



TEST REPORT

Technical Report

Date Received

(8719)226-0439

August 14, 2019

August 27, 2019

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Factory Company Name: SHAHI EXPORTS PVT LTD. UNIT-7
Factory Address: SY NO 13,14,15, SARJAPURA MAIN ROAD, BELLANDUR GATE BANGALORE, KARNATAKA – 560102
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: August 14, 2019
Wastewater Discharge to: Others – ZLD (Zero Liquid Discharge)
On-Site Effluent Treatment Plant (ETP): Yes
Discharge Type: Zero Liquid Discharge
Test Period: August 14, 2019 – August 27, 2019

Sample Description:

I001) Colorless liquid – Incoming water
I002) Light grey liquid – Raw Wastewater
I003) Blue 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

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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.
AKR Tech Park, Ground floor,
C Block, Survey no 112,
BANGALORE
Tel: 0091-80-40701600 Fax: 0091-80-40701655

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Executive Summary

1A) Conventional Parameters	I001	I002	I003
Temperature	NR	NR	NR
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 - Sulfide			
ANIONS - Sulfite			
1B) Conventional Parameters – METALS	NR	□	□

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 Parameters (for Sludge)			
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



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- N/A – Not Applicable

Objective

The environment samples were tested for below parameters.

Conventional Parameters (for Sludge)

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 11262, 201, US EPA 9014, US EPA 9213, HJ 745

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

Note:

mg/kg = milligram per kilogram

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	0.008 (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	0.023 (Aspirational)	NA
Nickel(Ni) Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L	NR	0.027 (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	0.256 (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) <i>Foundational Limit: 0.05 mg/L;</i> <i>Progressive Limit: 0.005 mg/L;</i> <i>Aspirational Limit: 0.001 mg/L</i>	NR	ND (Aspirational)	ND
Lead(Pb) <i>Foundational Limit: 0.1 mg/L;</i> <i>Progressive Limit: 0.05 mg/L;</i> <i>Aspirational Limit: 0.01 mg/L</i>	NR	ND (Aspirational)	ND
Mercury (Hg) <i>Foundational Limit: 0.01 mg/L;</i> <i>Progressive Limit: 0.005 mg/L;</i> <i>Aspirational Limit : 0.001 mg/L</i>	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°55'07.2"N 77°40'19.9"E



