



TEST REPORT

Technical Report:

(6821)270-0207

October 12, 2021

Date Received:

September 26, 2021

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Factory Company Name :

M.N. Dyeing Printing & Washing Mills Ltd.

Factory Address:

Baniarchala, Bhabanipur, Gazipur Sadar, Gazipur, 1740, Bangladesh.

Client Reference No.:

Self

Sample Method:

I001) Raw Wastewater – 6 hours Time – weighted Composite

I002) Treated Wastewater – 6 hours Time – weighted Composite

Sample Pick Up Date:

September 26, 2021

Discharge Type:

Direct Discharge

On-Site Effluent Treatment Plant (ETP):

Yes

Wastewater Discharge to:

Labonda River

Off-site ETP name (if applicable):

Not Applicable

Off-site ETP address (if applicable):

Not Applicable

Test Period:

September 27, 2021 To October 12, 2021

Sample Description:

I001) Blue color liquid - Raw Wastewater

I002) Reddish color liquid - Treated Wastewater

REMARK

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

General enquiry

Mr. Sharan Roy, Mail: sharan.roy@bureauveritas.com

Invoicing

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
MANAGER, RSL OPERATIONS

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
E-mail: bvcps.bd@bd.bureauveritas.com
website: cps.bureauveritas.com

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Executive Summary

1A) Conventional Parameters	I001	I002
Temperature	NR	<input type="checkbox"/>
TSS		<input type="checkbox"/>
COD		<input type="checkbox"/>
Total-N		<input type="checkbox"/>
pH Value		<input type="checkbox"/>
Color [m ⁻¹] (436nm; 525nm; 620nm)		<input type="checkbox"/>
BOD ₅		<input type="checkbox"/>
Ammonium-N		<input type="checkbox"/>
Total-P		<input type="checkbox"/>
AOX		<input type="checkbox"/>
Oil and Grease		<input type="checkbox"/>
Phenol		<input type="checkbox"/>
Coliform		<input type="checkbox"/>
Persistent Foam		<input type="checkbox"/>
ANIONS – Cyanide		<input type="checkbox"/>
ANIONS - Sulfide		<input type="checkbox"/>
ANIONS - Sulfite		<input type="checkbox"/>
1B) Conventional Parameters –METALS	<input type="checkbox"/>	<input type="checkbox"/>

Note / Key:

- ☐ – Meet Foundational Limit / Meet discharge License Criteria
- ☒ – Exceeding Foundational Limit / Exceeding discharge License Criteria
- NR – Not Requested / Not required

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

Note / Key :

- ● – Detected
- o – Not Detected
- NR – Not Requested / Not required



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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) Poly Aromatic Hydrocarbons
- 2N) Volatile Organic Compounds

Sampling Procedure

Total number of sample collected is based on the actual factory facilities and manufacturing processes. Two environment samples were sampled per factory, 1) Raw Wastewater and 2) Treated Wastewater.

Method of sampling used is time-weighted composite samples based on the ZDHC Wastewater Guidelines. Composite sampling is performed for no less than six hours, with no more than one hour between discrete samples. Each discrete sample is of equal volume. Wastewater and freshwater samples is, as much as possible, collected simultaneously, during the time that PU is in normal operation. The sampling aims 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 is with reference to below standards:
 - 1) South Australia EPA Guidelines (June 2007), Regulatory Monitoring and Testing Water and Wastewater Sampling.
 - 2) Australia EPA (Victoria) Guideline (June 2009), Sampling and Analysis of Waters, Wastewaters, Soils and Wastes.
 - 3) ISO 5667-3:2003, Water Quality - Sampling - Part 3: Guidance on the Preservation and Handling of Water Samples.
 - 4) ASTM D3976-92 (Reapproved 2010), Standard Practice for Preparation of Sediment Samples for Chemical Analysis.
- Field on-site photos are attached in Appendix A and field data records are attached in Appendix C.



