenol	ND				NR			
2,5-dichlorophenol	ND				NR			
2,6-dichlorophenol	ND				NR			
3,4-dichlorophenol	ND				NR			
3,5-dichlorophenol	ND				NR			
2,3,4-trichlorophenol	ND				NR			
2,3,5-trichlorophenol	ND				NR			
2,3,6-trichlorophenol	ND				NR			
2,4,5-trichlorophenol	ND				NR			
2,4,6-trichlorophenol	ND				NR			
3,4,5-trichlorophenol	ND				NR			
2,3,5,6-tetrachlorophenol	ND				NR			
2,3,4,6-tetrachlorophenol	ND				NR			
2,3,4,5-tetrachlorophenol	ND	NR						
Pentachlorophenol (PCP)	ND	NR						
1F) N,N-di-methylformamide (DMFa)								
Dimethyl formamide; N,N-dimethylformamide (DMFa) ^a	ND	NR	NR	NR	NR	1000	-	-

a = Report only for mock leather

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC MRSL Parameters (continued)

Test Parameters	Results of Test Items					Requirements [Textile]		
	I001 (µg/L)	I002 (µg/L)	I003 [#] (mg/kg)	I004 [#] (mg/L)	I005 (µg/L)	Wastewater (µg/L)	Sludge [#] (mg/kg)	Leachate [#] -
1G) Dyes - Carcinogenic or Equivalent Concern								
Basic violet 3 with >0.1% of Michler's Ketone	ND				NR	500	-	-
C.I. Acid Red 26	ND				NR			
C.I. Acid Violet 49	ND				NR			
C.I. Basic Blue 26 (with Michler's Ketone >0/1%)	ND				NR			
C.I. Basic Green 4 (Malachite Green Chloride)	ND				NR			
C.I. Basic Green 4 (Malachite Green Oxalate)	ND				NR			
C.I. Basic Green 4 (Malachite Green)	ND				NR			
C.I. Basic Red 9	ND	NR	NR	NR	NR			
C.I. Basic Violet 14	ND				NR			
C.I. Direct Black 38	ND				NR			
C.I. Direct Blue 6	ND				NR			
C.I. Direct Red 28	ND				NR			
C.I. Disperse Blue 1	ND				NR			
C.I. Disperse Blue 3	ND				NR			
Disperse Orange 11	ND				NR			
1H) Dyes - Disperse (Allergenic)								
Disperse Blue 102	ND				NR	50	-	-
Disperse Blue 106	ND				NR			
Disperse Blue 124	ND				NR			
Disperse Blue 26	ND				NR			
Disperse Blue 35 (CAS 12222-75-2)	ND				NR			
Disperse Blue 35 (CAS 56524-77-7)	ND				NR			
Disperse Blue 7	ND				NR			
Disperse Brown 1	ND				NR			
Disperse Orange 1	ND				NR			
Disperse Orange 3	ND	NR	NR	NR	NR			
Disperse Orange 37/59/76	ND				NR			
Disperse Red 1	ND				NR			
Disperse Red 11	ND				NR			
Disperse Red 17	ND				NR			
Disperse Yellow 1	ND				NR			
Disperse Yellow 3	ND				NR			
Disperse Yellow 39	ND				NR			
Disperse Yellow 49	ND				NR			
Disperse Yellow 9	ND				NR			
1I) Dyes - Navy Blue Colourant								
Component 1: C39H23Cl-CrN7O12S 2Na	ND				NR	500	-	-
Component 2: C46H-30CrN10O20S2 3Na	ND	NR	NR	NR	NR			

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC MRSL Parameters (continued)

Test Parameters	Results of Test Items					Requirements [Textile]					
	I001	I002	I003 [#]	I004 [#]	I005	Wastewater	Sludge [#]	Leachate [#]			
	(µg/L)	(µg/L)	(mg/kg)	(mg/L)	(µg/L)	(µg/L)	(mg/kg)	-			
1J) Flame Retardants											
2,2-bis(bromomethyl)-1,3-propanediol (BBMP)	ND				NR	25	-	-			
Dis(2,3-dibromopropyl) phosphate (BIS)	ND				NR						
Decabromophenyl ether (DecaBDE)	ND				NR						
Hexabromocyclodecane (HBCDD)	ND				NR						
Octabromodiphenyl ether (OctaBDE)	ND				NR						
Pentabromodiphenyl ether (PentaBDE)	ND				NR						
Polybromobiphenyls (PBB)	ND				NR						
Tetrabromobisphenol A (TBBPA)	ND				NR						
Tris-(2-chloro-1-methylethyl) phosphate (TCPP)	ND				NR						
Tris(1-aziridinyl)phosphone oxide (TEPA)	ND				NR						
Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	ND				NR						
Tris(2-chloroethyl) phosphate (TCEP)	ND				NR						
Tris(2,3-dibromopropyl) phosphate (TRIS)	ND				NR						
Decabromobiphenyl (DecaBB)	ND	NR	NR	NR	NR						
Dibromobiphenyls (DiBB)	ND				NR						
Octabromobiphenyls (OctaBB)	ND				NR						
Dibromopropylether	ND				NR						
Heptabromodiphenyl ether (HeptaBDE)	ND				NR						
Hexabromodiphenyl ether (HexaBDE)	ND				NR						
Monobromobiphenyls (MonoBB)	ND				NR						
Monobromodiphenylethers (MonoBDEs)	ND				NR						
Nonabromobiphenyls (NonaBB)	ND				NR						
Nonabromodiphenyl ether (NonaBDE)	ND				NR						
Tetrabromodiphenyl ether (TetraBDE)	ND				NR						
Tribromophenylethers (TriBDEs)	ND				NR						
Boric acid ^b	ND							NR	100		
Diboron trioxide ^b	ND							NR			
Disodium octaborate ^b	ND							NR			
Disodium tetraborate anhydrous ^b	ND							NR			
Tetraboron disodium heptaoxide, hydrate ^b	ND							NR			
1K) Glycols / Glycol Ethers											
2-ethoxyethanol	ND				NR	NR	NR	NR	50	-	-
2-ethoxyethyl acetate	ND							NR			
2-methoxyethanol	ND	NR									
2-methoxyethylacetate	ND	NR									
2-methoxypropylacetate	ND	NR									
Bis(2-methoxyethyl)-ether	ND	NR									
Ethylene glycol dimethyl ether	ND	NR									
Triethylene glycol dimethyl ether	ND	NR									
1L) Halogenated Solvents											
1,2-dichloroethane	ND	NR	NR	NR	NR	1	-	-			
Methylene chloride	ND				NR						
Tetrachloroethylene	ND				NR						
Trichloroethylene	ND				NR						

b = Limit refers to elemental boron, not the salt.

