



TEST REPORT

Technical Report

Date Received

(8719)201-0130

July 20 2019

August 03, 2019

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Factory Company Name: SHAHI EXPORTS PVT LTD. UNIT-23
Factory Address: #9 & 10, BERETANA AGRAHARA, HOSUR MAIN ROAD, BANGALORE-560100, KARNATAKA.
Project No.: N/A
Client Reference No.: N/A
Sampling Method: I001) Incoming water – Grab
I002) Raw Wastewater – 6 hours - Time – weighted Composite
I003) Sludge – Grab
Sample Pick Up Date: July 19, 2019
Wastewater Discharge to: Others – ZLD (Zero Liquid Discharge)
On-Site Effluent Treatment Plant (ETP): Yes
Discharge Type: Zero Liquid Discharge
Test Period: July 20, 2019 – August 03, 2019

Sample Description:

I001) Colorless liquid – Incoming water
I002) Dark blue liquid – Raw Wastewater
I003) Grey solid – Sludge

REMARK

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

General enquiry and invoicing

Sunesh.nair@in.bureauveritas.com
080-40701621

Technical enquiry-Chemical

Sudalaimuthu.vs@in.bureauveritas.com
080-40701639

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 (INDIA) PVT. LTD.
AUTHORIZED SIGNATORIES

K. Gomathi Ganesh
Lab Supervisor

APPROVED BY

S. Abdul Samad
Deputy Manager

PREPARED BY:

SJ/MK

(8719)201-0130

Certificate No. TC-6092 (Pls Refer the website www.nabl-inida.org to view the scope of accreditation)

Bureau Veritas Consumer Products Services (I) Pvt. Ltd.
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Executive Summary

1A) Conventional Parameters	I001	I002	I003
Temperature	NR		NR
TSS			NR
COD			NR
Total-N			NR
pH Value			NR
Color [m ⁻¹] (436nm; 525nm; 620nm)			NR
BOD ₅			NR
Ammonium-N			NR
Total-P			NR
AOX			NR
Oil and Grease			NR
Phenol			NR
Coliform			NR
Persistent Foam			NR
ANIONS - Sulfide			NR
ANIONS - Sulfite			NR
1B) Conventional Parameters – METALS	☐	☐	☐

Note / Key :

- ☐ – Meet Foundational Limit / Meet discharge license criteria
- ☒ – Exceeding Foundational Limit / Exceeding discharge license criteria
- NR – Not Requested / Not required

	I001	I002	I003
Conventional			
ANIONS - Cyanide	NR	NR	●
ZDHC MRSL Substances			
2A) APs and APEOs	NR	o	o
2B) Chlorobenzenes and Chlorotoluenes	NR	o	o
2C) Chlorophenols	NR	o	o
2D) Azo Dyes	NR	o	o
2E) Carcinogenic Dyes	NR	o	o
2F) Disperse Dyes	NR	o	o
2G) Flame Retardants	NR	o	o
2H) Glycols	NR	o	o
2I) Halogenated Solvents	NR	o	o
2J) Organotin Compounds	NR	o	o
2K) Perfluorinated and Polyfluorinated Chemicals	NR	o	o
2L) Phthalates	NR	o	o
2M) Poly Aromatic Hydrocarbons	NR	o	o
2N) Volatile Organic Compounds	NR	o	o

Note / Key :

- ● – Detected
- o – Not Detected
- NR – Not Requested
- N/A – Not Applicable



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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 Plan

Basically, three environment samples were sampled per factory, including 1) Incoming water; 2) Raw Wastewater and 3) 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 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

Conventional Parameters

ANIONS - Cyanide

Test Method : Reference to ISO 6703-1,2, ISO 14403-1,2, US EPA 335.2, APHA 4500-CN, HJ 484

Tested Item(s)	Result	Unit	Conclusion
I003	<1.0	mg/kg	DATA

Note:

mg/kg = milligram per kilogram
Reporting Limit: 0.5 mg/kg

1B) Conventional Parameters – METALS

Heavy Metals	I001 (mg/L)	I002 (mg/L)	I003 (mg/Kg)
Antimony(Sb) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L	NR	ND (Aspirational)	NA
Chromium(Cr), total Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L	NR	0.00867 (Aspirational)	NA
Cobalt(Co) Foundational Limit: 0.05 mg/L; Progressive Limit: 0.02 mg/L; Aspirational Limit: 0.01 mg/L	NR	ND (Aspirational)	NA
Copper(Cu) Foundational Limit: 1 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.25 mg/L	NR	0.0404667 (Aspirational)	NA
Nickel(Ni) Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L	NR	0.010325 (Aspirational)	NA
Silver(Ag) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.005 mg/L	NR	ND (Aspirational)	NA
Zinc(Zn) Foundational Limit: 5 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.5 mg/L	NR	0.0572972 (Aspirational)	NA
Arsenic(As) Foundational Limit: 0.05 mg/L; Progressive Limit: 0.01 mg/L; Aspirational Limit: 0.005 mg/L	NR	ND (Aspirational)	ND
Cadmium(Cd) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L	NR	ND (Aspirational)	ND