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Test Result

1A) Conventional Parameters

Temperature

Test Method : Measurement by thermometer

Tested Item(s)	Result	Unit	Conclusion
I002	33.4 (Foundational)	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 ALPA 2540D, GB 11901, ISO 11923

Tested Item(s)	Result	Unit	Conclusion
I002	13 (Progressive)	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 ALPA 5220B & EPA 410.3, HJ 828

Tested Item(s)	Result	Unit	Conclusion
I002	62 (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
I002	15.50 (Foundational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 20 mg/L; Progressive Limit: 10 mg/L; Aspirational Limit: 5 mg/L



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pH Value

Test Method : Reference to ISO 10523, EPA 150.2 and APHA 4500-H⁺

-	Unit	Result
Test Item(s)	-	I002
Parameter	-	-
Temp. of sample	deg. C	21.2
pH value of sample	-	7.6 (Comply with ZDHC WWG requirements)
Conclusion	-	DATA

Note:

Temp. = Temperature
Limit: 6 - 9

deg. C = degree Celsius (°C)

Color [m⁻¹] (436nm; 525nm; 620nm)

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

Tested Item(s)	Result	Unit	Conclusion
I002	6.6; 4.8; 2.6 (Foundational)	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 (BOD₅)

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

Tested Item(s)	Result	Unit	Conclusion
I002	19 (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-NH₃ – B & F 22nd Edition 2012

Tested Item(s)	Result	Unit	Conclusion
I002	0.52 (Progressive)	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



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Total Phosphorus (Total-P)

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

Tested Item(s)	Result	Unit	Conclusion
I002	0.41 (Progressive)	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 IHM - TTI/A-98 (Based on ISO 9562)

Tested Item(s)	Result	Unit	Conclusion
I002	0.37 (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
I002	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 : APHA 5530 C

Tested Item(s)	Result	Unit	Conclusion
I002	<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
I002	14 (Aspirational)	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;



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Persistent Foam

Test Method : Visual

Tested Item(s)	Result	Unit	Conclusion
I002	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

Tested Item(s)	Result	Unit	Conclusion
I002	ND (Aspirational)	mg/L	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-S²-D

Tested Item(s)	Result	Unit	Conclusion
I002	<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-SO₃²⁻ (2012)

Tested Item(s)	Result	Unit	Conclusion
I002	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



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1B) Conventional Parameters – METALS

Heavy Metals	I001 (mg/L)	I002 (mg/L)
Antimony(Sb) <i>Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L</i>	0.019 (Progressive)	0.002 (Aspirational)
Chromium(Cr), total <i>Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L</i>	0.003 (Aspirational)	0.004 (Aspirational)
Cobalt(Co) <i>Foundational Limit: 0.05 mg/L; Progressive Limit: 0.02 mg/L; Aspirational Limit: 0.01 mg/L</i>	ND (Aspirational)	ND (Aspirational)
Copper(Cu) <i>Foundational Limit: 1 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.25 mg/L</i>	0.098 (Aspirational)	0.002 (Aspirational)
Nickel(Ni) <i>Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L</i>	ND (Aspirational)	ND (Aspirational)
Silver(Ag) <i>Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.005 mg/L</i>	ND (Aspirational)	ND (Aspirational)
Zinc(Zn) <i>Foundational Limit: 5 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.5 mg/L</i>	0.065 (Aspirational)	ND (Aspirational)
Arsenic(As) <i>Foundational Limit: 0.05 mg/L; Progressive Limit: 0.01 mg/L; Aspirational Limit: 0.005 mg/L</i>	ND (Aspirational)	ND (Aspirational)
Cadmium(Cd) <i>Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L</i>	ND (Aspirational)	ND (Aspirational)
Lead(Pb) <i>Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L</i>	0.001 (Aspirational)	ND (Aspirational)
Mercury(Hg) <i>Foundational Limit: 0.01 mg/L; Progressive Limit: 0.005 mg/L; Aspirational Limit : 0.001 mg/L</i>	ND (Aspirational)	ND (Aspirational)
Chromium VI(CrVI) <i>Foundational Limit: 0.05 mg/L; Progressive Limit: 0.005 mg/L; Aspirational Limit: 0.001 mg/L</i>	ND (Aspirational)	ND (Aspirational)



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Others Priority Chemical Groups

	I001 ($\mu\text{g/L}$)	I002 ($\mu\text{g/L}$)
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

Remark :

- Test method, reporting limit and list of chemical are summarized in tables of Appendix B.
- ND = Not detected (Please refer to reporting limit shown in Appendix B.).
- All results are in ppb as unit.
- ppm = part(s) per million; ppb = part(s) per billion.
- NR – Not Requested / Not required
- N/A – Not Applicable