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC MRSL Parameters (continued)

Test Parameters	Results of Test Items					Requirements [Textile]								
	I001	I002	I003 [#]	I004 [#]	I005	Wastewater	Sludge [#]	Leachate [#]						
	(µg/L)	(µg/L)	(mg/kg)	(mg/L)	(µg/L)	(µg/L)	(mg/kg)	-						
1M) Organotin Compounds														
Dipropyltin compounds (DPT)	ND	NR	NR	NR	NR	0,01	-	-						
Mono, di-, and tri-butyltin derivatives	ND													
Mono, di-, and tri-methyltin derivatives	ND													
Mono, di-, and tri-octyltin derivatives	ND													
Mono, di-, and tri-phenyltin derivatives	ND													
Tetrabutyltin compounds (TeBT)	ND													
Tripropyltin compounds (TPT)	ND													
Tetraoctyltin compounds (TeOT)	ND													
Tricyclohexyltin (TCyHT)	ND													
Tetraethyltin compounds (TeET)	ND													
1N) Other / Miscellaneous Chemicals														
AEEA [2-(2-aminoethylamino)ethanol]	ND				NR				NR	NR	NR	500	-	-
Bisphenol A	ND													
Thiourea	ND													
Quinoline	ND													
Borate, zinc salt ^c	ND													
Silica (used in sand blasting) ^d	NR													
1O) Perfluorinated and Polyfluorinated Chemicals (PFCs)														
Perfluorooctane sulfonate (PFOS) and related substances, Perfluorooctanoic acid (PFOA)	ND	NR	NR	NR	NR	0,01	-	-						
Perfluorooctanoic acid (PFOA) related substances	ND													
1P) Phthalates - including all other esters of ortho-phthalic acid														
1,2-benzenedicarboxylic acid, di-C6-8 branched and linear alkyl esters, C7-rich (DIHP)	ND	NR	NR	NR	NR	10	-	-						
1,2-benzenedicarboxylic acid, di-C7-11 branched and linear alkyl esters (DHNUP)	ND													
Bis(2-methoxyethyl)phthalate (DMEP)	ND													
Butyl benzyl phthalate (BBP)	ND													
Di-cyclohexyl phthalate (DCHP)	ND													
Di-iso-decyl phthalate (DIDP)	ND													
Di-iso-octyl phthalate (DIOP)	ND													
Di-iso-butyl phthalate (DIBP)	ND													
Di-iso-nonyl phthalate (DINP)	ND													
Di-n-hexyl phthalate (DnHP)	ND													
Di-n-octyl phthalate (DNOP)	ND													
Di-n-pentylphthalates	ND													
Di-n-propyl phthalate (DPRP)	ND													
Di(ethylhexyl) phthalate (DEHP)	ND													
Dibutyl phthalate (DBP)	ND													
Diethyl phthalate (DEP)	ND													
Diisopentylphthalates	ND													
Dinonyl phthalate (DNP)	ND													

c = Limit refers to elemental boron and/or zinc, not the salt.

d = Not a ZDHC wastewater parameter, and not required to test this parameter as this is related to sand blasting

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC MRSL Parameters (continued)

Test Parameters	Results of Test Items					Requirements [Textile]		
	I001 (µg/L)	I002 (µg/L)	I003 [#] (mg/kg)	I004 [#] (mg/L)	I005 (µg/L)	Wastewater (µg/L)	Sludge [#] (mg/kg)	Leachate [#] -
1Q) Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	ND		ND		NR			
Acenaphthylene	ND		ND		NR			
Anthracene	ND		ND		NR			
Benzo[a]anthracene	ND		ND		NR			
Benzo[a]pyrene (BaP)	ND		ND		NR			
Benzo[b]fluoranthene	ND		ND		NR			
Benzo[e]pyrene	ND		ND		NR			
Benzo[ghi]perylene	ND		ND		NR			
Benzo[j]fluoranthene	ND	NR	ND	NR	NR	1	0,2	-
Benzo[k]fluoranthene	ND		ND		NR			
Chrysene	ND		ND		NR			
Dibenz[a,h]anthracene	ND		ND		NR			
Fluoranthene	ND		ND		NR			
Fluorene	ND		ND		NR			
Indeno[1,2,3-cd]pyrene	ND		ND		NR			
Naphthalene	ND		ND		NR			
Phenanthrene	ND		ND		NR			
Pyrene	ND		ND		NR			
1R) Restricted Aromatic Amines (Cleavable from Azo-colourants)								
2-naphthylamine	ND				NR			
2-naphthylammoniumacetate	ND				NR			
2,4-xylidine	ND				NR			
2,4,5-trimethylaniline	ND				NR			
2,4,5-trimethylaniline hydrochloride	ND				NR			
2,6-xylidine	ND				NR			
3,3'-dichlorobenzidine	ND				NR			
3,3-dimethoxybenzidine	ND				NR			
3,3-dimethylbenzidine	ND				NR			
4-aminoazobenzene	ND				NR			
4-aminodiphenyl	ND				NR			
4-chloro-o-toluidine	ND				NR			
4-chloro-o-toluidinium chloride	ND				NR			
4-chloroaniline	ND				NR			
4-methoxy-m-phenylene diammonium sulphate; 2,4-diaminoanisole sulphate	ND	NR	NR	NR	NR	0,1	-	-
4-methoxy-m-phenylenediamine	ND				NR			
4-methyl-m-phenylenediamine	ND				NR			
4,4-methylene-bis-(2-chloro-aniline)	ND				NR			
4,4-methylenedi-o-toluidine	ND				NR			
4,4-methylenedianiline	ND				NR			
4,4-oxydianiline	ND				NR			
4,4-thiodianiline	ND				NR			
5-nitro-o-toluidine	ND				NR			
6-methoxy-m-toluidine	ND				NR			
Benzidine	ND				NR			
o-aminoazotoluene	ND				NR			
o-anisidine	ND				NR			
o-toluidine	ND				NR			

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines. Bureau Veritas Consumer Products Services, Inc.

Yalçın Koreş Caddesi No:22 Erdiñ Binaları A Blok 2. Kule 1. Kat 34209 Güneşli, İstanbul / Turkey

Tel:+90.212.494 35 35 Fax:+90.212.494 35 60

Website:cps.bureauveritas.com



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC MRSL Parameters (continued)

Test Parameters	Results of Test Items					Requirements [Textile]		
	I001 (µg/L)	I002 (µg/L)	I003 [#] (mg/kg)	I004 [#] (mg/L)	I005 (µg/L)	Wastewater (µg/L)	Sludge [#] (mg/kg)	Leachate [#] -
1S) UV Absorbers								
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350)	ND	NR	NR	NR	NR	100	-	-
2-(2H-benzotriazol-2-yl)-4,6- ditertpentylphenol (UV-328)	ND				NR			
2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320)	ND				NR			
2,4-Di-tert-butyl-6-(5- chlorobenzotriazole-2-yl) phenol (UV-327)	ND				NR			
1T) Volatile Organic Compounds (VOC)								
Benzene	ND	NR	NR	NR	NR	1	-	-
m-cresol	ND				NR			
o-cresol	ND				NR			
p-cresol	ND				NR			
Xylene	ND				NR			
Toluene ^a	ND				NR			

