TEST REPORT

Technical Report: **(6822)228-0225** August 29, 2022

Date Received: August 14, 2022

Factory Company Name:	Amber Denim Mills Limited
Factory Address:	Jangaliapara, Banglabazar, Razendrapur, Joydebpur, Gazipur, 1703, Bangladesh.
Sampling Method:	I001) Treated Wastewater – 6 hours Time – weighted Composite I002) Sludge – Grab
Sample Pick Up Date:	August 14, 2022
Wastewater Discharge to:	Turag River
On-Site Effluent Treatment Plant (ETP):	Yes
Discharge Type:	Direct Discharge
Off-site ETP name (if applicable):	Not Applicable
Off-site ETP address (if applicable):	Not Applicable
Local Regulation: / Ordinance / requirements related to wastewater discharged are followed:	Not Applicable
Permit Validation Date:	Not Applicable
Parameters Exceeded Local Regulation	Not Applicable
Legal compliance:	Not Applicable
Conventional Parameters:	Foundational
MRSL Parameters:	Not Detected
Test Period:	August 16, 2022 To August 29, 2022
Sample Description:	I001) Colorless liquid - Treated Wastewater I002) Black color mud – Sludge
Parameters exceeded maximum holding time:	Not Applicable

Bureau Veritas
Consumer Products Services (BD) Ltd.
Plot # 130, DEPZ Extension Area
Ganakbari, Savar, Dhaka, Bangladesh
Tel: 88-02-7701464-6, Fax: 88-02-7701463
website: cps.bureauveritas.com

REMARK

If there are questions or concerns on this report, please contact the following persons:

General enquiry and invoicing	Mr. Sharan Roy, Mail: sharan.roy@bureauveritas.com Mr. Mahabubur Rahman, Mail: mahabubur.rahman@bureauveritas.com
Technical enquiry-Chemical	Mr. M. Nur Alam, Mail: nur.alam@bureauveritas.com

This report shown the test result of the auxiliary chemical and/or raw material samples, which collected during particular factory audit. The results of this report shall not be used for any regulatory compliance purposes.

The sampling is agreed with client.

BUREAU VERITAS
CONSUMER PRODUCTS SERVICES (BANGLADESH) LTD.

MD. RASHEDUL HAQUE
DEPUTY SR. MANAGER, RSL OPERATIONS

Executive Summary

1A) Conventional Parameters	**I001**	**I002**
Temperature	☐	NA
TSS	☐	
COD	☐	
Total-N	☐	
pH Value	☐	
Color [m^{-1}] (436nm; 525nm; 620nm)	☐	
BOD_5	☐	
Ammonium-N	☐	
Total-P	☐	
AOX	☐	
Oil and Grease	☐	
Phenol	☐	
Coliform	☐	
Persistent Foam	☐	
ANIONS – Cyanide	☐	ND
ANIONS - Sulfide	☐	NA
ANIONS - Sulfite	☐	
Dry mass (total solids)	NR	NA
1B) **Conventional Parameters** –METALS	☐	ND

ZDHC MRSL Substances	**I001**	**I002**
2A) APs and APEOs	ND	ND
2B) Chlorobenzenes and Chlorotoluenes	ND	ND
2C) Chlorophenols	ND	ND
2D) Azo Dyes	ND	ND
2E) Carcinogenic Dyes	ND	ND
2F) Disperse Dyes	ND	ND
2G) Flame Retardants	ND	ND
2H) Glycols	ND	ND
2I) Halogenated Solvents	ND	ND
2J) Organotin Compounds	ND	ND
2K) Perfluorinated and Polyfluorinated Chemicals	ND	ND
2L) Phthalates	ND	ND
2M) Poly Aromatic Hydrocarbons	ND	ND
2N) Volatile Organic Compounds	ND	ND

Note / Key :

☐ - Meet Foundational Limit / Meet discharge license criteria
■ - Exceed Foundational Limit / Exceed discharge license criteria
NR - Not Requested / Not required
D - Detected
ND - Not Detected
NA - Not Applicable

Objective

The environment samples were tested for below parameters.

1A) Conventional Parameters
1B) Conventional Parameters – METALS
2A) APs and APEOs
2B) Chlorobenzenes and Chlorotoluenes
2C) Chlorophenols
2D) Azo Dyes
2E) Carcinogenic Dyes
2F) Disperse Dyes
2G) Flame Retardants
2H) Glycols
2I) Halogenated Solvents
2J) Organotin Compounds
2K) Perfluorinated and Polyfluorinated Chemicals
2L) Phthalates
2M) Polycyclic Aromatic Hydrocarbons
2N) Volatile Organic Compounds

Sampling Plan

Two environment samples were sampled per factory, including I001) Discharged Wastewater (Treated wastewater) and I002) Sludge. Total number of sample collected will be depended on the actual factory facilities and manufacturing processes.

Method of sampling used is time-weighted composite grab samples (agreed with client). Composite sampling shall be performed for no less than six hours, with no more than one hour between discrete samples. Each discrete sample shall be of equal volume. Wastewater and freshwater samples should, as much as possible, be collected simultaneously, during the time that PU is in normal operation. The sampling shall aim to analyse the snapshot of water quality characteristics of the operating PU. Under no circumstance shall samples be taken during times when the production process is not running or the wastewater is diluted due to heavy rainfall, etc.

Remark :

- Sampling procedure refers to ZDHC Wastewater and Sludge Laboratory Sampling and Analysis Plan
- Field data records are attached in Appendix C.