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Heavy Metals	I001 (mg/L)	I002 (mg/L)	I003 (mg/Kg)
Chromium VI(CrVI) Foundational Limit: 0.05 mg/L; Progressive Limit: 0.005 mg/L; Aspirational Limit: 0.001 mg/L	NR	ND (Aspirational)	ND
Lead(Pb) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L	ND	0.0030917 (Aspirational)	2.72
Mercury (Hg) Foundational Limit: 0.01 mg/L; Progressive Limit: 0.005 mg/L; Aspirational Limit : 0.001 mg/L	NR	ND (Aspirational)	ND

Others Priority Chemical Groups

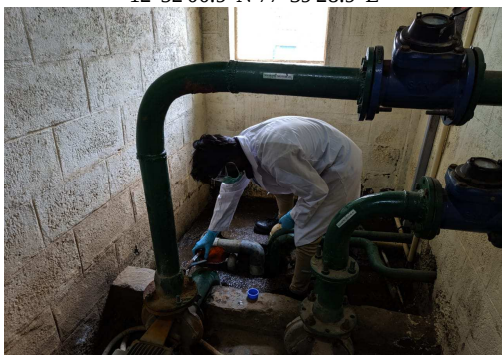
	I001 (ug/L)	I002 (ug/L)	I003 (mg/kg)
2A) APs and APEOs	NR	ND	ND
2B) Chlorobenzenes and Chlorotoluenes	NR	ND	ND
2C) Chlorophenols	NR	ND	ND
2D) Azo Dyes	NR	ND	ND
2E) Carcinogenic Dyes	NR	ND	ND
2F) Disperse Dyes	NR	ND	ND
2G) Flame Retardants	NR	ND	ND
2H) Glycols	NR	ND	ND
2I) Halogenated Solvents	NR	ND	ND
2J) Organotin Compounds	NR	ND	ND
2K) Perfluorinated and Polyfluorinated Chemicals	NR	ND	ND
2L) Phthalates	NR	ND	ND
2M) Poly Aromatic Hydrocarbons	NR	ND	ND
2N) Volatile Organic Compounds	NR	ND	ND

Remark :

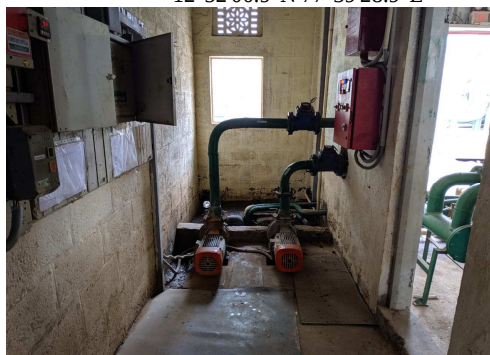
- Test method, reporting limit and list of chemical are summarized in tables of Appendix A.
- ND = Not detected (Please refer to reporting limit shown in Appendix A.).
- All results are in ppb as unit.
- ppm = part(s) per million; ppb = part(s) per billion.
- NR / NA = Not Requested / Not Applicable