a = Report only for mock leather

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC Heavy Metals Parameters

Test Parameters	Unit			Results of Test Items					Requirements [Textile]				
	Wastewater	Sludge	Leachate	I001	I002	I003#	I004#	I005	Wastewater			Sludge	
									Foundational	Progressive	Aspirational	Discharge Limit	Sludge Threshold Values
ZDHC Heavy Metals													
Antimony	mg/L	mg/kg	mg/L	NR	NR	ND	NR	NR	0,1	0,05	0,01	-	12
Chromium (VI)	mg/L	mg/kg	mg/L		ND	ND	NR	NR	0,05	0,005	0,001	Not Applicable	50
Barium	mg/L	mg/kg	mg/L		NR	ND	NR	NR	Sample & Report			-	700
Selenium	mg/L	mg/kg	mg/L		NR	ND	NR	NR	Sample & Report			-	10
Tin	mg/L	-	-		NR	NR	NR	NR	Sample & Report			-	-
Arsenic	mg/L	mg/kg	mg/L		ND	ND	NR	NR	0,05	0,01	0,005	3	10
Total Chromium	mg/L	mg/kg	mg/L		NR	ND	NR	NR	0,2	0,1	0,05	-	100
Cobalt	mg/L	mg/kg	mg/L		NR	ND	NR	NR	0,05	0,02	0,01	-	1600
Cadmium	mg/L	mg/kg	mg/L		ND	ND	NR	NR	0,1	0,05	0,01	2	3
Copper	mg/L	mg/kg	mg/L		NR	ND	NR	NR	1	0,5	0,25	-	200
Lead	mg/L	mg/kg	mg/L		ND	ND	NR	NR	0,1	0,05	0,01	3	10
Nickel	mg/L	mg/kg	mg/L		NR	ND	NR	NR	0,2	0,1	0,05	-	70
Silver	mg/L	mg/kg	mg/L		NR	ND	NR	NR	0,1	0,05	0,005	-	100
Zinc	mg/L	mg/kg	mg/L		NR	ND	NR	NR	5	1	0,5	-	1000
Mercury	mg/L	mg/kg	mg/L		ND	ND	NR	NR	0,01	0,005	0,001	0.2	1

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Test Result - ZDHC Conventional and Anions Parameters

Test Parameters	Unit			Results of Test Items					Requirements [Textile]					
	Wastewater	Sludge	Leachate	I001	I002	I003#	I004#	I005	Wastewater				Sludge Threshold Values	
									Foundational	Progressive	Aspirational	Discharge Limit		
ZDHC Conventional														
pH	pH					7, 70					6 - 9	-		
Temparture difference	Δ °C										15	10	5	-
E.coli	MPN/100-ml										126			-
Colour (436 nm)	m ⁻¹										7	5	2	-
Colour (525 nm)	m ⁻¹										5	3	1	-
Colour (620 nm)	m ⁻¹										3	2	1	-
Persistent Foam	-										No indication of Persistent Foam			-
Wastewater Flowrate	m ³ /day										-			-
Ammonium-Nitrogen	mg/L										10	1	0,5	-
AOX	mg/L										3	0,5	0,1	-
BOD ₅	mg/L	-				NR					30	15	8	-
COD	mg/L			NR	NR		NR	NR			150	80	40	-
DO	mg/L										Sample & Report			-
Oil & Grease	mg/L										10	2	0,5	-
Total Phenols / Phenol Index	mg/L										0,5	0,01	0,001	-
Total Chlorine	mg/L										Sample & Report			-
TDS	mg/L										Sample & Report			-
Total Nitrogen	mg/L										20	10	5	-
Total Phosphorus	mg/L										3	0,5	0,1	-
TSS	mg/L										50	15	5	-
% Solids	-	%				0.10					-			-
Paint Filter Test	-	-				Pass					-			-
Fecal Coliform	-	MPN/g				1416,67					-			-
ZDHC Anions														
Chloride	mg/L	-	-			NR					Sample & Report			-
Cyanide, total	mg/L	mg/kg	-			ND					0,2	0,1	0,05	-
Sulfate	mg/L			NR	NR		NR	NR			Sample & Report			-
Sulfide	mg/L	-	-			NR					0,5	0,5	0,01	-
Sulfite	mg/L										2	0,5	0,2	-

#Limit refers to the chosen ZDHC sludge disposal pathway in Table 4 in accordance with the ZDHC Wastewater Guidelines.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix A - contract limit with CETP

ERGENE 2 ORGANİZE SANAYİ BÖLGESİ ATIKSU ARITMA TESİSİ		
TASARIMA ESAS ATIKSU KARAKTERİ TABLOSU		
PARAMETRE	BİRİM	DEĞER
Kimyasal Oksijen İhtiyacı (KOİ)	mg/lit	1500
Biokimyasal Oksijen İhtiyacı (BOİ)	mg/lit	700
Askıda Katı Madde (AKM)	mg/lit	500
Yağ ve Gres	mg/lit	250
Katman ve petrol kökenli yağlar	mg/lit	50
Toplam Kjeldah Azotu (TKN)	mg/lit	60
Toplam Fosfor (TP)	mg/lit	5
pH	mg/lit	6 - 10
Toplam Krom (Cr)	mg/lit	5
Toplam Siyanür (Cn)	mg/lit	10
Toplam Sülfür	mg/lit	2
Sülfat (SO4)	mg/lit	1700
Fenol	mg/lit	20
Serbest Klor	mg/lit	5
Arsenik	mg/lit	3
Toplam Kurşun	mg/lit	3
Toplam Kadmiyum	mg/lit	2
Toplam Civa	-	0,2
Toplam Bakır	-	2
Toplam Nikel	mg/lit	5
Toplam Çinko		10
Toplam Kalay		5
Toplam Gümüş		5
Klorür		10000
Renk (Pt, Co)		1000
Sıcaklık (°C)		35



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix B - Sample Photos

I001) Sampling point

N/S 40° 58' 58.65" E/W 27° 30' 4.99"



I001) Sampling location surrounding

N/S 40° 58' 58.65" E/W 27° 30' 4.99"



I001) Labelled sample bottles



I001) Sample for phthalate test



I001) Sample packaging



I002) Sampling point

N/S 40° 58' 58.65" E/W 27° 30' 4.99"



I002) Sampling location surrounding

N/S 40° 58' 58.65" E/W 27° 30' 4.99"



I002) Labelled sample bottles



I002) pH measurement



I002) Sample packaging





Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix B - Sample Photos (continued)

I003) Sampling point

N/S 40° 58' 58.65" E/W 27° 30' 4.99"



I003) Sampling location surrounding

N/S 40° 58' 58.65" E/W 27° 30' 4.99"



I003) Labelled sample bottles



I003) Sample packaging





Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix C - On-site Field Data Record Sheet

FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)	CPSD-AN-00613-DATA 04 Issue Date: _____ Version No.: 18 Business Line: Analytical
---	--

General Data

Laboratory Sample Number: 72231700043

Client Name: GULLE ENTEGRE TEKSTIL ISLETMELERI EML. DAN. SAN. VE TIC. A.Ş.