Test Result

1A) Conventional Parameters

Temperature

Test Method : Measurement by thermometer

Tested Item(s)	Result	Unit	Conclusion
I001	27.6 (Progressive)	deg. C	DATA

Note:

deg. C = degree Celsius (°C)
Foundational Limit: ▲15 / max. 35°C; Progressive Limit: ▲10 / max. 30°C; Aspirational Limit: ▲5 / max. 25°C

Total Suspended Solids (TSS)

Test Method : Reference to APHA 2540D, GB 11901, ISO 11923

Tested Item(s)	Result	Unit	Conclusion
I001	4 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 50 mg/L; Progressive Limit: 15 mg/L; Aspirational Limit: 5 mg/L

Chemical Oxygen Demand (COD)

Test Method : Reference to APHA 5220 D

Tested Item(s)	Result	Unit	Conclusion
I001	76 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 150 mg/L; Progressive Limit: 80 mg/L; Aspirational Limit: 40 mg/L

Total Nitrogen (Total-N)

Test Method : Reference to APHA 4500- N-C

Tested Item(s)	Result	Unit	Conclusion
I001	6.73 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 20 mg/L; Progressive Limit: 10 mg/L; Aspirational Limit: 5 mg/L

pH Value

Test Method : Reference to EPA 150.2

-	**Unit**	**Result**
Test Item(s)	-	I001
Parameter	-	-
Temp. of sample	deg. C	23
pH value of sample	-	7.8 (Comply with ZDHC WWG requirements)
Conclusion	-	DATA

Note:

Temp. = Temperature deg. C = degree Celsius (°C)
Limit: 6 - 9

Color [m^{-1}] (436nm; 525nm; 620nm)

Test Method : Reference to ISO 7887: 2011(E), B

Tested Item(s)	**Result**	**Unit**	**Conclusion**
I001	3.2; 1.6; 1.2 (Progressive)	m^{-1}	DATA

Note:
Foundational Limit: 7;5;3 m^{-1}; Progressive Limit: 5;3;2 m^{-1}; Aspirational Limit: 2;1;1 m^{-1}

Biochemical Oxygen Demand (BOD_5)

Test Method : Reference to APHA 5210B (5 days)

Tested Item(s)	**Result**	**Unit**	**Conclusion**
I001	21 (Foundational)	mg/L	DATA

Note:
mg/L = milligram per liter
Foundational Limit: 30 mg/L; Progressive Limit: 15 mg/L; Aspirational Limit: 5 mg/L

Ammonium Nitrogen

Test Method : Reference to APHA 4500-NH_3 – B & F 22nd Edition 2012

Tested Item(s)	**Result**	**Unit**	**Conclusion**
I001	0.45 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 10 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.5 mg/L

Total Phosphorus (Total-P)

Test Method **:** Reference to APHA 22nd Edition -4500-P.E (2012)

Tested Item(s)	Result	Unit	Conclusion
I001	0.75 (Foundational)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 3 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.1 mg/L

Adsorbable Organic Halogen (AOX)

Test Method **:** Reference to ISO 9562

Tested Item(s)	Result	Unit	Conclusion
I001	0.8 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 5 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.1 mg/L

Oil and Grease

Test Method **:** Reference to EPA 1664B, APHA-5520 B and F

Tested Item(s)	Result	Unit	Conclusion
I001	1.8 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 10 mg/L; Progressive Limit: 2 mg/L; Aspirational Limit: 0.5 mg/L

Phenol

Test Method **:** Reference to APHA 5530 C

Tested Item(s)	Result	Unit	Conclusion
I001	0.001 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 0.5 mg/L; Progressive Limit: 0.01 mg/L; Aspirational Limit: 0.001 mg/L

Coliform

Test Method : Reference to ISO 9308-1: 2014

Tested Item(s)	Result	Unit	Conclusion
I001	78 (Progressive)	Bacteria / 100 mL	DATA

Note:

bacteria/100 mL = bacteria per 100 milliliters
Foundational Limit: 400 / 100 ml; Progressive Limit: 100 / 100 ml; Aspirational Limit: 25 / 100 ml;

Persistent Foam

Test Method : Visual

Tested Item(s)	Result	Unit	Conclusion
I001	No Foam (Comply with ZDHC WWG requirements)	-	DATA

ANIONS - Cyanide

Test Method : Reference to APHA 22nd Edition-4500-CN. C&E (2012), EPA 9010C, 9013 & 9014 (Wastewater & sludge)

Tested Item(s)	Result	Unit	Conclusion
I001	ND (Aspirational)	mg/L	DATA
I002	ND	mg/kg	DATA

Note:

mg/L = milligram per liter ND = Not detected
Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L

ANIONS - Sulfide

Test Method : Reference to APHA 4500-S^{2-}D

Tested Item(s)	Result	Unit	Conclusion
I001	<0.1 (Foundational)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 0.5 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L

ANIONS - Sulfite

Test Method **:** Reference to EPA 377.1, APHA 4500-SO_3^{2-} (2012)

Tested Item(s)	Result	Unit	Conclusion
I001	1.0 (Foundational)	mg/L	DATA

Note:

mg/L = milligram per liter
Foundational Limit: 2 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.2 mg/L

Dry mass (total solids)

Test Method **:** Reference to US EPA 160.3

Tested Item(s)	Result	Unit	Conclusion
I002	5.69	g	DATA

1B) Conventional Parameters – METALS

Parameter	I001 (mg/L)	I002 (mg/kg)
Antimony (Sb) Direct Discharge Limit: Foundational 0.1 mg/L; Progressive 0.05 mg/L; Aspirational 0.01 mg/L	ND (Aspirational)	NR
Chromium (Cr), total Direct Discharge Limit: Foundational 0.2 mg/L; Progressive 0.1 mg/L; Aspirational 0.05 mg/L	0.005 (Aspirational)	
Cobalt (Co) Direct Discharge Limit: Foundational 0.05 mg/L; Progressive 0.02 mg/L; Aspirational 0.01 mg/L	ND (Aspirational)	
Copper (Cu) Direct Discharge Limit: Foundational 1 mg/L; Progressive 0.5 mg/L; Aspirational 0.25 mg/L	ND (Aspirational)	
Nickel (Ni) Direct Discharge Limit: Foundational 0.2 mg/L; Progressive 0.1 mg/L; Aspirational 0.05 mg/L	ND (Aspirational)	
Silver (Ag) Direct Discharge Limit: Foundational 0.1 mg/L; Progressive 0.05 mg/L; Aspirational 0.005 mg/L	ND (Aspirational)	
Zinc (Zn) Direct Discharge Limit: Foundational 5 mg/L; Progressive 1 mg/L; Aspirational 0.5 mg/L	ND (Aspirational)	
Arsenic (As) Direct Discharge Limit: Foundational 0.05 mg/L; Progressive 0.01 mg/L; Aspirational 0.005 mg/L Sludge Limit: 2 mg/kg	ND (Aspirational)	ND
Cadmium (Cd) Direct Discharge Limit: Foundational 0.1 mg/L; Progressive 0.05 mg/L; Aspirational 0.01 mg/L Sludge Limit: 2 mg/kg	ND (Aspirational)	ND