APPENDIX A - Photo of the Sample/ Sampling Location

I001) Sampling Point
(GPS Location: N 24° 25' 30"; E 90° 32' 30.12")



I001) Sampling Point Surrounding Environment
(GPS Location: N 24° 25' 30"; E 90° 32' 30.12")



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 24° 25' 30"; E 90° 32' 30.12")



I002) Sampling Point Surrounding Environment
(GPS Location: N 24° 25' 30"; E 90° 32' 30.12")



I002) All sampled bottles with label



I002) pH value



I002) Sample for Phthalate Testing



I002) Packaging





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APPENDIX B

Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
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))
	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	OPEO/NPEO: ISO18857-2 or ASTM D7065(LC/MS; GC/MS or LC/MSMS for n=1,2) APEO 1-18
	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-Tetrachlorobenzene	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,
	3-Chlorophenol	108-43-0	0.5	0.05	



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Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
	4-Chlorophenol	106-48-9	0.5	0.05	derivatisation with KOH, acetic anhydride followed by GC/MS
	2,3-Dichlorophenol	576-24-9	0.5	0.05	
	2,4-Dichlorophenol	120-83-2	0.5	0.05	
	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- Carcinogenic 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	



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Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
	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	
	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-dichloroisopropyl) phosphate (TDCP)	13674-87-8	5	1	



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Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
	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	
	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(C ₂ H ₅) 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	



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Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
	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 acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	10	2	
2M. Poly 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
	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	Not	



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Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
			visible	visible	followed by UV analysis
	ANIONS				
	Cyanide(CN-)	Various (incl. 57-12-5)	0.02	1	
	Sulfide	—	N/A	N/A	
	Sulfite	—	N/A	N/A	
Group	Substance (Testing parameter)	CAS No.	Report Limit		Name of the testing method
			Wastewater (mg/L) / (ppm)	Sludge (mg/kg) / (ppm)	
1B. Conventional Parameters - METALS	Antimony(Sb)	7440-36-0	0.001	N/A	Various Acid Digestion with ICP analysis
	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	please refer to ZDHC Wastewater Guidelines for more details on the testing method and the levels (Foundational, Progressive, and Aspirational).
	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	
	Chromium VI(CrVI)	18540-29-9	0.001	2	
	Lead(Pb)	7439-92-1	0.001	2	Cr(VI): Various Solvent extraction and derivatisation followed by UV analysis
	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 :

ppm = part(s) per million; ppb = part(s) per billion

U. S. EPA = United States Environmental Protection Agency

APHA = American Public Health Association

Remark: The report [(6821)270-0207] was sub-contracted to India (Testtex India Laboratories Pvt. Ltd) for Coliform & Total-N Tests.