Field Contact Person: NMET LUTUN Phone No: +902826550061

Project (Facility Name and Address): ULAS OSB MAH. D100 CAD. NO:3311 ERGENE-2 OSB / TEKRIDAG

Sample Identification: Zero discharge with sampling plan

Sample Type: Composite Sample / Grab sample (Please delete as appropriate)

Discharge mode: Direct discharge to environment (Specify destination: River, Sea, Stream...) Direct discharge to sewage treatment plant

Date of collection: 20.06.2023

Factory Type: Dyeing / Printing / Washing / Finishing / Others (please specify): _____
*Note: It would be selected more than one

Sampling Collection Information

Sampling Location / Description: BEFORE TREATMENT

Sampling Device Description/Owner: _____

Sampling mode: Autosampler/Manual

Sampler Information

Sampler Name/Email: Ali Serkan YILDIZCI

Sampler ZDHC Accredited no.: CA0106819995

ZDHC Composite Sample Code: _____

Field Data for Wastewater

Arrival Time:	Departure Time:			
Field Parameters	pH	Temp: °C	Color	Flow rate: (volume/min)
Control No. of field equipment				
Factory with effluent treatment plant	Yes		No	
Sample matrix:	Incoming water (if required)			
	X	Wastewater before treatment		
		Wastewater after treatment – water at discharge point		
Sampler container number				
ZDHC Wastewater Flow Device Dimensions				
Measurement (cm)	Meter	Pipe (D)	Flange (L)	Wier (V)
Diameter	NA			
Depth	NA	NA	NA	

ZDHC Wastewater Sampling Field Testing QA/QC

Parameter	Laboratory control sample (LCS) Known	LCS Measured	Accuracy %
pH			
Total Chlorine			

ZDHC Wastewater Sample Collection Field Test Measurements

Sampling Time (Hours)		0	1	2	3	4	5	6	Average (Report with lab data)
Recording time	ID								-
	Time	10:30	11:30	12:30	13:30	14:30	15:30	16:30	-
Temp (°C):	Wastewater Discharge	52.1	45.5	41.9	43.2	29.2	34.0	49.2	
	Receiving Water								
pH		10.05	11.26	8.48	10.76	12.36	11.33	10.93	
Dissolved Oxygen (mg/L)									
Total Chlorine (mg/L)									
Parasitic Foam (Yes/No)									
Wastewater Flow meter(L/min)									
Alternate measured Flow	Depth (cm)								
	Velocity (m/sec)								
Color (visual estimation)		<u>very blue, very blue, very blue, very blue, very blue, very blue, very blue</u>							
Volume collected, ml									
Total volume collected:		Remark: Total volume collected must be greater than total of sample size required							



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix C - On-site Field Data Record Sheet (continued)**Analysis Required and Preservation Method**

Tests (ZDHC MRSL Parameters)		Test required (Y)	Total of sample size	Type of container	Preservation method (Store sample at 1-6°C)	
Combined test or individual test (Remark 4)	1. Phthalate	√	1000 mL total or 1000 mL each	Amber Glass, washed with nitric acid.	Without adding acid	
	2. Chlorobenzenes, Chlorotoluene & PAH	√				
	3. SCCPs	√				
	4. APS	√				
5. APEOs	√	100 mL				
6. Chlorophenols & Cresols	√	100 mL				
7. Flame retardant	√	500 mL				
8. Dyes	√	10 mL				
9. Glycol	√	50 mL				
10. *Pesticides		1000 mL				
11. *Nitrosamine		10 mL				
12. Banned Azodyes	√	2000 mL				
13. *Free primary aromatic amines		500 mL				
14. Organotin Compounds	√	500 mL				
15. UV absorbers	√	100				
16. BPA	√	2				
17. Preservatives	√	50				
18. VOC & Halogenated Solvents (Remark 6)	√	10 mL				Fill to full container without air gap; acidify to pH 2 with HCl
19. PFCs (Remark 6)	√	2 mL	PE, washed with pesticide grade Acetone			Without adding acid



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix C - On-site Field Data Record Sheet (continued)

	FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)	CPSD-AN-00613-DATA 04 Issue Date: Version No.: 18 Business Line: Analytical
--	---	--

General Data

Laboratory Sample Number: 72231700043

Client Name: GULLE ENTEGRE TEKSTIL ISLETMELERI EML. DAN. SAN. VE TIC. A.Ş.

Field Contact Person: NEMET USTUN Phone No.: +902326555061

Project (Facility Name and Address): ULAS OSB MAH. D100 CAD. NO:321 ERGENE-3 OSB / TEKIRDAG

Sample Identification: Zero discharge with sampling plan

Sample Type: Composite Sample / Grab sample (Please delete as appropriate)

Discharge mode: Direct discharge to environment (Specify destination: River, Sea, Stream...) OR Indirect discharge to sewage treatment plant

Date of collection: 07.07.2023

Factory Type: Dyeing / Printing / Washing / Finishing / Others (please specify):

Note: It would be selected more than one

Sampling Collection Information

Sampling Location / Description: AFTER TREATMENT

Sampling Device Description/ Owner: Auto sampler Manual

Sampling mode: Auto sampler Manual

Sampler Information

Sampler Name/ Email: At. Saka Yildirim

Sampler ZDHC Accredited no: 2740106817995

ZDHC Composite Sample Code:

Field Data for Wastewater

Arrival Time:	Departure Time:			
Field Parameters	pH	Temp (°C)	Color	Flow rate (volume/min)
Control No. of field equipment:				
Factory with effluent treatment plant:	Yes		No	
Sample matrix:	Incoming water (if required)			
	Wastewater before treatment			
	X	Wastewater after treatment - water at discharge point		
Sampler container number				

ZDHC Wastewater Flow Device Dimensions

Measurement (cm)	Water	Pipe (Ø)	Flume (U)	Weir (V)
Orimeter	NA			
Depth	NA	NA	NA	

ZDHC Wastewater Sampling Field Testing QA/QC

Parameter	Laboratory control sample (LCS) Known	LCS Measured	Accuracy %
pH			
Total Chlorine			

ZDHC Wastewater Sample Collection Field Test Measurements

Recording time	ID	Sampling Time (Hours)						Average (Report with 1st dec)
		0	1	2	3	4	5	
Temp (°C):	Wastewater Discharge	36.1	36.6	36.5	37.3	35.2	22.9	38.5
	Receiving Water							
pH		7.87	7.95	7.96	7.86	7.92	8.43	8.89
Dissolved Oxygen (mg/L):								
Total Chlorine (mg/L):								
Persistent Foam (Yest No):								
Wastewater Flow meter (Link):								
Alternate measured Flow	Depth (cm)							
	Velocity (cm/sec)							
Color (visual estimation):		very blue	very blue	very blue	very blue	very blue	very blue	very blue
Volume collected, ml:								
Total volume collected		Remark: Total volume collected must be greater than total of sample size required						



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix C - On-site Field Data Record Sheet (continued)

FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)	CPSD-AN-00613-DATA 04 Issue Date: _____ Version No.: 15 Business Line: Analytical
---	--

