



**BUREAU
VERITAS**

TEST REPORT

Technical Report

(6816)272-0243

October 31, 2016

Date Received

September 27, 2016

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Factory Company Name: Comfit Composite Knit Ltd.
Factory Address: Gorai, Mirzapur, Tangail, Bangladesh.
Project No.: /
Client Reference No.: /
Sample Type: Wastewater - Time-Weighted Composite Grab Samples*
Sample Pick Up Date: September 27, 2016
Wastewater Discharge to: Direct Discharge (into factory owned ETP)
On-Site Effluent Treatment Plant (ETP): Yes
Test Period: September 27, 2016 To October 31, 2016

Sample Description:

I001) Incoming water
I002) Wastewater before treatment
I003) Discharged Wastewater

REMARK

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

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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.**

**M. NUR ALAM
SENIOR MANAGER
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Photo of the Sample/ Sampling Location

I001) Incoming water



I002) Wastewater before treatment



I003) Discharged Wastewater





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Executive Summary

1A) Conventional Parameters	I001	I002	I003
Temperature	N/A		See result in page 5-8
TSS			
COD			
Total-N			
pH Value			
Color (Pt-Co)			
BOD ₅			
Ammonium-N			
Total-P			
AOX			
Oil and Grease			
Phenol			
Coliform			
Foam			
ANIONS - Sulfide			
ANIONS - Sulfit			
1B) Conventional Parameters –METALS	•	•	•

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

Note / Key :

- • – Detected
- o – Not Detected



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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) Wastewater before treatment and 3) Discharged Wastewater. 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 eight 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 data records are attached in Appendix B.



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Test Result

1A) Conventional Parameters

Temperature

Test Method : Measurement by thermometer

Tested Item(s)	Result	Unit	Conclusion
I003	32.2	deg. C	DATA

Note:

deg. C = degree Celsius (°C)

Total Suspended Solids (TSS)

Test Method : Reference to APHA 22nd Edition-2540D & ALPA 2540D

Tested Item(s)	Result	Unit	Conclusion
I003	8	mg/L	DATA

Note:

mg/L = milligram per liter

Chemical Oxygen Demand (COD)

Test Method : Reference to ALPA 5220B & EPA 410.3

Tested Item(s)	Result	Unit	Conclusion
I003	50	mg/L	DATA

Note:

mg/L = milligram per liter

Total Nitrogen (Total-N)

Test Method : Reference to APHA 22nd Edition 2012, 4500 N Org.B

Tested Item(s)	Result	Unit	Conclusion
I003	BLQ (LOQ. 1.0)	mg/L	DATA

Note:

mg/L : milligram per liter
BLQ : Below Limit of Quantification
LOQ : Limit of Quantification



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pH Value

Test Method : Reference to ALPA 4500-H+B & EPA150.2

-	Unit	Result
Test Item(s)	-	I003
Parameter	-	-
Temp. of sample	deg. C	21
pH value of sample	-	8.1
Conclusion	-	DATA

Note:

Temp. = Temperature deg. C = degree Celsius (°C)

Color (Pt-Co)

Test Method : Reference to APHA 22nd Edition 2120C / EPA-110.2

Tested Item(s)	Result	Unit	Conclusion
I003	586	Pt-Co/CU	DATA

Biochemical Oxygen Demand (BOD₅)

Test Method : Reference to APHA 22nd Edition-5210B & ALPA 5210B

Tested Item(s)	Result	Unit	Conclusion
I003	13	mg/L	DATA

Note:

mg/L = milligram per liter

Ammonia Nitrogen

Test Method : Reference to APHA 22nd Edition 2012, 4500 NH₃ B.C

Tested Item(s)	Result	Unit	Conclusion
I003	BLQ (LOQ. 1.0)	mg/L	DATA

Note:

mg/L : milligram per liter
 BLQ : Below Limit of Quantification
 LOQ : Limit of Quantification



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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
I003	1.23	mg/L	DATA

Note:

mg/L = milligram per liter

Adsorbable Organic Halogen (AOX)

Test Method : Reference to ISO 9562/ U. S. EPA 1650/ HJ/T 83

Tested Item(s)	Result	Unit	Conclusion
I003	<0.05 mg/L	mg/L	DATA

Note:

mg/L : milligram per liter
BLQ : Below Limit of Quantification
LOQ : Limit of Quantification

Oil and Grease

Test Method : Reference to APHA 22nd Edition -5520 B (2012)