Parameter	I001 (mg/L)	I002 (mg/kg)
Chromium VI (CrVI) Direct Discharge Limit: Foundational 0.05 mg/L; Progressive 0.005 mg/L; Aspirational 0.001 mg/L Sludge Limit: 2 mg/kg	ND (Aspirational)	ND
Lead (Pb) Direct Discharge Limit: Foundational 0.1 mg/L; Progressive 0.05 mg/L; Aspirational 0.01 mg/L Sludge Limit: 2 mg/kg	ND (Aspirational)	ND
Mercury (Hg) Direct Discharge Limit: Foundational 0.01 mg/L; Progressive 0.005 mg/L; Aspirational 0.001 mg/L Sludge Limit: 2 mg/kg	ND (Aspirational)	ND

Others Priority Chemical Groups

	I001 (µg/L)	**I002 (mg/kg)**
2A) APs and APEOs	ND	ND
2B) Chlorobenzenes and Chlorotoluenes	ND	ND
2C) Chlorophenols	ND	ND
2D) Azo Dyes	ND	ND
2E) Carcinogenic Dyes	ND	ND
2F) Disperse Dyes	ND	ND
2G) Flame Retardants	ND	ND
2H) Glycols	ND	ND
2I) Halogenated Solvents	ND	ND
2J) Organotin Compounds	ND	ND
2K) Perfluorinated and Polyfluorinated Chemicals	ND	ND
2L) Phthalates	ND	ND
2M) Polycyclic Aromatic Hydrocarbons	ND	ND
2N) Volatile Organic Compounds	ND	ND

Remark：

- Test method, reporting limit and list of chemical are summarized in Appendix B.
- ND = Not detected (Please refer to reporting limit shown in Appendix B).

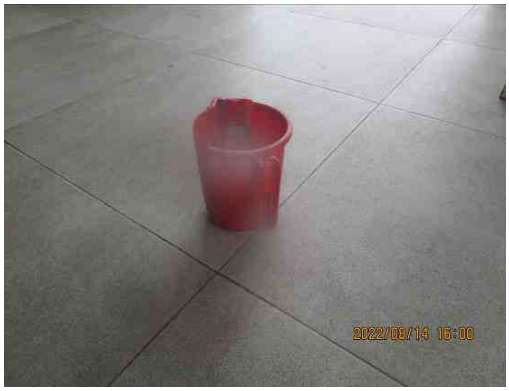
APPENDIX A - Photo of the Sample/ Sampling Location

I001) Sampling Point
(GPS Location: N 23° 58’ 59.88”; E 90° 24’ 0”)

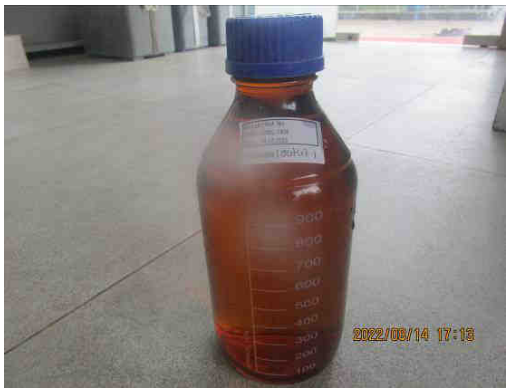
I001) Sampling Point Surrounding Environment
(GPS Location: N 23° 58’ 59.88”; E 90° 24’ 0”)

I001) All sampled bottles with label

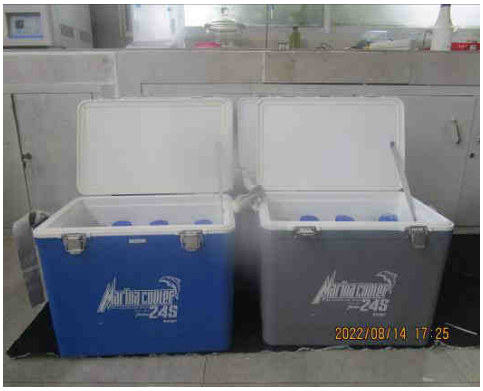
I001) pH value



I001) Sample for Phthalate Testing



I001) Packaging

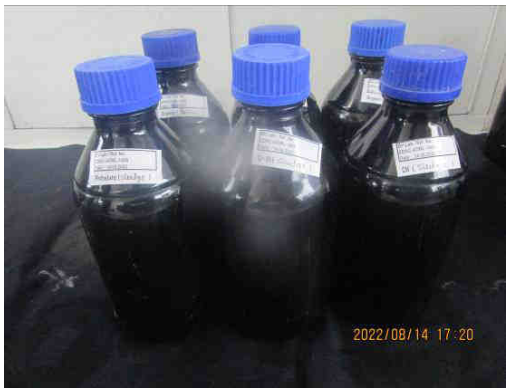


APPENDIX A - Photo of the Sample/ Sampling Location

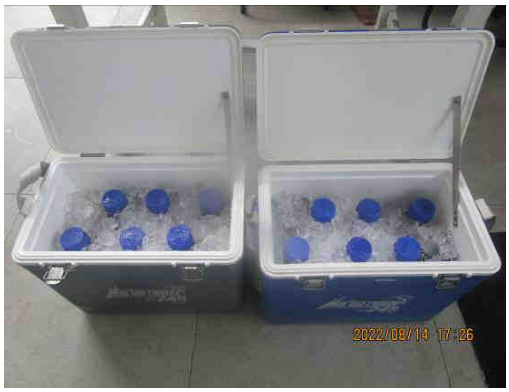
I002) Sampling Point
(GPS Location: N 23° 58’ 59.88”; E 90° 24’ 0”)