Tests (Conventional Parameters)		Test required (V)	Total of sample size	Type of container	Preservation method (Store sample at 2-8°C)
Combined test or individual test (Remark 4)	20. Total suspended solids (TSS)		2000 mL total or 2000 mL each	Amber Glass, washed with nitric acid.	Without adding acid
	21. Total dissolved solids (TDS)		2000 mL each		
	22. 5-day Biochemical Oxygen Demand (BOD5)		1000 mL		
	23. Colour		100 mL		
	24. Heavy Metals except Cr(VI) & Total-P (Remark 6)	√	9 mL	PE, washed with nitric acid	Acidity to pH 2 with HNO ₃
	25. Cyanide		500 mL	Amber Glass, washed with pesticide grade acetone	Adjust pH to 12 with 50% NaOH, add 8.65 ml of 10% Na ₂ S ₂ O ₄
	26. Cr(VI)	√	95 mL	Amber Glass, washed with nitric acid	Filter by 0.45µm filter in field, fill to full container without air gap, adjust pH to 4.9-5.5 by adding ammonium buffer
	27. Chemical oxygen demand (COD)		150 mL		
	28. Phenols		500 mL		Acidity to pH 2 with H ₂ SO ₄
	29. Oil and Grease & Total Hydrocarbon		1000 mL		
	30. Formaldehyde		25 mL		Fill to full container without air gap, acidity to pH 2 with H ₂ SO ₄
	31. Sulfide (Remark 5)		50 mL	PE, washed with pesticide grade Acetone	Fill to full container without air gap, add 2 drops of 2M zinc acetate, adjust pH to 8 with dil NaOH
	32. E coli (Remark 6)		125 mL	PE, clean, sterile, non-reactive	Add 0.1 ml of 10% NaOH, keep in dark
	33. Sulfite		100 mL	Amber Glass, washed with pesticide grade acetone	Add 1 mL of 2.5% EDTA
	34. Total-N		100 mL	Amber Glass, washed with nitric acid	Acidity to pH 2 with H ₂ SO ₄
	35. Ammonium-N		500 mL		
	36. Adlicable organically bound halogens (AOX)		100 mL		Acidity to pH 2 with HNO ₃
	37. Acute aquatic toxicity: Luminous Bacteria, Fish Egg, Daphnia, Algae		1000 mL		Without adding acid
	38. Suphate		100 mL		
	39. Chloride		100 mL		
	40. Others:				

- *Remarks:
1. Individual sampling can be performed upon request
 2. The minimum sampling time for 2019 ZDHC guideline is 6 hours with no more than one hour between discrete samples. Sampling time could be adjusted upon request.
 3. Scope of ZDHC guideline: Parameter 1-9, 12, 14-20, 31-36, 38, 39
 Scope of synthetic leather industry: Parameter 1-5, 12, 14-24, 26-28, 31, 32, 34, 35, 38, 39
 Scope of MMCF: Parameter 5, 18, 20, 22-24, 26-28, 31, 34-37
 Free primary aromatic amine, pesticides, nitrosamine and formaldehyde are not in the scope of ZDHC Guideline, they are tested upon request.
 4. Refer to CPD-AN-G00019-STP01, locations with those CPD test capability inside TCD matrix can perform the combined test.
 5. Refer to CPD-AN-000510-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested.
 6. Refer to CPD-AN-00613-MTHD for preparation of field blank for specific parameters.

Recorded by: Ali Serkan MURMUR Date: 20.06.2023
 Full name:

Comment from factory:

Acknowledgement by factory
 I hereby confirm that Bureau Veritas has completed the stated sampling activity at captioned date, time and location. All sample(s) were collected in designated container(s) and without any observation in leakage. Sample(s) collected by Bureau Veritas lab are stored in portable freezer / fridge that is maintained in 1-6°C



Signature of Factory Representative: Almet Usta Date: 20.06.2023
 Full Name:



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix C - On-site Field Data Record Sheet (continued)

	FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)	CPSD-AN-00613-DATA 04
		Issue Date:
		Version No.: 18
		Business Line: Analytical

Field Data for Sludge									
Arrival Time:	Departure Time:								
Field Parameters	pH:	Temp: °C	Flow rate (volume/time) / sludge flux (weight/time):						
Control No. of field equipment:									
Sampling Time (Hours)		0	1	2	3	4	5	6	Average (Report with lab data)
Recording time	ID								
	Time								
pH:									
Temp (°C):									
Flow rate (volume/time) / sludge flux (weight/time):									
Volume collected, mL									
Total volume collected:		Remark: Total volume collected must be greater than total of sample size required							

Analysis Required and Preservation Method						
Factory with effluent treatment plant	Yes		No			
Sample matrix:	Sludge in clarifier (sedimentation tank)					
Sampler container number						
Recording time						
Tests (MRSL Parameter)	Test required (a)	Total of sample size	Type of container	Preservation method (Store sample at 2-8°C)		
Combined test or Individual test (Remark 3)	1. Phthalate		Amber Glass, washed with nitric acid	Add 0.2 mL of 10% Na ₂ S ₂ O ₃ (0.009% WW)		
	2. Chlorobenzenes, Chlorobenzene & PAHs	✓			10g total or 10g each	
	3. BODCPs					
	4. APS	✓				
5. APEOs	✓	20 g				
6. Flame retardant		10 g				
7. Dyes		10 g				
8. Glycols		100 g				
9. *Pesticides		20g				
10. Banned Azodyes		20 g				
11. *Free primary aromatic amines		10 g				
12. Chlorophenols & Cresols		20 g				Acidify to -pH 2 with H ₂ SO ₄ . Add 0.02 mL of 10% Na ₂ S ₂ O ₃ (0.009% WW)
13. Organotin Compounds		10 g				Fill to full container without any air gap and acid add
14. VOC & Halogenated Solvents (Remark 5)		10 g				Fill to full bottle without any air gap. Acidify to -pH 2 with HCl
15. PFCA (Remark 5)		10 g			PE, wash with pesticide grade acetone	Add 0.02 mL of 10% Na ₂ S ₂ O ₃ (0.009% WW)

Tests (Conventional Parameters)	Test required (a)	Total of sample size	Type of container	Preservation method (Store sample at 2-8°C)
16. Heavy Metals except Cr(VI) (Remark 5)	✓	0.2 g	PE, wash with nitric acid	Acidify to -pH 2 with HNO ₃
17. Cr(VI)	✓	2.5 g	Amber Glass, wash with nitric acid	Fill to full container without any air gap and acid add
18. Adsorbable organically bound halogens (AOX)		1 g		
19. Extractable organohalides (EOX)		20 g		
20. Total organic carbon (TOC)		20 g		
21. Cyanide	✓	20 g	Amber Glass, wash with pesticide grade acetone	Adjust pH to 12-13 with 50% NaOH
22. Faecal Coliform	✓	20 g	PE, clean, sterile, non-reactive	Add 0.1 mL of 10% Na ₂ S ₂ O ₃ , keep in dark
23. % Solids	✓	20 g	Amber Glass, wash with nitric acid	Acidify to -pH 2 with HNO ₃
24. Pulp Fiber Test	✓	20 g		