Tested Item(s)	Result	Unit	Conclusion
I003	3	mg/L	DATA

Note:

mg/L = milligram per liter

Phenol

Test Method : Reference to APHA 22nd Edition 2012, 5530 B.C

Tested Item(s)	Result	Unit	Conclusion
I003	BLQ (LOQ. 0.01)	mg/L	DATA

Note:

mg/L : milligram per liter
BLQ : Below Limit of Quantification
LOQ : Limit of Quantification



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Coliform

Test Method : Reference to APHA 22nd Edition 2012, 9221 B

Tested Item(s)	Result	Unit	Conclusion
I003	220	MPN / 100 mL	DATA

Note:

mg/L : milligram per liter
BLQ : Below Limit of Quantification
LOQ : Limit of Quantification

Foam

Test Method : Visual

Tested Item(s)	Result	Unit	Conclusion
I003	No foam	-	DATA

ANIONS - Sulfide

Test Method : Reference to APHA 22nd Edition 2012, 4500 S² B

Tested Item(s)	Result	Unit	Conclusion
I003	BLQ (LOQ. 1.0)	mg/L	DATA

Note:

mg/L : milligram per liter
BLQ : Below Limit of Quantification
LOQ : Limit of Quantification

ANIONS - Sulfite

Test Method : Reference to APHA 22nd Edition 2012, 4500 SO₃ B

Tested Item(s)	Result	Unit	Conclusion
I003	BLQ (LOQ. 1.0)	mg/L	DATA

Note:

mg/L : milligram per liter
BLQ : Below Limit of Quantification
LOQ : Limit of Quantification



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1B) Conventional Parameters - METALS

Heavy Metals	I001	I002	I003
Arsenic (As)	2	2	1
Cadmium (Cd)	ND	ND	ND
Mercury (Hg)	ND	ND	ND
Lead (Pb)	2	2	1
Antimony (Sb)	9	6	3
Cobalt (Co)	ND	ND	ND
Nickel (Ni)	ND	54	6
Copper (Cu)	94	81	34
Zinc (Zn)	99	100	83
Chromium (Cr)	ND	38	16
Manganese (Mn)	8	39	33
Chromium VI (Cr VI)	ND	ND	ND
Silver (Ag)	ND	ND	ND
Cyanide (CN)	ND	ND	ND

Others Priority Chemical Groups

	I001	I002	I003
2A) APs and APEOs	ND	ND	ND
2B) Chlorobenzenes and Chlorotoluenes	ND	ND	ND
2C) Chlorophenols	ND	ND	ND
2D) Azo Dyes	ND	ND	ND
2E) Carcinogenic Dyes	ND	ND	ND
2F) Disperse Dyes	ND	ND	ND
2G) Flame Retardants	ND	ND	ND
2H) Glycols	ND	ND	ND
2I) Halogenated Solvents	ND	ND	ND
2J) Organotin Compounds	ND	ND	ND
2K) Perfluorinated and Polyfluorinated Chemicals	ND	ND	ND
2L) Phthalates	ND	ND	ND
2M) Poly Aromatic Hydrocarbons	ND	ND	ND
2N) Volatile Organic Compounds	ND	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.
- ppb = part(s) per billion.