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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.: 15 Business Line: Analytical																																																																																																					
(6821)270-0207																																																																																																									
General Data Laboratory Sample Number: _____ Client Name: _____ Field Contact Person: <u>Abu Sajed</u> Phone No: <u>0144240891</u> Project (Facility Name and address): <u>M.N. Dyeing, Printing & Finishing Mills Ltd (Ramnatchala, Bhabanipara, Gazipur Sadar, Gazipur)</u> Sampling Location / Description: <u>Waste water before treatment</u> Sample Identification: _____ Sample Type: <input checked="" type="checkbox"/> Composite Sample / <input type="checkbox"/> Grab sample (Please delete as appropriate) Name of Sampler: <u>Abu Sajed</u> Discharge mode: _____ Date of collection: <u>26/09/21</u> Facility type: _____ *Note: It would be selected more than one																																																																																																									
Field Data for Wastewater <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Arrival Time:</td> <td colspan="2">11:30 AM</td> <td>Departure Time:</td> <td colspan="2">5:30 PM</td> </tr> <tr> <td>Field Parameters</td> <td>pH:</td> <td></td> <td>Temp:</td> <td>°C</td> <td></td> </tr> <tr> <td>Control No. of field equipment</td> <td colspan="2"></td> <td>Color:</td> <td></td> <td>Flow rate: (volume/min)</td> </tr> <tr> <td>Factory with effluent treatment plant</td> <td colspan="2"><input checked="" type="checkbox"/></td> <td colspan="3">No</td> </tr> <tr> <td rowspan="3">Sample matrix</td> <td colspan="5">Incoming water (if required)</td> </tr> <tr> <td colspan="5"><input checked="" type="checkbox"/> Wastewater before treatment</td> </tr> <tr> <td colspan="5">Wastewater after treatment – water at discharge point</td> </tr> <tr> <td>Sampler container number</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td rowspan="2">Recording time</td> <td>ID</td> <td colspan="4"></td> </tr> <tr> <td>Time</td> <td>12:00 PM</td> <td>1:00 PM</td> <td>2:00 PM</td> <td>3:00 PM</td> <td>4:00 PM</td> </tr> <tr> <td>pH</td> <td>9.0</td> <td>8.7</td> <td>8.8</td> <td>8.7</td> <td>8.8</td> <td>8.4</td> </tr> <tr> <td>Temp (°C)</td> <td>30.6</td> <td>30.5</td> <td>30.6</td> <td>30.7</td> <td>30.0</td> <td>30.9</td> </tr> <tr> <td>Color (visual estimation)</td> <td>Blue</td> <td>Blue</td> <td>Blue</td> <td>Blue</td> <td>Blue</td> <td>Blue</td> </tr> <tr> <td>Flow rate (volume/min)</td> <td>195m³/h</td> <td>150m³/h</td> <td>151m³/h</td> <td>155m³/h</td> <td>154m³/h</td> <td>155m³/h</td> </tr> <tr> <td>Volume collected mL</td> <td>167x12</td> <td>167x12</td> <td>167x12</td> <td>167x12</td> <td>167x12</td> <td>167x12</td> </tr> <tr> <td>Total volume collected</td> <td>12024</td> <td colspan="5">Remark: Total volume collected must be greater than total of sample size required</td> </tr> </table>						Arrival Time:	11:30 AM		Departure Time:	5:30 PM		Field Parameters	pH:		Temp:	°C		Control No. of field equipment			Color:		Flow rate: (volume/min)	Factory with effluent treatment plant	<input checked="" type="checkbox"/>		No			Sample matrix	Incoming water (if required)					<input checked="" type="checkbox"/> Wastewater before treatment					Wastewater after treatment – water at discharge point					Sampler container number	1	2	3	4	5	Recording time	ID					Time	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	pH	9.0	8.7	8.8	8.7	8.8	8.4	Temp (°C)	30.6	30.5	30.6	30.7	30.0	30.9	Color (visual estimation)	Blue	Blue	Blue	Blue	Blue	Blue	Flow rate (volume/min)	195m ³ /h	150m ³ /h	151m ³ /h	155m ³ /h	154m ³ /h	155m ³ /h	Volume collected mL	167x12	167x12	167x12	167x12	167x12	167x12	Total volume collected	12024	Remark: Total volume collected must be greater than total of sample size required				