I002) Sampling Point Surrounding Environment
(GPS Location: N 23° 58’ 59.88”; E 90° 24’ 0”)

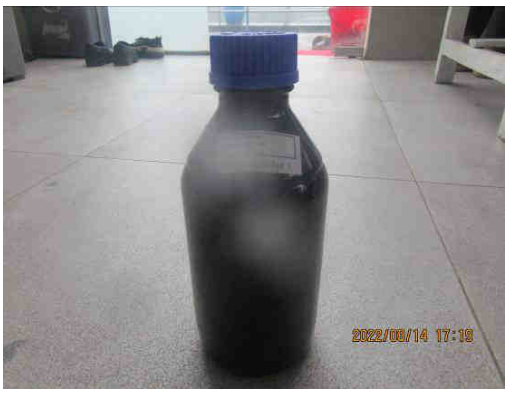
I002) All sampled bottles with label



I002) Packaging



I002) Sample for Phthalate Testing



APPENDIX B

Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)	Sludge (mg/kg)	
2A. Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	Nonylphenol NP, mixed isomers	Various (incl. 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3)	5	0.4	NP/OP: ISO 18857-2 (modified dichloromethane extraction) or ASTM D7065 (GC/MS or LC/MS(-MS) OPEO/NPEO: ISO18857-2 or ASTM D7065(LC/MS; GC/MS or LC/MSMS for n=1,2) APEO 1-18
	Octylphenol OP, mixed isomers	Various (incl. 140-66-9, 1806-26-4, 27193-28-8)	5	0.4	
	Octylphenol ethoxylates (OPEO)	Various (incl. 9002-93-1, 9036-19-5, 68987-90-6)	5	0.4	
	Nonylphenol ethoxylates (NPEO)	Various (inc. 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0)	5	0.4	
2B. Chlorobenzenes and Chlorotoluenes	Monochlorobenzene	108-90-7	0.2	0.2	USEPA 8260B, 8270D. Dichloromethane extraction followed by GC/MS
	1,2-Dichlorobenzene	95-50-1	0.2	0.2	
	1,3-Dichlorobenzene	541-73-1	0.2	0.2	
	1,4-Dichlorobenzene	106-46-7	0.2	0.2	
	1,2,3-Trichlorobenzene	87-61-6	0.2	0.2	
	1,2,4-Trichlorobenzene	120-82-1	0.2	0.2	
	1,3,5-Trichlorobenzene	108-70-3	0.2	0.2	
	1,2,3,4-Tetrachlorobenzene	634-66-2	0.2	0.2	
	1,2,3,5-Tetraclorobenzene	634-90-2	0.2	0.2	
	1,2,4,5-Tetrachlorobenzene	95-94-3	0.2	0.2	
	Pentachlorobenzene	608-93-5	0.2	0.2	
	Hexachlorobenzene	118-74-1	0.2	0.2	
	2-Chlorotoluene	95-49-8	0.2	0.2	
	3-Chlorotoluene	108-41-8	0.2	0.2	
	4-Chlorotoluene	106-43-4	0.2	0.2	
	2,3-Dichlorotoluene	32768-54-0	0.2	0.2	
	2,4-Dichlorotoluene	95-73-8	0.2	0.2	
	2,5-Dichlorotoluene	19398-61-9	0.2	0.2	
	2,6-Dichlorotoluene	118-69-4	0.2	0.2	
	3,4-Dichlorotoluene	95-75-0	0.2	0.2	
	3,5-Dichlorotoluene	25186-47-4	0.2	0.2	
	2,3,4-Trichlorotoluene	7359-72-0	0.2	0.2	
	2,3,6-Trichlorotoluene	2077-46-5	0.2	0.2	
	2,4,5-Trichlorotoluene	6639-30-1	0.2	0.2	
	2,4,6-Trichlorotoluene	23749-65-7	0.2	0.2	
	3,4,5-Trichlorotoluene	21472-86-6	0.2	0.2	
	2,3,4,5-Tetrachlorotoluene	76057-12-0	0.2	0.2	
	2,3,5,6-Tetrachlorotoluene	29733-70-8	0.2	0.2	
	2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	0.2	
	Pentachlorotoluene	877-11-2	0.2	0.2	
2C. Chlorophenols	2-Chlorophenol	95-57-8	0.5	0.05	USEPA 8270 D Solvent extraction, derivatisation with KOH, acetic anhydride
	3-Chlorophenol	108-43-0	0.5	0.05	
	4-Chlorophenol	106-48-9	0.5	0.05	
	2,3-Dichlorophenol	576-24-9	0.5	0.05	

Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)	Sludge (mg/kg)	
	2,4-Dichlorophenol	120-83-2	0.5	0.05	followed by GC/MS
	2,5-Dichlorophenol	583-78-8	0.5	0.05	
	2,6-Dichlorophenol	87-65-0	0.5	0.05	
	3,4-Dichlorophenol	95-77-2	0.5	0.05	
	3,5-Dichlorophenol	591-35-5	0.5	0.05	
	2,3,4-Trichlorophenol	15950-66-0	0.5	0.05	
	2,3,5-Trichlorophenol	933-78-8	0.5	0.05	
	2,3,6-Trichlorophenol	933-75-5	0.5	0.05	
	2,4,5-Trichlorophenol	95-95-4	0.5	0.05	
	2,4,6-Trichlorophenol	88-06-2	0.5	0.05	
	3,4,5-Trichlorophenol	609-19-8	0.5	0.05	
	2,3,4,5-Tetrachlorophenol	4901-51-3	0.5	0.05	
	2,3,4,6-Tetrachlorophenol	58-90-2	0.5	0.05	
	2,3,5,6-Tetrachlorophenol	935-95-5	0.5	0.05	
	Pentachlorophenol (PCP)	87-86-5	0.5	0.05	
2D. Dyes - Azo (Forming Restricted Amines)	4,4`-Methylene-bis-(2-chloro-aniline)	101-14-4	0.1	0.2	EN 14362. Reduction step with Sodiumdithionite, solvent extraction, GC/MS or LC/MS
	4,4'-methylenedianiline	101-77-9	0.1	0.2	
	4,4`-Oxydianiline	101-80-4	0.1	0.2	
	4-Chloroaniline	106-47-8	0.1	0.2	
	3,3`-Dimethoxybenzidine	119-90-4	0.1	0.2	
	3,3`-Dimethylbenzidine	119-93-7	0.1	0.2	
	6-methoxy-m-toluidine (p-Cresidine)	120-71-8	0.1	0.2	
	2,4,5-Trimethylaniline	137-17-7	0.1	0.2	
	4,4`-Thiodianiline	139-65-1	0.1	0.2	
	4-Aminoazobenzene	60-09-3	0.1	0.2	
	4-Methoxy-m-phenylenediamine	615-05-4	0.1	0.2	
	4,4`-Methylene-di-o-toluidine	838-88-0	0.1	0.2	
	2,6-Xylidine	87-62-7	0.1	0.2	
	o-Anisidine	90-04-0	0.1	0.2	
	2-Naphthylamine	91-59-8	0.1	0.2	
	3,3`-Dichlorobenzidine	91-94-1	0.1	0.2	
	4-Aminodiphenyl	92-67-1	0.1	0.2	
	Benzidine	92-87-5	0.1	0.2	
	o-Toluidine	95-53-4	0.1	0.2	
	2,4-Xylidine	95-68-1	0.1	0.2	
	4-Chloro-o-toluidine	95-69-2	0.1	0.2	
	4-Methyl-m-phenylenediamine	95-80-7	0.1	0.2	
	o-Aminoazotoluene	97-56-3	0.1	0.2	
	5-nitro-o-toluidine	99-55-8	0.1	0.2	
2E. Dyes-Carcionogenic or Equivalent Concern	C.I. Direct Black 38	1937-37-7	500	10	Liquid Extraction LC/MS
	C.I. Direct Blue 6	2602-46-2	500	10	
	C.I. Acid Red 26	3761-53-3	500	10	
	C.I. Basic Red 9	569-61-9	500	10	
	C.I. Direct Red 28	573-58-0	500	10	
	C.I. Basic Violet 14	632-99-5	500	10	
	C.I. Disperse Blue 1	2475-45-8	500	10	
	C.I. Disperse Blue 3	2475-46-9	500	10	
	C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	500	10	
	C.I. Basic Green 4 (malachite green chloride)	569-64-2	500	10	

Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)	Sludge (mg/kg)	
	C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	500	10	
	C.I. Basic Green 4(malachite green)	10309-95-2	500	10	
	Disperse Orange 11	82-28-0	500	10	
2F. Dyes-disperse (sensitizing)	Disperse Yellow 1	119-15-3	50	2	Liquid Extraction LC/MS
	Disperse Blue 102	12222-97-8	50	2	
	Disperse Blue 106	12223-01-7	50	2	
	Disperse Yellow 39	12236-29-2	50	2	
	Disperse Orange 37/59/76	13301-61-6	50	2	
	Disperse Brown 1	23355-64-8	50	2	
	Disperse Orange 1	2581-69-3	50	2	
	Disperse Yellow 3	2832-40-8	50	2	
	Disperse Red 11	2872-48-2	50	2	
	Disperse Red 1	2872-52-8	50	2	
	Disperse Red 17	3179-89-3	50	2	
	Disperse Blue 7	3179-90-6	50	2	
	Disperse Blue 26	3860-63-7	50	2	
	Disperse Yellow 49	54824-37-2	50	2	
	Disperse Blue 35	12222-75-2	50	2	
	Disperse Blue 124	61951-51-7	50	2	
	Disperse Yellow 9	6373-73-5	50	2	
	Disperse Orange 3	730-40-5	50	2	
	Disperse Blue 35	56524-77-7	50	2	
2G. Flame Retardants	Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	5	1	ISO 22032, USEPA527 and USEPA8321B. Dichloromethane extraction GC/MS or LC/MS(-MS)
	Decabromodiphenyl ether (DecaBDE)	1163-19-5	5	1	
	Tris(2,3-dibromopropyl) phosphate (TRIS/TDBPP)	126-72-7	5	1	
	Pentabromodiphenyl ether (PentaBDE)	32534-81-9	5	1	
	Octabromodiphenyl ether (OctaBDE)	32536-52-0	5	1	
	Bis(2,3-dibromopropyl) phosphate (BIS/BDBPP)	5412-25-9	5	1	
	Tris(aziridinyl)-phosphineoxide (TEPA)	545-55-1	5	1	
	Polybromobiphenyls (PBBs)	59536-65-1	5	1	
	Tetrabromobisphenol A (TBBPA)	79-94-7	5	1	
	Hexabromocyclododecane (HBCDD)	3194-55-6	5	1	
	2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	5	1	
	Tris(1,3-dichloro-isopropyl) phosphate (TDCP)	13674-87-8	5	1	
	Short chain chlorinated paraffins (SCCPs) (C10-C13)	85535-84-8	5	1	
2H. Glycols	Bis(2-methoxyethyl)-ether	111-96-6	50	10	US EPA 8270 Liquid Extraction LC/MS
	2-ethoxyethanol	110-80-5	50	10	
	2-ethoxyethyl acetate	111-15-9	50	10	
	Ethylene glycol dimethyl ether	110-71-4	50	10	

Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)	Sludge (mg/kg)	
	2-methoxyethanol	109-86-4	50	10	
	2-methoxyethylacetate	110-49-6	50	10	
	2-methoxypropylacetate	70657-70-4	50	10	
	Triethylene glycol dimethyl ether	112-49-2	50	10	
2I. Halogenated Solvents	1,2-Dichloroethane	107-06-2	1	2	USEPA 8260B Headspace GC/MS or Purgeand-Trap-GC/MS
	Methylene Chloride	75-09-2	1	2	
	Trichloroethylene	79-01-6	1	2	
	Tetrachloroethylene	127-18-4	1	2	
2J. Organotin Compounds	Mono-, di- and tri-methyltin derivatives	Multiple	0.01	0.2	ISO 17353 Derivatisation with NaB(C2H5) GC/MS
	Mono-, di- and tri-butyltin derivatives	Multiple	0.01	0.2	
	Mono-, di- and tri-phenyltin derivatives	Multiple	0.01	0.2	
	Mono-, di- and tri-octyltin derivatives	Multiple	0.01	0.2	
2K. Perfluorinated and Polyfluorinated Chemicals (PFCs)	Perfluorooctanesulfonic acid (PFOS)	1763-23-1	0.01	0.10	DIN 38407-42 (modified) Ionic PFC: Concentration or direct injection, LC/MS(-MS); Non-ionic PFC (FTOH): derivatisation with acetic anhydride, followed by GC/MS
	Perfluoro-n-octanoic acid (PFOA)	335-67-1	0.01	0.10	
	Perfluorobutanesulfonic acid (PFBS)	29420-49-3, 29420-43-3	0.01	0.10	
	Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	0.01	0.10	
	8:2 FTOH	678-39-7	1	1	
	6:2 FTOH	647-42-7	1	1	
2L. Phthalates (including all other esters of phthalic acid)	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	10	2	US EPA 8270D, ISO 18856 Dichloromethane extraction GC/MS
	Dimethoxyethyl phthalate (DMEP)	117-82-8	10	2	
	Di-n-octyl phthalate (DNOP)	117-84-0	10	2	
	Di-iso-decyl phthalate (DIDP)	26761-40-0	10	2	
	Di-iso-nonyl phthalate (DINP)	28553-12-0	10	2	
	Di-n-hexyl phthalate (DnHP)	84-75-3	10	2	
	Dibutyl phthalate (DBP)	84-74-2	10	2	
	Butyl benzyl phthalate (BBP)	85-68-7	10	2	
	Dinonyl phthalate (DNP)	84-76-4	10	2	
	Diethyl phthalate (DEP)	84-66-2	10	2	
	Di-n-propyl phthalate (DPRP)	131-16-8	10	2	
	Di-iso-butyl phthalate (DIBP)	84-69-5	10	2	
	Di-cyclohexyl phthalate (DCHP)	84-61-7	10	2	
	Di-iso-octyl phthalate (DIOP)	27554-26-3	10	2	
	1,2-benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP)	68515-42-4	10	2	
	1,2-benzenedicarboxylic	71888-89-6	10	2	

Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)	Sludge (mg/kg)	
	acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)				
2M. Polycyclic Aromatic Hydrocarbons (PAHs)	Benzo[a]pyrene (BaP)	50-32-8	1	0.2	DIN 38407-39 Solvent extraction GC/MS
	Anthracene	120-12-7	1	0.2	
	Pyrene	129-00-0	1	0.2	
	Benzo[ghi]perylene	191-24-2	1	0.2	
	Benzo[e]pyrene	192-97-2	1	0.2	
	Indeno[1,2,3-cd]pyrene	193-39-5	1	0.2	
	Benzo[j]fluoranthene	205-82-3	1	0.2	
	Benzo[b]fluoranthene	205-99-2	1	0.2	
	Fluoranthene	206-44-0	1	0.2	
	Benzo[k]fluoranthene	207-08-9	1	0.2	
	Acenaphthylene	208-96-8	1	0.2	
	Chrysene	218-01-9	1	0.2	
	Dibenz[a,h]anthracene	53-70-3	1	0.2	
	Benzo[a]anthracene	56-55-3	1	0.2	
	Acenaphthene	83-32-9	1	0.2	
	Phenanthrene	85-01-8	1	0.2	
	Fluorene	86-73-7	1	0.2	
	Naphthalene	91-20-3	1	0.2	
2N. Volatile Organic Compound (VOCs)	Benzene	71-43-2	1	2	ISO 11423-1 Headspace- or Purge-and-Trap-GC/MS
	Xylene	1330-20-7	1	2	
	o-cresol	95-48-7	1	2	
	p-cresol	106-44-5	1	2	
	m-cresol	108-39-4	1	2	
1A. Conventional Parameters	Temperature	—	N/A	N/A	Apply the standard methods that best apply to the region (ISO, EU, US, China), please refer to ZDHC Wastewater Guidelines for more details on the testing method and the levels (Foundational, Progressive, and Aspirational). Cyanide: With reference to APHA 4500 CN—B,C&E and followed by UV analysis
	TSS	—	N/A	N/A	
	COD	—	N/A	N/A	
	Total-N	—	N/A	N/A	
	pH	—	N/A	N/A	
	Color [m^{-1}] (436nm; 525nm; 620nm)	—	N/A	N/A	
	BOD5	—	N/A	N/A	
	Ammonium-N	—	N/A	N/A	
	Total-P	—	N/A	N/A	
	AoX	—	N/A	N/A	
	Oil and Grease	—	N/A	N/A	
	Phenol	—	N/A	N/A	
	Coliform(bacteria/100ml)	—	N/A	N/A	
	Persistent Foam	—	Not visible	Not visible	
	ANIONS				
	Cyanide(CN-)	Various (incl. 57-12-5)	0.02	1	
	Sulfide	—	N/A	N/A	
	Sulfite	—	N/A	N/A	
1B. Conventional Parameters - **METALS**	Antimony(Sb)	7440-36-0	0.001	N/A	Various Acid Digestion with ICP analysis Please refer to ZDHC Wastewater Guidelines for more details on the testing method and the levels (Foundational,
	Chromium(Cr), total	7440-47-3	0.001	N/A	
	Cobalt(Co)	7440-48-4	0.001	N/A	
	Copper(Cu)	7440-50-8	0.001	N/A	
	Nickel (Ni)	7440-02-0	0.001	N/A	
	Silver (Ag)	7440-22-4	0.001	N/A	
	Zinc(Zn)	7440-66-6	0.001	N/A	
	Arsenic (As)	7440-38-2	0.001	2	
	Cadmium(Cd)	7440-43-9	0.0001	2	

Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)	Sludge (mg/kg)	
	Chromium VI(CrVI)	18540-29-9	0.001	2	Progressive, and Aspirational). Cr(VI): Various Solvent extraction and derivatisation followed by UV analysis
	Lead(Pb)	7439-92-1	0.001	2	
	Mercury (Hg)	7439-97-6	0.00005	0.2	
3. Conventional Parameters	Dry mass (total solids)	–	N/A	N/A	US EPA 160.3 / 209A

Note / Key :

U. S. EPA = United States Environmental Protection Agency
APHA = American Public Health Association

Remark: The report [(6822)228-0225] was sub-contracted to India (Testtex India Laboratories Pvt. Ltd) for Coliform, Total-N & AOX Tests.

APPENDIX C – Onsite Field Data Record Sheet

FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)

CPSD-AN-00613-DATA 04	
Issue Date:	
Version No.: 17	
Business Line: Analytical	

General Data

Laboratory Sample Number:	(6822)228-0225
Client Name:	Sayed Nur Alam Phone No: 01766-695460
Field Contact Person:	
Project (Facility Name and Address):	Amben Denim Mills Ltd. Banglabazar, Kazendrapur, Joydebpur
Sampling Location / Description:	ETP – Outlet
Sample Identification:	
Sample Type:	Zero discharge with sampling plan
Name of Sampler:	Composite Sample / Grab sample (Please delete as appropriate)
Discharge mode:	Asfaqur Rahman
Date of collection:	Direct discharge to environment (Specify destination: River, Sea, Stream...) OR Indirect discharge to sewage treatment plant (Turag River)
Factory Type:	14.08.22
	Dyeing / Printing / Washing / Finishing / Others (please specify):
	*Note: It would be selected more than one

Field Data for Wastewater

Arrival Time:		11.30		Departure Time:		16.40			
Field Parameters		pH: 7.6		Temp: 25.8 °C		Color: Colorless		Flow rate: 34 (L/volume/min)	
Control No. of field equipment									
Factory with effluent treatment plant:		✓ Yes				No			
Sample matrix:		Incoming water (If required)							
		Wastewater before treatment							
	✓	Wastewater after treatment – water at discharge point							
Sampler container number		24	24	24	24	24	24		
		1	2	3	4	5	6	7	8
Recording time	ID								
	Time	11.30	12.30	13.30	14.30	15.30	16.30		
pH:		7.6	7.5	7.3	7.3	7.1	7.0		
Temp (°C):		25.8	27.2	27.00	29.5	29.2	27.2		
Color (visual estimation):		Colorless	Colorless	Colorless	Colorless	Colorless	Colorless		
Flow rate (volume/time)		34.50	35.80	35.8	36.2	37.5	35.2		
Volume collected, mL		167X24	167X24	167X24	167X24	167X24	167X24		
Total volume collected			Remark: Total volume collected must be greater than total of sample size required						

Analysis Required and Preservation Method

Tests (ZDHC MRSL Parameters)		Test required (√)	Total of sample size	Type of container	Preservation method
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 Store sample at 2-8°C
	2. Chlorobanzenes, 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		X	1000 mL		
11. *Nitrosamine		X	10 mL		
12. Banned Azodyes		✓	2000 mL		
13. *Free primary aromatic amines		X	500 mL		
14. Organotin Compounds		✓	500 mL		
15. UV absorbers		✓	100		
16. BPA		✓	2		
17 Preservatives		✓	52		
18. VOC & Halogenated Solvents (Remark 6)		✓	10 mL		Fill to full container without air gap; acidify to pH 2 with HCl and store sample at 2-8°C
19. PFCs (Remark 6)		✓	2 mL	PE, washed with pesticide grade Acetone	Without adding acid Store sample at 2-8°C

FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)

CPSD-AN-00613-DATA 04
Issue Date:
Version No.: 17
Business Line: Analytical

Tests (Conventional Parameters)		Test required (√)	Total of sample size	Type of container	Preservation method
Combined test or Individual test (Remark 4)	20. Total suspened solids (TSS)	✓	2000 mL total or 2000 mL each	Amber Glass, washed with nitric acid,	Without adding acid Store sample at 2-8°C
	21. Total dissolved solids (TDS)	X			
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	Acidify to pH 2 with HNO_3 and store at 2-8°C
25. Cyanide		✓	500 mL	Amber Glass, washed with pesticide grade acetone	Adjust pH 12 with 50% NaOH, add 0.05 ml of 10% $Na_2S_2O_3$, and store sample at 2-8°C
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 9.0-9.5 by adding ammonium buffer. Store sample at 2-8°C
27. Chemical oxygen demand (COD)		✓	150 mL		Acidify to pH 2 with H_2SO_4 Store sample at 2-8°C
28. Phenols		✓	500 mL		
29. Oil and Grease & Total Hydrocarbon		✓	1000 mL		
30. *Formaldehyde		X	25 mL		Fill to full container without air gap; acidify to pH 2 with H_2SO_4 and store sample at 2-8°C
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 9 with 6M NaOH Store sample at 2-8°C
32.E.coli (Remark 5)		✓	125 mL	PE, clean, sterile, non-reactive	Add 0.1 ml of 10% $Na2S2O3$,keep in dark Store sample at 2-8°C
33. Persistent foam		✓	N.A.	Foam higher than 45 cm (visual estimation): Yes / No	
34. Sulfite		✓	100 mL	Amber Glass, washed with pesticide grade acetone	Add 1mL of 2.5% EDTA Store sample at 2-8°C
35. Total-N		✓	100 mL	Amber Glass;washed with nitric acid;	Acidify to pH 2 with H_2SO_4 Store sample at 2-8°C
36. Ammonium-N		✓	500 mL		
37. Adsorbable organically bound halogens (AOX)		✓	100 mL		Acidify to pH 2 with HNO_3 and store at 2-8°C
38. Acute aquatic toxicity: Luminus Bacteria; Fish Egg; Daphne; Alage;			1000 mL		Without adding acid Store sample at 2-8°C
39. Sulphate			100 mL		
40. Chloride			100 mL		
41. Conductivity			100 mL		
42. Dissolved oxygen (DO)			N.A.	Measure in field	
43. Total Chlorine			N.A.		
44. Others:					
Observation/ Remark:					