APPENDIX A - Photo of the Sample/ Sampling Location

I001) Sampling Point
12°52'00.9"N 77°39'28.9"E



I001) Sampling Point Surrounding Environment
12°52'00.9"N 77°39'28.9"E



I001) All sampled bottles with label



I001) pH value



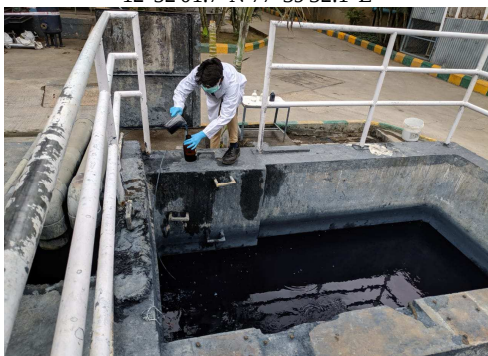
I001) Sample for Phthalate Testing



I001) Packaging



I002) Sampling Point
12°52'01.7"N 77°39'32.1"E



I002) Sampling Point Surrounding Environment
12°52'01.7"N 77°39'32.1"E



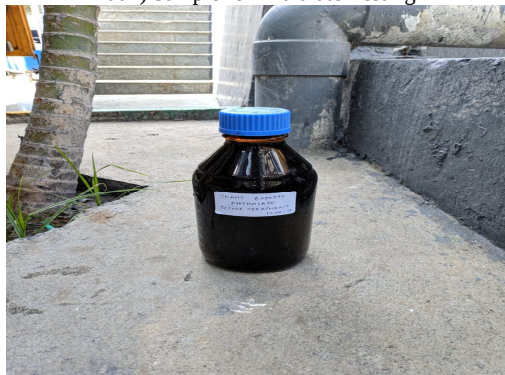
I002) All sampled bottles with label



I002) pH value



I002) Sample for Phthalate Testing



I002) Packaging



I003) Sampling Point
12°52'03.1"N 77°39'31.2"E



I003) Sampling Point Surrounding Environment
12°52'03.1"N 77°39'31.2"E



I003) All sampled bottles with label



I003) Sample for Phthalate Testing



I003) 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	0.2	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	0.2	
	Octylphenol ethoxylates (OPEO)	Various (incl. 9002-93-1, 9036-19-5, 68987-90-6)	5	0.2	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 (incl. 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0)	5	0.2	
2B. Chlorobenzenes and Chlorotoluenes	Monochlorobenzene	108-90-7	0.2	0.1	USEPA 8260B,8270D. Dichloromethane extraction followed by GC/MS
	1,2-Dichlorobenzene	95-50-1	0.2	0.1	
	1,3-Dichlorobenzene	541-73-1	0.2	0.1	
	1,4-Dichlorobenzene	106-46-7	0.2	0.1	
	1,2,3-Trichlorobenzene	87-61-6	0.2	0.1	
	1,2,4-Trichlorobenzene	120-82-1	0.2	0.1	
	1,3,5-Trichlorobenzene	108-70-3	0.2	0.1	
	1,2,3,4-Tetrachlorobenzene	634-66-2	0.2	0.1	
	1,2,3,5-Tetrachlorobenzene	634-90-2	0.2	0.1	
	1,2,4,5-Tetrachlorobenzene	95-94-3	0.2	0.1	
	Pentachlorobenzene	608-93-5	0.2	0.1	
	Hexachlorobenzene	118-74-1	0.2	0.1	
	2-Chlorotoluene	95-49-8	0.2	0.1	
	3-Chlorotoluene	108-41-8	0.2	0.1	
	4-Chlorotoluene	106-43-4	0.2	0.1	
	2,3-Dichlorotoluene	32768-54-0	0.2	0.1	
	2,4-Dichlorotoluene	95-73-8	0.2	0.1	
	2,5-Dichlorotoluene	19398-61-9	0.2	0.1	
	2,6-Dichlorotoluene	118-69-4	0.2	0.1	
	3,4-Dichlorotoluene	95-75-0	0.2	0.1	
	3,5-Dichlorotoluene	25186-47-4	0.2	0.1	
	2,3,4-Trichlorotoluene	7359-72-0	0.2	0.1	
	2,3,6-Trichlorotoluene	2077-46-5	0.2	0.1	
	2,4,5-Trichlorotoluene	6639-30-1	0.2	0.1	
	2,4,6-Trichlorotoluene	23749-65-7	0.2	0.1	
	3,4,5-Trichlorotoluene	21472-86-6	0.2	0.1	
	2,3,4,5-Tetrachlorotoluene	76057-12-0	0.2	0.1	
	2,3,5,6-Tetrachlorotoluene	29733-70-8	0.2	0.1	
	2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	0.1	
	Pentachlorotoluene	877-11-2	0.2	0.1	
2C. Chlorophenols	2-Chlorophenol	95-57-8	0.5	0.025	USEPA 8270 D Solvent extraction, derivatisation with KOH, acetic anhydride followed by GC/MS
	3-Chlorophenol	108-43-0	0.5	0.025	
	4-Chlorophenol	106-48-9	0.5	0.025	
	2,3-Dichlorophenol	576-24-9	0.5	0.025	
	2,4-Dichlorophenol	120-83-2	0.5	0.025	
	2,5-Dichlorophenol	583-78-8	0.5	0.025	