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APPENDIX A

Group	Substance (C&A parameter)	CAS No.	Detection Limit (ug/L)/(ppb)	Name of the testing method
2A. Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): including all isomers	Octylphenol OP, mixed isomers	Various (incl. 140-66-9, 1806-26-4, 27193-28-8)	1	NP/OP: ISO 18857-2 (modified dichloromethane extraction) or ASTM D7065 (GC/MS or LC/MS(-MS))
	Nonylphenol NP	Various (incl. 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3)	1	
	Octylphenol Ethoxylates OPIEO	Various	5	
	Nonylphenol Ethoxylates OPEO (2-16)	Various (incl. 9002-93-1, 9036-19-5, 68987-90-6)	5	OPEO/NPEO: ISO18857-2 or ASTM D7065(LC/MS; GC/MS or LC/MSMS for n=1,2) APEO 1-18
	Nonylphenol Ethoxylates NP1EO	Various	5	
	Nonylphenol Ethoxylates NPEO (2-18)	Various (inc. 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0)	5	
2B. Chlorobenzenes and Chlorotoluenes	Chlorobenzene	108-90-7	0.2	USEPA 8260B,8270D. Dichloromethane extraction followed by GC/MS
	Dichlorobenzene	Various	0.2	
	Trichlorobenzene	Various	0.2	
	Tetrachlorobenzene	Various	0.2	
	1,2-Dichlorobenzene	95-50-1	0.2	
	1,3-Dichlorobenzene	541-73-1	0.2	
	1,4-Dichlorobenzene	106-46-7	0.2	
	1,2,3-Trichlorobenzene	87-61-6	0.2	
	1,2,4-Trichlorobenzene	120-82-1	0.2	
	1,3,5-Trichlorobenzene	108-70-3	0.2	
	1,2,3,4-Tetrachlorobenzene	634-66-2	0.2	
	1,2,3,5-Tetraclorobenzene	634-90-2	0.2	
	1,2,4,5-Tetrachlorobenzene	95-94-3	0.2	
	Pentachlorobenzene	608-93-5	0.2	
	Hexachlorobenzene	1198-74-1	0.2	
	2-Chlorotoluene	95-49-8	0.2	
	3-Chlorotoluene	108-41-8	0.2	
	4-Chlorotoluene	106-43-4	0.2	
	2,3-Dichlorotoluene	32768-54-0	0.2	
	2,4-Dichlorotoluene	95-73-8	0.2	
	2,5-Dichlorotoluene	19398-61-9	0.2	
	2,6-Dichlorotoluene	118-69-4	0.2	
	3,4-Dichlorotoluene	95-75-0	0.2	
	2,3,6-Trichlorotoluene	2077-46-5	0.2	
	2,4,5-Trichlorotoluene	6639-30-1	0.2	
	Alpha,2,4-Trichlorotoluene	94-99-5	0.2	
	Alpha,2,6-Trichlorotoluene	2014-83-7	0.2	
	Alpha,3,4-Trichlorotoluene	102-47-6	0.2	
Alpha, alpha,2,6-tetrachlorotoluene	81-19-6	0.2		
Alpha, alpha, alpha, 2-,6-tetrachlorotoluene	2136-89-2	0.2		
Alpha, alpha,alpha, 4-tetrachlorotoluene	5216-25-1	0.2		
Pentachlorotoluene	877-11-2	0.2		
2C. Chlorophenols	Pentachlorophenol (PCP)	87-86-5	0.5	USEPA 8270 D Solvent extraction, derivatisation with KOH, acetic anhydride
	Tetrachlorophenol (TeCP)	Various (incl. 25167-83-3)	0.5	
	2,3,4,5-Tetrachlorophenol	4901-51-3	0.5	
	2,3,4,6-Tetrachlorophenol	58-90-2	0.5	



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Group	Substance (C&A parameter)	CAS No.	Detection Limit (ug/L)/(ppb)	Name of the testing method
	2,3,5,6-Tetrachlorophenol	935-95-5	0.5	followed by GC/MS
	Trichlorophenol (TriCP)	Various	0.5	
	2,4,6-Trichlorophenol	88-06-2	0.5	
	2,3,5-Trichlorophenol	933-78-8	0.5	
	2,4,5-Trichlorophenol	95-95-4	0.5	
	3,4,5-Trichlorophenol	609-19-8	0.5	
	2,3,4-Trichlorophenol	15950-66-0	0.5	
	2,3,6-Trichlorophenol	933-75-5	0.5	
	Dichlorophenol (DiCP)	Various	0.5	
	2,3-Dichlorophenol	576-24-9	0.5	
	3,4-Dichlorophenol	95-77-2	0.5	
	2,4-Dichlorophenol	120-83-2	0.5	
	2,5-Dichlorophenol	583-78-8	0.5	
	2,6-Dichlorophenol	87-65-0	0.5	
	3,5-Dichlorophenol	591-35-5	0.5	
	Mono Chlorophenol (MonoCP)	Various	0.5	
2-Chlorophenol	95-57-8	0.5		
3-Chlorophenol	108-43-0	0.5		
4-Chlorophenol	106-48-9	0.5		
2D. Dyes - Azo (Forming Restricted Amines)	4-Aminodiphenyl	92-67-1	0.1	EN 14362. Reduction step with Sodiumdithionite, solvent extraction, GC/MS or LC/MS
	Benzdine	92-87-5	0.1	
	4-Chloro-o-toluidine	95-69-2	0.1	
	2-Naphthylamine	91-59-8	0.1	
	o-Aminoazotoluene	97-56-3	0.1	
	5-nitro-o-toluidine	99-55-8	0.1	
	4-Chloroaniline	106-47-8	0.1	
	4-Methoxy-m-phenylenediamine	615-05-4	0.1	
	4,4'-methylenedianiline	101-77-9	0.1	
	3,3'-Dichlorobenzidine	91-94-1	0.1	
	3,3'-Dimethoxybenzidine	119-90-4	0.1	
	3,3'-Dimethylbenzidine	119-93-7	0.1	
	4,4'-Methylene-di-o-toluidine	838-88-0	0.1	
	6-methoxy-m-toluidine (p-Cresidine)	120-71-8	0.1	
	4,4'-Methylene-bis-(2-chloro-aniline)	101-14-4	0.1	
	4,4'-Oxydianiline	101-80-4	0.1	
	4,4'-Thiodianiline	139-65-1	0.1	
	o-Toluidine	95-53-4	0.1	
	4-Methyl-m-phenylenediamine	95-80-7	0.1	
	2,4,5-Trimethylaniline	137-17-7	0.1	
	o-Anisidine	90-04-0	0.1	
	4-Aminoazobenzene	60-09-3	0.1	
	2,4-Xylidine	95-68-1	0.1	
2,6-Xylidine	87-62-7	0.1		
Aniline	62-53-3	0.1		
2E. Dyes- Carcinogenic or Equivalent Concern	C.I. Direct Black 38	1937-37-7	5000	Liquid Extraction LC/MS
	C.I. Direct Blue 6	2602-46-2	5000	
	C.I. Acid Red 26	3761-53-3	5000	
	C.I. Basic Red 9	569-61-9	5000	
	C.I. Direct Red 28	573-58-0	5000	
	C.I. Basic Violet 14	632-99-5	5000	