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers

Test Parameters	Unit		CAS No.	LOQ		Test methods
	Wastewater	Sludge		Wastewater	Sludge	
1A) AP and APEOs: including all isomers						
Nonylphenol ethoxylates (NPEO)	µg/L	mg/kg	9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0	5	0,4	NP/OP: ISO 18857-2 (modified dichloromethane extraction) or ASTM D7065 (GC-MS or LC-MS(-MS), OPEO/NPEO (n>2): ASTM D7742 ISO 18857-2
Nonylphenol (NP), mixed isomers			104-40-5, 11066-49-2, 25154-52-3, 84852-15-3			
Octylphenol ethoxylates (OPEO)			9002-93-1, 9036-19-5, 68987-90-6			
Octylphenol (OP), mixed isomers			140-66-9, 1806-26-4, 27193-28-8			
1B) Anti-Microbials & Biocides						
o-Phenylphenol (+salts)	µg/L	-	90-43-7	100	-	USEPA 8270E Solvent extraction, derivatisation with KOH, acetic anhydride followed by GC-MS BS EN 12673-1999
Triclosan			3380-34-5			
Permethrin			Multiple	500		
1C) Chlorinated Paraffins						
Medium-chain chlorinated paraffins (MCCPs) (C14-C17)	µg/L	-	85535-85-9	500	-	EPA 3510 and analyzed by ISO18219-2:2021 Method for MCCP with GC-MS(NCI) or LC- MS/MS
Short-chain chlorinated paraffins (SCCPs) (C10-C13)			85535-84-8	25		
1D) Chlorobenzenes and Chlorotoluenes						
1,2-dichlorobenzene	µg/L	-	95-50-1	0,2	-	USEPA 8260D, 8270E, Purge and Trap, Head Space, Dichloromethane extraction followed by GC-MS
Other isomers of mono-, di-, tri-, tetra-, penta-, and hexa- chlorobenzene			Multiple			
Other isomers of mono-, di-, tri-, tetra-, and penta- chlorotoluene		mg/kg				
1E) Chlorophenols						
2-chlorophenol	µg/L	-	95-57-8	0,5	-	USEPA 8270E Solvent extraction, derivatisation with KOH, acetic anhydride followed by GC-MS, BS EN 12673-1999 the procedure of solvent extraction and derivatization are included
3-chlorophenol			108-43-0			
4-chlorophenol			106-48-9			
2,3-dichlorophenol			576-24-9			
2,4-dichlorophenol			120-83-2			
2,5-dichlorophenol			583-78-8			
2,6-dichlorophenol			87-65-0			
3,4-dichlorophenol			95-77-2			
3,5-dichlorophenol			591-35-5			
2,3,4-trichlorophenol			15950-66-0			
2,3,5-trichlorophenol			933-78-8			
2,3,6-trichlorophenol			933-75-5			
2,4,5-trichlorophenol			95-95-4			
2,4,6-trichlorophenol			88-06-2			
3,4,5-trichlorophenol			609-19-8			
2,3,5,6-tetrachlorophenol			935-95-5			
2,3,4,6-tetrachlorophenol			58-90-2			
2,3,4,5-tetrachlorophenol			4901-51-3			
Pentachlorophenol (PCP)			87-86-5			
1F) Dimethyl Formamide (DMFa)						
Dimethyl formamide; N,N-dimethylformamide (DMFa) ^a	µg/L	-	68-12-2	1000	-	EPA 8015, EPA 8270E

a = Report only for mock leather



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

Test Parameters	Unit		CAS No.	LOQ		Test methods
	Wastewater	Sludge		Wastewater	Sludge	
1G) Dyes - Carcinogenic or Equivalent Concern						
Basic Violet 3 with >0.1% of Michler's Ketone	µg/L	-	548-62-9	500	-	Liquid extraction, LC-MS
C.I. Acid Red 26			3761-53-3			
C.I. Acid Violet 49			1694-09-3			
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)			2580-56-5			
C.I. Basic Green 4 (Malachite Green Chloride)			569-64-2			
C.I. Basic Green 4 (Malachite Green Oxalate)			2437-29-8			
C.I. Basic Green 4 (Malachite Green)			10309-95-2			
C.I. Basic Red 9			569-61-9			
C.I. Basic Violet 14			632-99-5			
C.I. Direct Black 38			1937-37-7			
C.I. Direct Blue 6			2602-46-2			
C.I. Direct Red 28			573-58-0			
C.I. Disperse Blue 1			2475-45-8			
C.I. Disperse Blue 3			2475-46-9			
Disperse Orange 11			82-28-0			
1H) Dyes - Disperse (Allergenic)						
Disperse Blue 102	µg/L	-	12222-97-8	50	-	Liquid extraction, LC-MS
Disperse Blue 106			12223-01-7			
Disperse Blue 124			61951-51-7			
Disperse Blue 26			3860-63-7			
Disperse Blue 35			12222-75-2			
			56524-77-7			
Disperse Blue 7			3179-90-6			
Disperse Brown 1			23355-64-8			
Disperse Orange 1			2581-69-3			
Disperse Orange 3			730-40-5			
Disperse Orange 37/59/76			13301-61-6			
Disperse Red 1			2872-52-8			
Disperse Red 11			2872-48-2			
Disperse Red 17			3179-89-3			
Disperse Yellow 1			119-15-3			
Disperse Yellow 3			2832-40-8			
Disperse Yellow 39			12236-29-2			
Disperse Yellow 49			54824-37-2			
Disperse Yellow 9			6373-73-5			
1I) Dyes - Navy Blue Colourant						
Component 1: C39H23Cl-CrN7O12S 2Na	µg/L	-	118685-33-9	500	-	Liquid extraction, LC-MS
Component 2: C46H-30CrN10O20S2 3Na			Not Allocated			