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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)	
	2,6-Dichlorophenol	87-65-0	0.5	0.025	
	3,4-Dichlorophenol	95-77-2	0.5	0.025	
	3,5-Dichlorophenol	591-35-5	0.5	0.025	
	2,3,4-Trichlorophenol	15950-66-0	0.5	0.025	
	2,3,5-Trichlorophenol	933-78-8	0.5	0.025	
	2,3,6-Trichlorophenol	933-75-5	0.5	0.025	
	2,4,5-Trichlorophenol	95-95-4	0.5	0.025	
	2,4,6-Trichlorophenol	88-06-2	0.5	0.025	
	3,4,5-Trichlorophenol	609-19-8	0.5	0.025	
	2,3,4,5-Tetrachlorophenol	4901-51-3	0.5	0.025	
	2,3,4,6-Tetrachlorophenol	58-90-2	0.5	0.025	
	2,3,5,6-Tetrachlorophenol	935-95-5	0.5	0.025	
	Pentachlorophenol (PCP)	87-86-5	0.5	0.025	
2D. Dyes - Azo (Forming Restricted Amines)	4,4'-Methylene-bis-(2-chloro-aniline)	101-14-4	0.1	0.1	EN 14362. Reduction step with Sodiumdithionite, solvent extraction, GC/MS or LC/MS
	4,4'-methylenedianiline	101-77-9	0.1	0.1	
	4,4'-Oxydianiline	101-80-4	0.1	0.1	
	4-Chloroaniline	106-47-8	0.1	0.1	
	3,3'-Dimethoxybenzidine	119-90-4	0.1	0.1	
	3,3'-Dimethylbenzidine	119-93-7	0.1	0.1	
	6-methoxy-m-toluidine (p-Cresidine)	120-71-8	0.1	0.1	
	2,4,5-Trimethylaniline	137-17-7	0.1	0.1	
	4,4'-Thiodianiline	139-65-1	0.1	0.1	
	4-Aminoazobenzene	60-09-3	0.1	0.1	
	4-Methoxy-m-phenylenediamine	615-05-4	0.1	0.1	
	4,4'-Methylene-di-o-toluidine	838-88-0	0.1	0.1	
	2,6-Xylidine	87-62-7	0.1	0.1	
	o-Anisidine	90-04-0	0.1	0.1	
	2-Naphthylamine	91-59-8	0.1	0.1	
	3,3'-Dichlorobenzidine	91-94-1	0.1	0.1	
	4-Aminodiphenyl	92-67-1	0.1	0.1	
	Benzidine	92-87-5	0.1	0.1	
	o-Toluidine	95-53-4	0.1	0.1	
	2,4-Xylidine	95-68-1	0.1	0.1	
	4-Chloro-o-toluidine	95-69-2	0.1	0.1	
	4-Methyl-m-phenylenediamine	95-80-7	0.1	0.1	
	o-Aminoazotoluene	97-56-3	0.1	0.1	
	5-nitro-o-toluidine	99-55-8	0.1	0.1	
2E. Dyes- Carcinogenic or Equivalent Concern	C.I. Direct Black 38	1937-37-7	500	1	Liquid Extraction LC/MS
	C.I. Direct Blue 6	2602-46-2	500	1	
	C.I. Acid Red 26	3761-53-3	500	1	
	C.I. Basic Red 9	569-61-9	500	1	
	C.I. Direct Red 28	573-58-0	500	1	
	C.I. Basic Violet 14	632-99-5	500	1	
	C.I. Disperse Blue 1	2475-45-8	500	1	
	C.I. Disperse Blue 3	2475-46-9	500	1	
	C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	500	1	
	C.I. Basic Green 4	569-64-2	500	1	



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			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
	(malachite green chloride)				
	C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	500	1	
	C.I. Basic Green 4(malachite green)	10309-95-2	500	1	
	Disperse Orange 11	82-28-0	500	1	
2F. Dyes-disperse (sensitizing)	Disperse Yellow 1	119-15-3	50	1	Liquid Extraction LC/MS
	Disperse Blue 102	12222-97-8	50	1	
	Disperse Blue 106	12223-01-7	50	1	
	Disperse Yellow 39	12236-29-2	50	1	
	Disperse Orange 37/59/76	13301-61-6	50	1	
	Disperse Brown 1	23355-64-8	50	1	
	Disperse Orange 1	2581-69-3	50	1	
	Disperse Yellow 3	2832-40-8	50	1	
	Disperse Red 11	2872-48-2	50	1	
	Disperse Red 1	2872-52-8	50	1	
	Disperse Red 17	3179-89-3	50	1	
	Disperse Blue 7	3179-90-6	50	1	
	Disperse Blue 26	3860-63-7	50	1	
	Disperse Yellow 49	54824-37-2	50	1	
	Disperse Blue 35	12222-75-2	50	1	
	Disperse Blue 124	61951-51-7	50	1	
	Disperse Yellow 9	6373-73-5	50	1	
	Disperse Orange 3	730-40-5	50	1	
	Disperse Blue 35	56524-77-7	50	1	
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	5	US EPA 8270