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Analysis Required and Preservation Method <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Tests (ZDHC MRSL Parameters)</th> <th>Test required (v)</th> <th>Total of sample size</th> <th>Type of container</th> <th>Preservation method</th> </tr> <tr> <td rowspan="4">Combined test or individual test (Remark 6)</td> <td>1. Phthalate</td> <td>✓</td> <td rowspan="16">Amber Glass, washed with nitric acid,</td> <td rowspan="16">Without adding acid Store sample at 2-8°C</td> </tr> <tr> <td>2. Chlorobenzenes, Chlorotoluene & PAH</td> <td>✓</td> </tr> <tr> <td>3. SCCPs</td> <td>✓</td> </tr> <tr> <td>4. AFS</td> <td>✓</td> </tr> <tr> <td>5. APEOs</td> <td>✓</td> <td>100 mL</td> </tr> <tr> <td>6. Chlorophenols & Cresols</td> <td>✓</td> <td>100 mL</td> </tr> <tr> <td>7. Flame retardant</td> <td>✓</td> <td>500 mL</td> </tr> <tr> <td>8. Dyes</td> <td>✓</td> <td>10 mL</td> </tr> <tr> <td>9. Glycol</td> <td>✓</td> <td>50 mL</td> </tr> <tr> <td>10. Pesticides</td> <td>X</td> <td>1000 mL</td> </tr> <tr> <td>11. Nitrosamine</td> <td>X</td> <td>10 mL</td> </tr> <tr> <td>12. Disperse Dyes</td> <td>✓</td> <td>2000 mL</td> </tr> <tr> <td>13. Free primary aromatic amines</td> <td>X</td> <td>500 mL</td> </tr> <tr> <td>14. Organotin Compounds</td> <td>✓</td> <td>500 mL</td> </tr> <tr> <td>15. VOC & Halogenated Solvents (Remark 6)</td> <td>✓</td> <td>10 mL</td> <td rowspan="2">PE, washed with pesticide grade Acetone</td> <td rowspan="2">Fill to full container without air gap, acidify to pH 2 with HCl and store sample at 2-8°C</td> </tr> <tr> <td>16. PFCs (Remark 6)</td> <td>✓</td> <td>2 mL</td> <td>Without adding acid Store sample at 2-8°C</td> </tr> </table>						Tests (ZDHC MRSL Parameters)	Test required (v)	Total of sample size	Type of container	Preservation method	Combined test or individual test (Remark 6)	1. Phthalate	✓	Amber Glass, washed with nitric acid,	Without adding acid Store sample at 2-8°C	2. Chlorobenzenes, Chlorotoluene & PAH	✓	3. SCCPs	✓	4. AFS	✓	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. Disperse Dyes	✓	2000 mL	13. Free primary aromatic amines	X	500 mL	14. Organotin Compounds	✓	500 mL	15. VOC & Halogenated Solvents (Remark 6)	✓	10 mL	PE, washed with pesticide grade Acetone	Fill to full container without air gap, acidify to pH 2 with HCl and store sample at 2-8°C	16. PFCs (Remark 6)	✓	2 mL	Without adding acid Store sample at 2-8°C																																													
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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	
Combined test or Individual test (Remark 4)	17. Total suspended solids (TSS)	2000 mL total or 2000 mL each	Amber Glass, washed with nitric acid,	Without adding acid Store sample at 2-8°C	
	18. Total dissolved solids (TDS)				
19. 5-day Biochemical Oxygen Demand (BOD5)		1000 mL			
20. Colour		100 mL			
21. Heavy Metals except Cr(VI) & Total P (Remark 4)	✓	9 mL	PE, washed with nitric acid	Acidify to pH 2 with HNO ₃ and store at 2-8°C	
22. Cyanide	✓	500 mL	Amber Glass, washed with pesticide grade acetone	Adjust pH 12 with 50% NaOH, add 0.05 mL of 10% Na ₂ S ₂ O ₅ and store sample at 2-8°C	
23. 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	
24. Chemical oxygen demand (COD)	✓	150 mL		Acidify to pH 2 with H ₂ SO ₄ Store sample at 2-8°C	
25. Phenols	✓	500 mL			
26. Oil and Grease & Total Hydrocarbon	✓	1000 mL			
27. Formaldehyde	✓	25 mL		Fill to full container without air gap; acidify to pH 2 with H ₂ SO ₄ and store sample at 2-8°C	
28. Sulphide (Remark 6)	✓	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	
29. Total Coliform (Remark 6)	✓	125 mL	PE, clean, sterile, non-reactive	Add 0.1 mL of 10% Na ₂ CO ₃ Store sample at 2-8°C	
30. Faecal Coliform (Remark 6)	✓	125 mL			
31. Persistent foam	✓	N.A.	Foam higher than 45 cm (visual estimation): Yes / No		
32. Sulfite	✓	100 mL	Amber Glass, washed with pesticide grade acetone	Add 1mL of 2.5% EDTA Store sample at 2-8°C	
33. Total-N	✓	100 mL	Amber Glass, washed with nitric acid.	Acidify to pH 2 with H ₂ SO ₄ Store sample at 2-8°C	
34. Ammonium-N	✓	500 mL			
35. Adsorbable organically bound halogens (AOX)	✓	100 mL		Acidify to pH 2 with HNO ₃ and store at 2-8°C	
36. Acute aquatic toxicity: Luminous Bacteria, Fish Egg, Daphnia, Algae	✓	1000 mL			
37. Suphate	✓	100 mL		Without adding acid Store sample at 2-8°C	
38. Chloride	✓	100 mL			
39. Others:	✓				
Observation/ Remark					