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

Test Parameters	Unit		CAS No.	LOQ		Test methods
	Wastewater	Sludge		Wastewater	Sludge	
1J) Flame Retardants						
2,2-bis(bromomethyl)- 1,3-propanediol (BBMP)	µg/L	-	3296-90-0	25	-	USEPA 8270E, ISO 22032, USEPA 527 and USEPA 8321B Dichloromethane extraction GC-MS or LC-MS(-MS)
Bis(2,3-dibromopropyl) phosphate (BIS)			5412-25-9			
Decabromodiphenyl ether (DecaBDE)			1163-19-5			
Hexabromocyclodecane (HBCDD)			3194-55-6			
Octabromodiphenyl ether (OctaBDE)			32536-52-0			
Pentabromodiphenyl ether (PentaBDE)			32534-81-9			
Polybromobiphenyls (PBB)			59536-65-1			
Tetrabromobisphenol A (TBBPA)			79-94-7			
Tris-(2-chloro-1-methylethyl)phosphate (TCPP)			13674-84-5			
Tris(1-aziridinyl)phosphine oxide (TEPA)			545-55-1			
Tris(1,3-dichloro-isopropyl)phosphate (TDCP)			13674-87-8			
Tris(2-chloroethyl)phosphate (TCEP)			115-96-8			
Tris(2,3-dibromopropyl)-phosphate (TRIS)			126-72-7			
Decabromobiphenyl (DecaBB)			13654-09-6			
Dibromobiphenyls (DiBB)			Multiple			
Octabromobiphenyls (OctaBB)			Multiple			
Dibromopropylether			21850-44-2			
Heptabromodiphenyl ether (HeptaBDE)			68928-80-3			
Hexabromodiphenyl ether (HexaBDE)			36483-60-0			
Monobromobiphenyls (MonoBB)			Multiple			
Monobromodiphenylethers (MonoBDEs)			Multiple			
Nonabromobiphenyls (NonaBB)			63936-56-1			
Nonabromodiphenyl ether (NonaBDE)			40088-47-9			
Tetrabromodiphenyl ether (TetraBDE)			Multiple			
Tribromodiphenylethers (TriBDEs)			Multiple			
Boric acid ^b	10043-35-3, 11113-50-1	100	Determined as total boron via ICP			
Diboron trioxide ^b	1303-86-2					
Disodium octaborate ^b	12008-41-2					
Disodium tetraborate anhydrous ^b	1303-96-4, 1330-43-4					
Tetraboron disodium heptaoxide, hydrate ^b	12267-73-1					
1K) Glycols / Glycol Ethers						
2-ethoxyethanol	µg/L	-	110-80-5	50	-	USEPA 8270E Liquid extraction, LC-MS GC-MS
2-ethoxyethyl acetate			111-15-9			
2-methoxyethanol			109-86-4			
2-methoxyethylacetate			110-49-6			
2-methoxypropylacetate			70657-70-4			
Bis(2-methoxyethyl)-ether			111-96-6			
Ethylene glycol dimethyl ether			110-71-4			
Triethylene glycol dimethyl ether			112-49-2			
1L) Halogenated Solvents						
1,2-dichloroethane	µg/L	-	107-06-2	1	-	USEPA 8260D Headspace GC-MS or Purge and trap GC-MS
Methylene chloride			75-09-2			
Tetrachloroethylene			127-18-4			
Trichloroethylene			79-01-6			

b = Limit refer to elemental boron, not the salt.



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

Test Parameters	Unit		CAS No.	LOQ		Test methods
	Wastewater	Sludge		Wastewater	Sludge	
1M) Organotin Compounds						
Dipropyltin compounds (DPT)	µg/L	-	Multiple	0,01	-	ISO 17353 Derivatisation with NaB (C ₂ H ₅) ₄ GC-MS
Mono-, di- and tri-butyltin derivatives						
Mono-, di- and tri-methyltin derivatives						
Mono-, di- and tri-octyltin derivatives						
Mono-, di- and tri-phenyltin derivatives						
Tetrabutyltin compounds (TeBT)						
Tripropyltin Compounds (TPT)						
Tetraoctyltin compounds (TeOT)						
Tricyclohexyltin (TCyHT)						
Tetraethyltin Compounds (TeET)						
1N) Other/Miscellaneous Chemicals						
AEEA [2-(2-aminoethylamino)ethanol]	µg/L	-	111-41-1	500	-	Liquid extraction, LC-MSMS
Bisphenol A			80-05-7	10		
Thiourea			62-56-6	50		Liquid extraction, LC-MS
Quinoline			91-22-5	50		
Borate, zinc salt ^c			12767-90-7	100		Determine as total boron and total zinc via ICP
Silica (Used in sand blasting) ^d			14464-46-1	NA		Not a ZDHC Wastewater parameter
1O) Perfluorinated and Polyfluorinated Chemicals (PFCs)						
Perfluorooctane sulfonate (PFOS) and related substances, Perfluorooctanoic acid (PFOA)	µg/L	-	Multiple	0,01	-	PFCs: EPA 537:2020 FTOH: BS EN 12673-1999, EPA 8270 PFCs: LC-MSMS
Perfluorooctanoic acid (PFOA) related substances				1		FTOH: GC-MS Derivatisation with acetic anhydride followed by GC-MS
1P) Phthalates - including all other esters of ortho-phthalic acid						
1,2-benzenedicarboxylic acid, di-C6-8 branched and liearalkyl esters , C7-rich (DIHP)	µg/L	-	71888-89-6, 84777-06-0	10	-	USEPA 8270E, ISO 18856 Dichloromethane extraction GC-MS
1,2-benzenedicarboxylic acid, di-C7-11 branched and liearalkyl esters (DHNUP)			68515-42-4, 68515-50-4			
Bis(2-methoxyethyl)phthalate (DMEP)			117-82-8			
Butyl benzyl phthalate (BBP)			85-68-7			
Di-cyclohexyl phthalate (DCHP)			84-61-7			
Di-iso-decyl phthalate (DIDP)			26761-40-0			
Di-iso-octyl phthalate (DIOP)			27554-26-3			
Di-iso-butyl phthalate (DIBP)			84-69-5			
Di-iso-nonyl phthalate (DINP)			28553-12-0			
Di-n-hexyl phthalate (DnHP)			84-75-3			
Di-n-octyl phthalate (DNOP)			117-84-0			
Di-n-pentylphthalates			131-18-0			
Di-n-propyl phthalate (DPRP)			131-16-8			
Di(ethylhexyl) phthalate (DEHP)			117-81-7			
Dibutyl phthalate (DBP)			84-74-2			
Diethyl phthalate (DEP)			84-66-2			
Diisopentylphthalates			605-50-5			
Dinonyl phthalate (DNP)			84-76-4			

c = Limit refers to elemental boron and/or zinc, not the salt.

d = Not required to test this parameter as this is related to sand blasting



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

Test Parameters	Unit		CAS No.	LOQ		Test methods				
	Wastewater	Sludge		Wastewater	Sludge					
1Q) Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	µg/L	mg/kg	83-32-9	1	0,2	USEPA 8270E DIN 38407-39 Solvent extraction GC-MS				
Acenaphthylene			208-96-8							
Anthracene			120-12-7							
Benzo[a]anthracene			56-55-3							
Benzo[a]pyrene (BaP)			50-32-8							
Benzo[b]fluoranthene			205-99-2							
Benzo[e]pyrene			192-97-2							
Benzo[ghi]perylene			191-24-2							
Benzo[j]fluoranthene			205-82-3							
Benzo[k]fluoranthene			207-08-9							
Chrysene			218-01-9							
Dibenz[a,h]anthracene			53-70-3							
Fluoranthene			206-44-0							
Fluorene			86-73-7							
Indeno[1,2,3-cd]pyrene			193-39-5							
Naphthalene			91-20-3							
Phenanthrene			85-01-8							
Pyrene	129-00-0									
1R) Restricted Aromatic Amines (Cleavable from Azo-colourants)										
2-naphthylamine	µg/L	-	91-59-8	0,1	-	Reduction step with sodium dithionite, solvent extraction EPA 8270				
2-naphthylammoniumacetate			553-00-4							
2,4-xylidine			95-68-1							
2,4,5-trimethylaniline			137-17-7							
2,4,5-trimethylaniline hydrochloride			21436-97-5							
2,6-xylidine			87-62-7							
3,3'-dichlorobenzidine			91-94-1							
3,3-dimethoxybenzidine			119-90-4							
4-aminoazobenzene			60-09-3							
4-aminodiphenyl			92-67-1							
4-chloro-o-toluidine			95-69-2							
4-chloro-o-toluidinium chloride			3165-93-3							
4-chloroaniline			106-47-8							
4-methoxy-m-phenylene diammonium sulphate;			39156-41-7							
2,4-diaminoanisole sulphate			615-05-4							
4-methoxy-m-phenylenediamine			95-80-7							
4-methyl-m-phenylenediamine			101-14-4							
4,4-methylene-bis-(2-chloro-aniline)			838-88-0							
4,4-methylenedi-o-toluidine			101-77-9							
4,4-methylenedianiline			101-80-4							
4,4-thiodianiline			139-65-1							
5-nitro-o-toluidine			99-55-8							
6-methoxy-m-toluidine			120-71-8							
Benzidine			92-87-5							
o-aminoazotoluene			97-56-3							
o-anisidine			90-04-0							
o-toluidine			95-53-4							
										Reduction step with sodium dithionite, solvent extraction EPA 8270E and ISO 14362 1 GC/MS and LC/MS/MS