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			Wastewater (ug/L)/(ppb)	Sludge (mg/kg)/(ppm)	
	2-ethoxyethanol	110-80-5	50	5	Liquid Extraction LC/MS
	2-ethoxyethyl acetate	111-15-9	50	5	
	Ethylene glycol dimethyl ether	110-71-4	50	5	
	2-methoxyethanol	109-86-4	50	5	
	2-methoxyethylacetate	110-49-6	50	5	
	2-methoxypropylacetate	70657-70-4	50	5	
	Triethylene glycol dimethyl ether	112-49-2	50	5	
2I. Halogenated Solvents	1,2-Dichloroethane	107-06-2	1	1	USEPA 8260B Headspace GC/MS or Purgeand-Trap-GC/MS
	Methylene Chloride	75-09-2	1	1	
	Trichloroethylene	79-01-6	1	1	
	Tetrachloroethylene	127-18-4	1	1	
2J. Organotin Compounds	Mono-, di- and tri-methyltin derivatives	Multiple	0.01	0.1	ISO 17353 Derivatisation with NaB(C ₂ H ₅) GC/MS
	Mono-, di- and tri-butyltin derivatives	Multiple	0.01	0.1	
	Mono-, di- and tri-phenyltin derivatives	Multiple	0.01	0.1	
	Mono-, di- and tri-octyltin derivatives	Multiple	0.01	0.1	
	Monomethyltin	Multiple	0.01	0.1	
	Dimethyltin	Multiple	0.01	0.1	
	Trimethyltin	Multiple	0.01	0.1	
	Monobutyltin	Multiple	0.01	0.1	
	Dibutyltin	Multiple	0.01	0.1	
	Tributyltin	Multiple	0.01	0.1	
	Monophenyltin	Multiple	0.01	0.1	
	Diphenyltin	Multiple	0.01	0.1	
	Triphenyltin	Multiple	0.01	0.1	
	Monooctyltin	Multiple	0.01	0.1	
	Diocetyl tin	Multiple	0.01	0.1	
	Triocetyl tin	Multiple	0.01	0.1	
2K. Perfluorinated and Polyfluorinated Chemicals (PFCs)	Perfluorooctanesulfonic acid (PFOS)	355-46-4 ,432-50-7	0.01	0.05	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	0.05	
	Perfluorobutanesulfonic acid (PFBS)	29420-49-3, 29420-43-3	0.01	0.05	
	Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	0.01	0.05	
	8:2 FTOH	678-39-7	1	0.5	
	6:2 FTOH	647-42-7	1	0.5	
2L. Phthalates (including all other esthers of phthalic acid)	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	10	1	US EPA 8270D, ISO 18856 Dichloromethane extraction GC/MS
	Dimethoxyethyl phthalate (DMEP)	117-82-8	10	1	
	Di-n-octyl phthalate (DNOP)	117-84-0	10	1	
	Di-iso-decyl phthalate (DIDP)	26761-40-0	10	1	
	Di-iso-nonyl phthalate (DINP)	28553-12-0	10	1	
	Di-n-hexyl phthalate	84-75-3	10	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)	
	(DnHP)				
	Dibutyl phthalate (DBP)	84-74-2	10	1	
	Butyl benzyl phthalate (BBP)	85-68-7	10	1	
	Dinonyl phthalate (DNP)	84-76-4	10	1	
	Diethyl phthalate (DEP)	84-66-2	10	1	
	Di-n-propyl phthalate (DPRP)	131-16-8	10	1	
	Di-iso-butyl phthalate (DIBP)	84-69-5	10	1	
	Di-cyclohexyl phthalate (DCHP)	84-61-7	10	1	
	Di-iso-octyl phthalate (DIOP)	27554-26-3	10	1	
	1,2-benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP)	68515-42-4	10	1	
	1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	10	1	
2M. Poly Aromatic Hydrocarbons (PaHs)	Benzo[a]pyrene (BaP)	50-32-8	1	1	DIN 38407-39 Solvent extraction GC/MS
	Anthracene	120-12-7	1	1	
	Pyrene	129-00-0	1	1	
	Benzo[ghi]perylene	191-24-2	1	1	
	Benzo[e]pyrene	192-97-2	1	1	
	Indeno[1,2,3-cd]pyrene	193-39-5	1	1	
	Benzo[j]fluoranthene	205-82-3	1	1	
	Benzo[b]fluoranthene	205-99-2	1	1	
	Fluoranthene	206-44-0	1	1	
	Benzo[k]fluoranthene	207-08-9	1	1	
	Acenaphthylene	208-96-8	1	1	
	Chrysene	218-01-9	1	1	
	Dibenz[a,h]anthracene	53-70-3	1	1	
	Benzo[a]anthracene	56-55-3	1	1	
	Acenaphthene	83-32-9	1	1	
	Phenanthrene	85-01-8	1	1	
	Fluorene	86-73-7	1	1	
	Naphthalene	91-20-3	1	1	
2N. Volatile Organic Compound (VOCs)	Benzene	71-43-2	1	0.1	ISO 11423-1 Headspace- or Purge-and-Trap-GC/MS
	Xylene	1330-20-7	1	0.1	
	o-cresol	95-48-7	1	0.1	
	p-cresol	106-44-5	1	0.1	
	m-cresol	108-39-4	1	0.1	
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
	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	