I001) Sampling Point Surrounding Environment
12°55'07.2"N 77°40'19.9"E



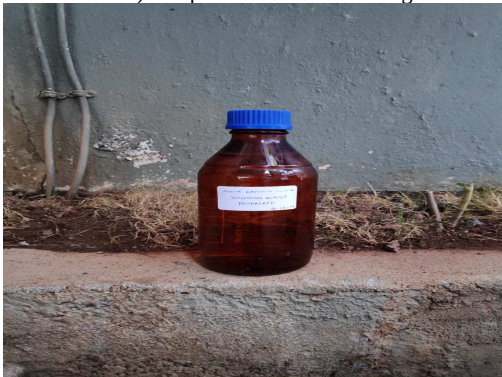
I001) All sampled bottles with label



I001) pH value



I001) Sample for Phthalate Testing



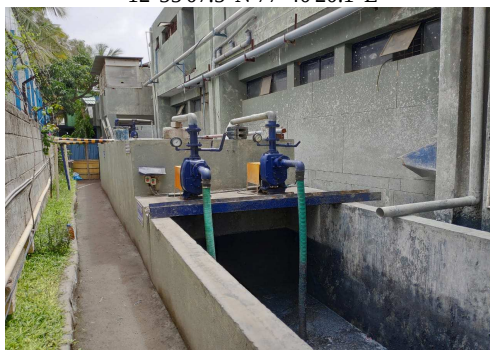
I001) Packaging



I002) Sampling Point
12°55'07.5"N 77°40'20.1"E



I002) Sampling Point Surrounding Environment
12°55'07.5"N 77°40'20.1"E



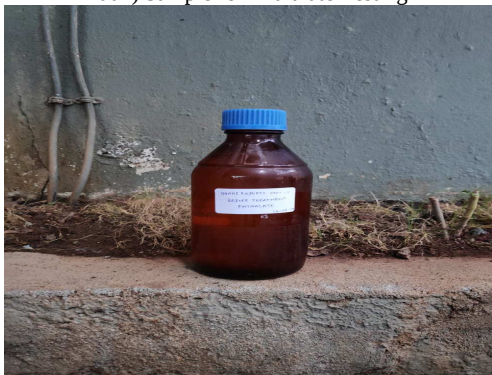
I002) All sampled bottles with label



I002) pH value



I002) Sample for Phthalate Testing



I002) Packaging



I003) Sampling Point
12°55'07.0"N 77°40'19.7"E



I003) Sampling Point Surrounding Environment
12°55'07.0"N 77°40'19.7"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)	Sludge (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		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			
Dyeing/ Printing/ Washing/ Finishing/ Other (please specify)			
*Note: It would be selected more than one			
Field Data for wastewater			
Arrival Time:	09:45 am	Departure Time:	02:45 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
Recording time	10:15 am		
pH :	7.2		
Temp (°C) :	29.6		
Color :	colorless		
Sample container number	1		
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 (v)	Total of sample size	Preservation method
1. Phthalate	✓	1000 mL	Acidify to -pH 2 with HCl and store sample at 4°C
2. Brominated and chlorinated Flame	✓	1000 mL	
3. Chlorobenzenes, Chlorotoluene &	✓	1000 mL	
4. Chlorophenols & Cresols	✓	100 mL	
5. SCOPs	✓	1000 mL	
6. Flame retardant	✓	500 mL	
7. APS	✓	1000 mL	
8. Chlorinated solvent / Volatile organic	✓	10 mL	
9. Organotin Compounds	✓	500 mL	
10. Dyes	✓	10 mL	
11. Glycol	✓	50 mL	Without adding acid Store sample at 4°C
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
16. APEOs	✓	100 mL	
17. PFCs	✓	1 mL	Adjust to pH 6-8 with HCl and NaOH Without adding acid
18. FTAs and FTOHs	✓	1 mL	
Tests (Conventional Parameters)			
Tests (Conventional Parameters)	Test required (v)	Total of sample size	Preservation method
19. Heavy Metals except Cr(VI)	✓	9 mL	Acidify to pH 2 with HNO3 and store at 4°C
20. CrVI	✓	95 mL	
21. Cyanide	✓	500 mL	Fill to full bottle without air gap nor acid add and store Adjust pH 12 with 50% NaOH and store sample at 4°C
22. Chemical oxygen demand (COD)	✓	150 mL	
23. Total suspended solids (TSS)	✓	2000 mL	Fill to full bottle without any air gap; acidify to -pH 2
24. 5-day Biochemical Oxygen Demand	✓	1000 mL	
25. *Total dissolved solids (TDS)	✓	2000 mL	Without adding acid Store sample at 4°C
26. Adsorbable organically bound	✓	100 mL	
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] Date: 14-08-19			
Full name: Subhrajit M			
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: [Signature] Date: 14/08/19			
Full Name: Pavan (Pavan)			



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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				
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: 09:45 AM		Departure Time: 03:45 PM		
Factory with effluent treatment plant				
Sample matrix				
Field Parameters				
Recording time				
pH:				
Temp (°C):				
Color:				
Sample container number				
Volume collected, 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 (V)		Total of sample size		
Type of container		Preservation method		
1. Phthalate		1000 mL	Amber Glass, wash with nitric acid; Pre-add 6.5 mL of 2M HCl	Acidify to -pH 2 with HCl and store sample at 4°C
2. Brominated and chlorinated Flame		1000 mL		
3. Chlorobenzenes, Chlorotoluene &		1000 mL		
4. Chlorophenols & Cresols		100 mL		
5. SOCPs		1000 mL		
6. Flame retardant		500 mL		
7. APS		1000 mL		
8. Chlorinated solvent / Volatile organic		10 mL		
9. Organotin Compounds		500 mL		
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		
16. APEOs		100 mL		
17. PFCs		1 mL	PE, wash with pesticide grade Acetone;	Adjust to pH 6-8 with HCl and NaOH
18. FTAs and FTOHs		1 mL		
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 6.5 mL of 2M	Acidify to pH 2 with HNO3 and store at 4°C
20. CrVI		95 mL	Amber Glass, wash with pesticide grade acetone	Fill to full bottle without air gap nor acid add and store
21. Cyanide		500 mL		
22. Chemical oxygen demand (COD)		150 mL	Amber Glass, wash with nitric acid;	Fill to full bottle without any air gap; acidify to -pH 2
23. Total suspended solids (TSS)		2000 mL	Amber Glass, wash with nitric acid, rinse thoroughly with distilled water and	Without adding acid Store sample at 4°C
24. 5-day Biochemical Oxygen Demand		1000 mL		
25. Total dissolved solids (TDS)		2000 mL		
26. Adsorbable organically bound		100 mL	Amber Glass, wash with nitric acid, pre-add	Fill to full bottle without any air gap; acidify to -pH 2
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: SURYA M				
Date: 14-08-19				
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: [Signature]				
Full Name: Pavan (Rao)				
Date: 14/08/19				



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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) 226-0439
Client Name: MR. PAVAN
Field Contact Person: MR. PAVAN Phone No: 9986119888
Project (Facility Name and Address): SHAHI EXPORTS PVT LTD. UNIT-7
Sampling Location / Description: SY No 13, 14, 15 SARIAPURA MAIN ROAD, BELLANDUR GATE, BANGALORE-560102
Sample Identification: Zero discharge with sampling plan
Sample Type: Composite sample
Name of Sampler: SURYA-M
Discharge mode: Direct discharge to environment (Specify destination: River, Sea, Stream...) OR Indirect discharge to sewage treatment plant ZLD Plant
Date of collection: 14-08-19
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: 25°C	Color: Blue
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	06			
Recording time				
Tests (MRSL Parameter)	Test required (v)	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 40C
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 40C

SURYA-M