***Remarks**

- Individual sampling can be performed upon request.
- 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.
- Scope of ZDHC guideline: Parameter 1-9, 12, 14-17, 19-26, 28, 29, 31-35
Scope of synthetic leather industry: Parameter 1-9, 12, 14-21, 23-26, 28, 30, 31, 33, 34, 37, 38
Scope of MMCF: Parameter 5, 15, 17, 19-21, 23-26, 28, 33-35
Free primary aromatic amine, pesticides, nitrosamine and formaldehyde are not in the scope of ZDHC Guideline, they are tested upon request.
- Refer to CPSD-AN-G00019-STIP01, locations with those CPSD test capability inside TCD matrix can perform the combined test.
- Refer to CPSD-AN-000570-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested.
- Refer to CPSD-AN-00513-MTHD for preparation of field blank for specific parameters.

Recorded by

Full name:

Date: 26/09/2021

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 designated container(s) and without any observation in leakage. Sample(s) collected by Bureau Veritas is/are stored in portable freezer / fridge that is maintained to 1-6°C

Signature of Factory Representative

MAHMUDUL HASAN
Full Name

Date:

26/09/21




**BUREAU
VERITAS**

Technical Report:

(6821)270-0207

October 12, 2021

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

General Data

1. Laboratory Sample Number:

Client Name:

Field Contact Person:

Project (Facility Name and Address):

Sampling Location / Description:

Sample Identification:

Sample Type:

Name of Sample:

Discharge mode:

Date of collection:

Factory Type:

(6821) 270-0207

Alia Syed Phone No. 01844240891

M. N. Dyeing Printing & Washing Millar Ltd (Baniorchala, Bhadrapur, Gogipura Sador, Gogipura)

Waste water after treatment

Zero discharge with sampling plan

☒ Composite Sample / Grab sample (Please delete as appropriate)

Alia Syed Kum = (Lakshmi)

Direct discharge to environment (Specify destination: River, Sea, Stream) ☒ OR indirect discharge to sewage treatment plant

26/09/2021

☒ Dyeing / Printing / Washing / Finishing / Others (please specify):

*Note: It would be selected more than one

Field Data for Wastewater		11:30 AM		Departure Time		5:30 PM		No-foam											
Arrival Time																			
Field Parameters		pH		Temp : °C		Color :		Flow rate : (volume/min)											
Control No. of field equipment																			
Discharge to effluent treatment plant				Yes				No											
Sample matrix																			
		Incoming water (if required)																	
		Wastewater before treatment																	
		✓		Wastewater after treatment – water at discharge point															
Sampler container number																			
		1		2		3		4		5		6		7		8			
Recording time		ID		12:00 PM		2:00 PM		3:00 PM		3:30 PM		4:00 PM		5:00 PM		N/A		N/A	
		Time																	
pH				7.0		7.2		7.5		7.8		7.5		7.8					
Temp (°C)				33.1		33.0		33.4		34.0		33.2		33.5					
Color (visual estimation)				Reddish		Reddish		Reddish		Reddish		Reddish		Reddish					
Flow rate (volume/min)				18.5 m ³ /h		18.3 m ³ /h		18.7 m ³ /h		18.5 m ³ /h		18.5 m ³ /h		18.5 m ³ /h					
Volume collected (mL)				167 x 24		167 x 24		167 x 24		167 x 24		167 x 24		167 x 24					
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 (v)	Total of sample size	Type of container	Preservation method
Combined test or individual test (Remark 4)	1. Phthalate	<input checked="" type="checkbox"/>	1000 mL total or 1000 mL each	Amber Glass, washed with nitric acid.	Without adding acid Store sample at 2-8°C
	2. Chlorobenzenes, Chlorotoluene & PAH	<input checked="" type="checkbox"/>			
	3. SCCPs	<input checked="" type="checkbox"/>			
	4. APS	<input checked="" type="checkbox"/>			
5. APE-OS		<input checked="" type="checkbox"/>	100 mL		
6. Chlorophenols & Cresols		<input checked="" type="checkbox"/>	100 mL		
7. Flame retardant		<input checked="" type="checkbox"/>	500 mL		
8. Dyes		<input checked="" type="checkbox"/>	10 mL		
9. Glycol		<input checked="" type="checkbox"/>	50 mL		
10. Pesticides		<input checked="" type="checkbox"/>	1000 mL		
11. Phthalates		<input checked="" type="checkbox"/>	10 mL		
12. Banned Azodyes		<input checked="" type="checkbox"/>	2000 mL	PE, washed with pesticide grade Acetone	Without adding acid Store sample at 2-8°C
13. Free primary aromatic amines		<input checked="" type="checkbox"/>	500 mL		
14. Organotin Compounds		<input checked="" type="checkbox"/>	500 mL		
15. VOC & Halogenated Solvents (Remark 5)		<input checked="" type="checkbox"/>	10 mL		
16. PFCS (Remark 6)		<input checked="" type="checkbox"/>	2 mL		