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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)	
	Ammonium-N	—	N/A	N/A	(Foundational, Progressive, and Aspirational). Cyanide: With reference to APHA 4500 CN—B,C&E and followed by UV analysis
	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	
	Substance (Testing parameter)	CAS No.	Wastewater (mg/L) / (ppm)	Wastewater (mg/kg) / (ppm)	
	ANIONS				
	Cyanide(CN-)	Various (incl. 57-12-5)	0.02	0.5	
1B. Conventional Parameters - METALS	Sulfide	—	N/A	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, Progressive, and Aspirational). Cr(VI): Various Solvent extraction and derivatisation followed by UV analysis
	Sulfite	—	N/A	N/A	
	Antimony(Sb)	7440-36-0	0.001	N/A	
	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	1	
	Cadmium(Cd)	7440-43-9	0.0001	1	
	Chromium VI(CrVI)	18540-29-9	0.001	1	
	Lead(Pb)	7439-92-1	0.001	1	
	Mercury(Hg)	7439-97-6	0.00005	0.1	

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



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APPENDIX C – Onsite Field Data Record Sheet

FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE SAMPLING)		CPSD-AN-00613-DATA 05						
General Data		Issue Date:						
Laboratory Sample Number	(8719)201-0130	Version No.:	8					
Client Name		Business Line:	Analytical					
Field Contact Person	Mr. VIJAY	Phone No.:	9629207206					
Project (Facility Name and Address)	SHAHI EXPORTS PVT. LTD. UNIT-23 NO-940, BEREYANA AGRAHARA, HOSUR MAIN ROAD.							
Sampling Location / Description	Zero discharge with sampling plan							
Sample Identification	Composite sample							
Sample Type	SURVIVAL INCOMING WATER - Grab Sample							
Name of Sampler	SURYA M							
Discharge mode	Direct discharge to environment (Specify destination: River, Sea, Stream...) OR Indirect discharge to sewage treatment plant							
Date of collection	19-07-19							
Factory Type	Dyeing/ Printing/ Washing/ Finishing/ Other (please specify)							
*Note: It would be selected more than one								
Field Data for wastewater								
Arrival Time:	9:40 AM	Departure Time:	1:25 PM					
Factory with effluent treatment plant	Yes	No						
Sample matrix	Incoming water							
	Wastewater before treatment							
	Wastewater after treatment – water at discharge point							
Field Parameters	1	2	3	4	5	6	7	8
Recording time	10:30 AM							
pH:	6.9							
Temp (°C):	37°C							
Color:	colorless							
Sample container number	3							
Volume collected, mL	1000 mL							
Total volume collected	Remark: Total volume collected must be greater than total of sample size required							
Analysis Required and Preservation Method								
Tests (MRSL Parameters)	Test required (Y)	Total of sample size	Type of container		Preservation method			
1. Phthalate	✓	1000 mL	Amber Glass, wash with nitric acid; Pre-add 5.5 mL of 2M HCl		Acidify to ~pH 2 with HCl and store sample at 4°C			
2. Brominated and chlorinated Flame retardant	✓	1000 mL						
3. Chlorobenzenes, Chlorotoluene & Polynuclear aromatic hydrocarbons (PAHs)	✓	1000 mL						
4. Chlorophenols & Cresols	✓	100 mL						
5. SCCPs	✓	1000 mL						
6. Flame retardant	✓	500 mL						
7. APS	✓	1000 mL						
8. Chlorinated solvent / Volatile organic compounds (VOCs)	✓	10 mL						
9. Organotin Compounds	✓	500 mL	Amber Glass, wash with nitric acid; rinse thoroughly with distilled water and dry before use		Fill to full container without air gap; acidify to ~pH 2 with HCl and store sample at 4°C			
10. Dyes	✓	10 mL						
11. Glycol	✓	50 mL						
12. *Pesticides	✗	1000 mL						
13. *Nitrosamine	✗	10 mL						
14. Banded Azodyes	✓	2000 mL						
15. *Free primary aromatic amines	✓	500 mL	Adjust to pH 6-8 with acetic acid and NaOH Store sample at 4°C					



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16. APEOs	✓	100mL		Adjust to pH 7 with HCl and NaOH Store sample at 4°C
17. PPCs	✓	1 mL	PE, wash with pesticide grade Acetone;	Adjust to pH 6-8 with HCl and NaOH Store sample at 4°C
18. FTAs and FTOHs	✓	1 mL		Without adding acid Store sample at 4°C
Tests (Conventional Parameters)	Test required (v)	Total of sample size	Type of container	Preservation method
19. Heavy Metals except Cr(VI)	✗	9 mL	PE, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Acidify to pH 2 with HNO3 and store at 4°C
20. Cr(VI)	✗	95 mL	Amber Glass, wash with pesticide grade acetone	Fill to full bottle without air gap nor acid add and store sample at 4°C *Check pH initially, if pH <7 or pH >9, adjust pH to 8.0 – 8.5. Otherwise, no pH adjustment is required.
21. Cyanide	✓	500 mL		Adjust pH 12 with 50% NaOH and store sample at 4°C
22. Chemical oxygen demand (COD)	✗	150 mL	Amber Glass; wash with nitric acid; Pre-add 6.5 mL of 2M H2SO4	Fill to full bottle without any air gap; acidify to ~pH 2 with H2SO4 Store sample at 4°C
23. Total suspended solids (TSS)	✗	2000 mL	Amber Glass, wash with nitric acid, rinse thoroughly with distilled water and dry before use	Without adding acid Store sample at 4°C
24. 5-day Biochemical Oxygen Demand (BOD5)	✗	1000 mL		
25. *Total dissolved solids (TDS)	✗	2000 mL		
26. Adsorbable organically bound halogens (AOX)	✗	100 mL	Amber Glass, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Fill to full bottle without any air gap; acidify to ~pH 2 with HNO3 Store sample at 4°C
Observation/ Remark:				