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

Test Parameters	Unit		CAS No.	LOQ		Test methods
	Wastewater	Sludge		Wastewater	Sludge	
1S) UV Absorbers						
2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl) phenol (UV-350)	µg/L	-	36437-37-3	100	-	USEPA 8270 ISO 22032, USEPA 527 and USEPA 8321B. Dichloromethane extraction GC-MS or LC-MS(-MS)
2-(2H-benzotriazol-2-yl)-4,6- ditertpentylphenol (UV-328)			25973-55-1			
2-benzotriazol-2-yl-4,6-di-tert- butylphenol (UV-320)			3846-71-7			
2,4-Di-tert-butyl-6-(5- chlorobenzotriazole-2-yl) phenol (UV-327)			3864-99-1			
1T) Volatile Organic Compounds (VOC)						
Benzene	µg/L	-	71-43-2	1	-	ISO 11423-1 Headspace or Purge and trap GC-MS USEPA 8260D Add ISO 20595 Static headspace for determination of VOC in ISO 11423-1 Headspace or Purge and trap GC-MS EPA 8270 BS EN 12673-1999 ISO 11423-1 Headspace or Purge and trap GC-MS USEPA 8260D HJ 1067 or EPA 8260D or ISO 11423-1
m-cresol			108-39-4			
o-cresol			95-48-7			
p-cresol			106-44-5			
Xylene			1330-20-7			
Toluene ^a			108-88-3			

a = Report only for mock leather



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

Test Parameters	Unit		CAS No.	LOQ		Test methods
	Wastewater & Leachate	Sludge		Wastewater	Sludge	
Heavy Metals						
Antimony	mg/L	mg/kg	7440-36-0	0,01	5	With reference to EPA 3015A, 6020A, 200.8, 6020B, 3051A and ISO 17294-2 and analyzed by ICP-MS With reference to EPA 1311 and HJ/T 300 for leachate
Chromium (VI)			18540-29-9	0,001	20	
Barium			7440-39-3	1	200	
Selenium			7782-49-2	1	5	
Tin			7440-31-5	1	-	
Arsenic			7440-38-2	0,005	5	
Total Chromium			7440-47-3	0,05	50	
Cobalt			7440-48-4	0,01	400	
Cadmium			7440-43-9	0,01	1	
Copper			7440-50-8	0,25	50	
Lead			7439-92-1	0,01	5	
Nickel			7440-02-0	0,05	20	
Silver			7440-22-4	0,005	50	
Zinc			7440-66-6	0,5	400	
Mercury			7439-97-6	0,001	1	
Conventional						
pH	pH	pH		6 - 9		With reference to ISO 10523, EPA 150.2, APHA 4500-H+
Temperature difference	°C			-		USEPA 170.1 or GB/T 13195
E.coli	MPN/100-ml			126		-
Colour	m ⁻¹			2;1;1		ISO 7887 (Method A and B)
Persistent Foam	-			-		-
Wastewater Flowrate	m ³ /day			-		-
Ammonium-Nitrogen	mg/L			0,5		ISO 11732, ISO 7150, USEPA 350.1, APHA 4500 NH ³ -N, HJ 535 or HJ 536
AOX	mg/L			0,1		ISO 9562, EN ISO 9563, USEPA 1650, HJ.T 83-2001
Biochemical Oxygen Demand 5-days concentration (BOD ₅)	mg/L			8		ISO 5815-1 & -2, EN1899-1, USEPA 405.1, APHA 5210B or HJ 505
Chemical Oxygen Demand (COD)	mg/L			40		ISO 6060, USEPA 410.4, APHA 5220D or GB/T 11914
Dissolved Oxygen (DO)	mg/L			-		ISO 5814, EPA 360.1 or HJ 506
Oil & Grease	mg/L			0,5		ISO 9377-2, USEPA 1664 or HJ 637
Total Phenols / Phenol Index	mg/L			0,001		ISO 14402, APHA 5530B, C, D or HJ 503
Total Chlorine	mg/L			0,1		ISO 7393-2, EPA 330.5 or HJ 586
Total Dissolved Solids (TDS)	mg/L			5		APHA 2540C, GB/T 5750.4
Total Nitrogen	mg/L			5		ISO 5663, ISO 29411, USEPA 351.2, APHA 4500P-J, APHA 4500N-C/ HJ 636 or GB 11891
Total Phosphorus	mg/L			0,1		ISO 11885, ISO 6878, USEPA 365.4, APHA 4500P-J or GB/T 11893
Total Suspended Solids (TSS)	mg/L			5		ISO 11923, USEPA 160.2, APHA 2540D or GB/T 11901
% Solids	-	%		-		USEPA 160.3, HJ 613
Paint Filter Test	-	-		-		EPA SW-846 or EPA 9095B
Fecal Coliform	-	bacteria/100m		-		EPA 1681



Test Report: (7223)170-0043

Report Date: July 7, 2023

Appendix D - Test methods, reporting limits and CAS numbers (continued)

Test Parameters	Unit		CAS No.	LOQ		Test methods
	Wastewater & Leachate	Sludge		Wastewater	Sludge	
Anions						
Chloride	mg/L	-	-	-	-	ISO 10304-1, ISO 15923-1, USEPA 300, HJ 84-2016, IS 3025 (part 32)
Cyanide, total		mg/kg		0,05	20	ISO 6703-1 & 2, ISO 14403-1 & 2, USEPA 335.2, APAH 4500-CN or HJ 484
Sulfate		-		-	-	ISO 10304-1, ISO 15923-1, USEPA 300, HJ 84-2016, IS 3025 (part 24)
Sulfide		-		0,01	-	ISO 10530, SM 4500-S2-D, E, G or I, GB/T 16489 or IS 3025 (part 29), HJ 1226-2021
Sulfite		-		0,2	-	ISO 10304-3, SM 4500-SO32-C or HJ 84-2016

END OF REPORT