**BUREAU
VERITAS**

Technical Report:

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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	
Combined test or Individual test (Remark 4)	17. Total suspended solids (TSS) <input checked="" type="checkbox"/> 18. Total dissolved solids (TDS) <input checked="" type="checkbox"/>	2000 mL total or 2000 mL each	Amber Glass, washed with nitric acid.	Without adding acid Store sample at 2-8°C	
19. 5-day Biochemical Oxygen Demand (BOD5)	<input checked="" type="checkbox"/>	1000 mL			
20. Colour	<input checked="" type="checkbox"/>	100 mL			
21. Heavy Metals except Cr(VI) & Total-P (Remark 6)	<input checked="" type="checkbox"/>	9 mL	PE, washed with nitric acid	Acidify to pH 2 with HNO ₃ and store at 2-8°C	
22. Cyanide	<input checked="" type="checkbox"/>	500 mL	Amber Glass, washed with pesticide grade acetone	Adjust pH 12 with 50% NaOH, add 0.05 mL of 10% Na ₂ S ₂ O ₃ and store sample at 2-8°C	
23. Cr(VI)	<input checked="" type="checkbox"/>	95 mL		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	
24. Chemical oxygen demand (COD)	<input checked="" type="checkbox"/>	150 mL	Amber Glass, washed with nitric acid	Acidify to pH 2 with H ₂ SO ₄ Store sample at 2-8°C	
25. Phenols	<input checked="" type="checkbox"/>	500 mL			
26. Oil and Grease & Total Hydrocarbon	<input checked="" type="checkbox"/>	1000 mL		Fill to full container without air gap; acidify to pH 2 with H ₂ SO ₄ and store sample at 2-8°C	
27. Formaldehyde	<input checked="" type="checkbox"/>	25 mL		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	
28. Sulfide (Remark 5)	<input checked="" type="checkbox"/>	50 mL	PE, washed with pesticide grade Acetone.	Add 0.1 mL of 10% Na ₂ S ₂ O ₃ Store sample at 2-8°C	
29. Total Coliform (Remark 8)	<input checked="" type="checkbox"/>	125 mL	PE, clean, sterile, non-reactive	Add 0.1 mL of 10% Na ₂ S ₂ O ₃ Store sample at 2-8°C	
30. Faecal Coliform (Remark 6)	<input checked="" type="checkbox"/>	125 mL			
31. Persistent foam	<input checked="" type="checkbox"/>	N.A.	Foam higher than 45 cm (visual estimation): <u>Yes / No</u>		
32. Sulfite	<input checked="" type="checkbox"/>	100 mL	Amber Glass, washed with pesticide grade acetone	Add 1mL of 2.5% EDTA Store sample at 2-8°C	
33. Total-N	<input checked="" type="checkbox"/>	100 mL		Acidify to pH 2 with H ₂ SO ₄ Store sample at 2-8°C	
34. Ammonium-N	<input checked="" type="checkbox"/>	500 mL		Acidify to pH 2 with HNO ₃ and store at 2-8°C	
35. Adsorbable organically bound halogens (AOX)	<input checked="" type="checkbox"/>	100 mL	Amber Glass, washed with nitric acid.	Without adding acid Store sample at 2-8°C	
36. Acute aquatic toxicity (Luminescent Bacteria, Fish egg, Daphnia, Atoxic)	<input checked="" type="checkbox"/>	1000 mL			
37. Sulfate	<input checked="" type="checkbox"/>	100 mL			
38. Chloride	<input checked="" type="checkbox"/>	100 mL			
39. Others	<input checked="" type="checkbox"/>				

Remarks

- Individual sampling can be performed upon request
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Recorded by

Muhammad
Full name

Date: 26/05/2021

Comment from factory

Acknowledgement by factory

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Signature of Factory Representative

MAHMUDUL HASAN
Full Name

Date: 26/05/21

END