*Remarks:

1. The minimum sampling time for 2016 ZDCH guideline is 6 hours with no more than one hour between discrete samples. Sampling time could be adjusted upon request.

2. Free primary aromatic amine, pesticides, nitrosamine and TDS are not in the scope of ZDCH Guideline 2016, they are tested upon request.

Comment from factory

Recorded by [Signature]
Full name: SURIYA M

Date: 19-07-19

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 in 1-4°C

Signatory of Factory Representative

Full Name:

[Signature]
Ravana Subhappa

Date:

19/7/2019



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FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE SAMPLING)		CPSD-AN-00613-DATA 05						
General Data		Issue Date:						
Laboratory Sample Number		Version No.:	8					
Client Name		Business Line:	Analytical					
Field Contact Person								
Project (Facility Name and Address)								
Sampling Location / Description								
Sample Identification								
Sample Type								
Name of Sampler								
Discharge mode								
Date of collection								
Factory Type								
Zero discharge with sampling plan								
Composite sample								
Direct discharge to environment (Specify destination: River, Sea, Stream...)		OR Indirect discharge to sewage treatment plant						
Dyeing/ Printing/ Washing/ Finishing/ Other (please specify)								
*Note: It would be selected more than one								
FIELD DATA for wastewater								
Arrival Time:	9:40 AM		Departure Time:					
Factory with effluent treatment plant	Yes ☒		No ☐					
Sample matrix	Incoming water							
	Wastewater before treatment							
	Wastewater after treatment - water at discharge point							
Field Parameters	1	2	3	4	5	6	7	8
Recording time	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM		
pH:	6.3	7.1	9.0	7.0	6.4	6.5		
Temp. (°C):	42°C	42°C	44°C	46°C	45°C	44°C		
Color:	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue	Dark blue		
Sample container number	4	9	2	5	9	10		
Volume collected, mL	1000 mL	1000 mL	1000 mL	1000 mL	1000 mL	1000 mL		
Total volume collected	Remark: Total volume collected must be greater than total of sample size required							
Analysis Required and Preservation Method								
Tests (MRSL Parameters)	Test required (✓)	Total of sample size	Type of container		Preservation method			
1. Phthalate	✓	1000 mL	Amber Glass, wash with nitric acid; Pre-add 0.5 mL of 2M HCl		Acidify to -pH 2 with HCl and store sample at 4°C			
2. Brominated and chlorinated Flame retardant	✓	1000 mL						
3. Chlorobenzenes, Chlorotoluene & Polynuclear aromatic hydrocarbons (PAHs)	✓	1000 mL						
4. Chlorophenols & Cresols	✓	100 mL						
5. SCCPs	✓	1000 mL						
6. Flame retardant	✓	500 mL						
7. APS	✓	1000 mL						
8. Chlorinated solvent / Volatile organic compounds (VOCs)	✓	10 mL	Amber Glass, wash with nitric acid, rinse thoroughly with distilled water and dry before use		Fill to full container without air gap; acidify to -pH 2 with HCl and store sample at 4°C			
9. Organotin Compounds	✓	500 mL						
10. Dyes	✓	10 mL			Without adding acid Store sample at 4°C			
11. Glycol	✓	50 mL						
12. *Pesticides	X	1000 mL						
13. *Nitrosamine	X	10 mL						
14. Banded Azodyes	✓	2000 mL						
15. *Free primary aromatic amines	✓	500 mL	Adjust to pH 6-8 with acetic acid and NaOH Store sample at 4°C					