*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, 14-29, 31-37, 39-43

Scope of synthetic leather industry: Parameter 1-9, 12, 14-24, 26-29, 31-33, 35, 36, 39, 40

Scope of MMCF: Parameter 5, 18, 20, 22-24, 26-29, 31, 35-38

Free primary aromatic amine, pesticides, nitrosamine and formaldehyde are not in the scope of ZDHC Guidline, they are tested upon request.

4. Refer to CPSD-AN-G00019-STIP01, locations with those CPSD test capability inside TCD matrix can perform the combined test.

5. Refer to CPSD-AN-000570-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested.

6. Refer to CPSD-AN-00613-MTHD for preparation of field blank for specific parameters.

Recorded by: Asfaqur Rahman Full name: Date: 14.08.22

Comment from factory

Acknowledgement by factory

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

Signature of factory Representative: Full Name: Syed Noor Alam (Chayan) Deputy Manager HR, Admin & Compliance Amber Denim Mills Limited Date: 14/8/22

	FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)	CPSD-AN-00613-DATA 04
		Issue Date:
		Version No.: 17
		Business Line: Analytical

Field Data for Sludge

Arrival Time:	11:30		Departure Time:	16:40					
Field Parameters	pH :	Temp : °C	Flow rate (volume/time) / sludge flux (weight/time):						
Control No. of field equipment			Coturn Blank	Mud					
		1	2	3	4	5	6	7	8
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		3 kg							
Recording time		1550							
Tests (MRSL Parameter)		**Test required (√)**	**Total of sample size**	**Type of container**		**Preservation method**			
Combined test or Individual test (Remark 3)	1. Phthalate	✓	10g total or 10g each						
	2. Chlorobenzenes, Chlorotoluene & PAHs	✓							
	3. SCCPs	✓							
	4. APS	✓							
5. APEOs		✓	20 g			Add 0.2 mL of 10% $Na_2S_2O_3$ (0.008% V/W). Store sample at 4°C			
6. Flame retardant		✓	10 g						
7. Dyes		✓	10 g						
8. Glycols		✓	100 g	Amber Glass, washed with nitric acid					
9. *Pesticides		X	20g						
10. Banned Azodyes		✓	20 g						
11. *Free primary aromatic amines		X	10 g						
12. Chlorophenols & Cresols		✓	20 g			Acidify to ~pH 2 with H_2SO_4. Add 0.02 mL of 10% $Na_2S_2O_3$ (0.008% W/V). Store sample at 4°C			
13. Organotin Compounds		✓	10 g			Fill to full container without any air gap and acid add and store at 4°C			
14. VOC & Halogenated Solvents (Remark 5)		✓	10 g			Fill to full bottle without any air gap. Acidify to ~pH 2 with HCl. Store sample at 4°C			
15. PFCs (Remark 5)		✓	10 g	PE, wash with pesticide garde acetone		Add 0.02 mL of 10% $Na_2S_2O_3$ (0.008% W/V). Store sample at 4°C			

Tests (Conventional Parameters)	**Test required (√)**	**Total of sample size**	**Type of container**	**Preservation method**
16. Heavy Metals except Cr(VI) (Remark 5)	✓	0.2 g	PE, wash with nitric acid	Acidify to ~pH 2 with HNO_3 Store sample at 4°C
17. Cr(VI)	✓	2.5 g	Amber Glass, wash with nitric acid	Fill to full container without any air gap and acid add and store at 4°C
18. Adsorbable organically bound halogens (AOX)		1 g		
19. Extractable organichalides (EOX)		20 g		
20. Total organic carbon (TOC)		20 g		
21. Cyanide	✓	50 g	Amber Glass, wash with pesticide grade acetone	Adjust pH to 12-13 with 50% NaOH and store at 4°C
22. Feacal Coliform		20 g	PE, clean, sterile, non-reactive	Add 0.1 ml of 10% Na2S2O3, keep in dark. Store sample at 2-8°C
23. % Solids		20 g	Amber Glass, wash with nitric acid	Acidify to ~pH 2 with HNO3 Store sample at 4°C
24. Paint Filter Test		20 g		
25. Others				

FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE / INDIVIDUAL SAMPLING)	CPSD-AN-00613-DATA 04
	Issue Date:
	Version No.: 17
	Business Line: Analytical

* Observation/ Remark:

*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, 2, 4, 5, 16-17, 21-24
   Scope of synthetic leather industry: Parameter 1-8, 10, 12-17
   Scope of MMCF: Parameter 16, 18-20
   Free primary aromatic amine and pesticides are not in the scope of ZDHC Guidline, they are tested upon request.
4. Refer to CPSD-AN-G00019-STIP01, locations with those CPSD test capability inside TCD matrix can perform the combined test.
5. Refer to CPSD-AN-00613-MTHD for preparation of field blank for specific parameters.

APPENDIX D – Limitation Value of Legal Requirements

Not Applicable

END