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16. APEOs	✓	100mL		Adjust to pH 7 with HCl and NaOH Store sample at 4°C
17. PFCs	✓	1 mL	PE, wash with pesticide grade Acetone;	Adjust to pH 6-8 with HCl and NaOH Store sample at 4°C
18. FTAs and FTOHs	✓	1 mL		Without adding acid Store sample at 4°C
Tests (Conventional Parameters)	Test required (v)	Total of sample size	Type of container	Preservation method
19. Heavy Metals except Cr(VI)	✗	9 mL	PE, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Acidify to pH 2 with HNO3 and store at 4°C
20. Cr(VI)	✗	.95 mL	Amber Glass, wash with pesticide grade acetone	Fill to full bottle without air gap nor acid add and store sample at 4°C *Check pH initially. If pH <7 or pH >9, adjust pH to 8.0 - 8.5. Otherwise, no pH adjustment is required.
21. Cyanide	✓	500 mL		Adjust pH 12 with 50% NaOH and store sample at 4°C
22. Chemical oxygen demand (COD)	✗	150 mL	Amber Glass; wash with nitric acid; Pre-add 6.5 mL of 2M H2SO4	Fill to full bottle without any air gap; acidify to ~pH 2 with H2SO4 Store sample at 4°C
23. Total suspended solids (TSS)	✗	2000 mL	Amber Glass; wash with nitric acid, rinse thoroughly with distilled water and dry before use	Without adding acid Store sample at 4°C
24. 5-day Biochemical Oxygen Demand (BOD5)	✗	1000 mL		
25. *Total dissolved solids (TDS)	✗	2000 mL		
26. Adsorbable organically bound halogens (AOX)	✗	100 mL	Amber Glass, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Fill to full bottle without any air gap; acidify to ~pH 2 with HNO3 Store sample at 4°C
Observation/ Remark:				

*Remarks:

1. The minimum sampling time for 2016 ZDCH guideline is 6 hours with no more than one hour between discrete samples. Sampling time could be adjusted upon request.
2. Free primary aromatic amine, pesticides, nitrosamine and TDS are not in the scope of ZDCH Guideline 2016, they are tested upon request.

Comment from factory:

Recorded by: AP. R. J.
Full name: SURIN. J.

Date: 19-07-19

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 in 1-4°C.

Signatory of Factory Representative:

Ravanaselvan
Full Name: Ravanaselvan

Date: 19/7/2019



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	FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE (COMPOSITE SAMPLING)	CPSD-AN-00613-DATA 05
		Issue Date:
		Version No.: 8
		Business Line: Analytical

General Data

Laboratory Sample Number: (8719)201-0130
Client Name: MR. VIJAY
Field Contact Person: MR. VIJAY Phone No: 9629207206
Project (Facility Name and Address): SHRI EXPORTS PVT. LTD UNIT - 23
Sampling Location / Description: NO - 9 & 10, BERTANA BARAHARA, HOVR MAN ROAD
Sample Identification: Zero discharge with sampling plan
Sample Type: Composite Sample
Name of Sampler: BUREAU VERITAS
Discharge mode: Direct discharge to environment (Specify destination: River, Sea, Stream...) OR Indirect discharge to sewage treatment plant ZLD Plant
Date of collection: 19-07-19
Factory Type: Dyeing/ Printing/ Washing/ Finishing/ Other (please specify)
*Note: It would be selected more than one

Field Data for Sludge

Field Parameters	pH :	Temp : °C	Color : Grey
Control No. of field equipment			

Analysis Required and Preservation Method

Factory with effluent treatment plant	☒ Yes		☐ No	
Sample matrix	Sludge in clarifier (sedimentation tank)			
Sampler container number	01			
Recording time	11.30 AM			
Tests (MRSL Parameter)	Test required (✓)	Total of sample size	Type of container	Preservation method
1. Phthalate	☒	10 g	Amber Glass, wash with nitric acid	Fill to full bottle without any air gap and store at 4°C
2. Brominated and chlorinated Flame retardant	☒	20 g		
3. Banned Azodyes	☒	20 g		
4. Organotin Compounds	☒	10 g		
5. Chlorobenzenes, Chlorotoluene & Polynuclear aromatic hydrocarbons (PAHs)	☒	10 g		
6. Chlorophenols & Cresols	☒	20 g		
7. SCCPs	☒	10 g		
8. APEOs/APs	☒	30 g		
9. Dyes	☒	10 g		
10. Flame retardant	☒	10 g		
11. Free primary aromatic amines	☒	10 g		
12. Glycols	☒	100 g		
13. *Pesticides	☒	20g		
16. Chlorinated solvent / Volatile organic compounds (VOCs)	☒	10 g	Amber Glass, wash with pesticide grade acetone	Fill to full container without any air gap and acid add and store at 4°C
17. PFCs	☒	10 g	PE, wash with pesticide grade acetone	Fill to full bottle without any air gap and store at 4°C

Tests (Conventional Parameters)	Test required (✓)	Total of sample size	Type of container	Preservation method
14. Heavy Metals except CrVI	✓	0.2 g	PE, wash with nitric acid	Fill to full bottle without any air gap and store at 4oC
15. CrVI	✓	2.5 g	Amber Glass, wash with pesticide grade acetone	Fill to full container without any air gap and acid add and store at 4oC
18. Cyanide	✓	50g		Adjust pH 12 with 50% NaOH and store at 4oC
Observation/ Remark				

*Remarks:

1. Free primary aromatic amino and pesticides are not in the scope of ZDCH Guideline 2016, they are tested upon request.