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	C.I. Disperse Blue 1	2475-45-8	5000	
	C.I. Disperse Blue 3	2475-46-9	5000	
	C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	5000	
	C.I. Basic Green 4 (malachite green chloride)	569-64-2	5000	
	C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	5000	
	C.I. Basic Green 4 (malachite green)	10309-95-2	5000	
	Disperse Orange 11	82-28-0	5000	
2F. Dyes-disperse (sensitizing)	Disperse Yellow 1	119-15-3	5000	Liquid Extraction LC/MS
	Disperse Blue 102	12222-97-8	5000	
	Disperse Blue 106	12223-01-7	5000	
	Disperse Yellow 39	12236-29-2	5000	
	Disperse Orange 37/59/76	13301-61-6	5000	
	Disperse Brown 1	23355-64-8	5000	
	Disperse Orange 1	2581-69-3	5000	
	Disperse Yellow 3	2832-40-8	5000	
	Disperse Red 11	2872-48-2	5000	
	Disperse Red 1	2872-52-8	5000	
	Disperse Red 17	3179-89-3	5000	
	Disperse Blue 7	3179-90-6	5000	
	Disperse Blue 26	3860-63-7	5000	
	Disperse Yellow 49	54824-37-2	5000	
	Disperse Blue 35	12222-75-2	5000	
	Disperse Blue 124	61951-51-7	5000	
	Disperse Yellow 9	6373-73-5	5000	
Disperse Orange 3	730-40-5	5000		
Disperse Blue 35	56524-77-7	5000		
2G. Flame Retardants	Polybromobiphenyls (PBBs)	59536-65-1	0.05	ISO 22032, USEPA527 and USEPA8321B. Dichloromethane extraction GC/MS or LC/MS(-MS)
	Monobromobiphenyl (MonoBB)	-	0.05	
	Dibromobiphenyl (DiBB)	-	0.05	
	Tribromobiphenyl (TriBB)	-	0.05	
	Tetrabromobiphenyl (TetraBB)	-	0.05	
	Pentabromobiphenyl (PentaBB)	-	0.05	
	Hexabromobiphenyl (HexaBB)	-	0.05	
	Heptabromobiphenyl (HeptaBB)	-	0.05	
	Octabromobiphenyl (OctaBB)	-	0.05	
	Nonabromobiphenyl (NonaBB)	-	0.05	
	Decabromobiphenyl (DecaBB)	13654-09-6	0.05	
	Polybromodiphenyl ethers (PBDEs)	Various	0.05	
	Monobromodiphenyl ethers (MonoBDE)	-	0.05	
	Dibromodiphenyl ethers (DiBDE)	-	0.05	



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	Tribromodiphenyl ethers (TriBDE)	-	0.05	
	Tetrabromodiphenyl ethers (TetraBDE)	40088-47-9	0.05	
	Pentabromodiphenyl ether (PentaBDE)	32534-81-9	0.05	
	Hexabromodiphenyl ethers (HexaBDE)	36483-60-0	0.05	
	Heptabromodiphenyl ethers (HeptaBDE)	68928-80-3	0.05	
	Octabromodiphenyl ether (OctaBDE)	32536-52-0	0.05	
	Nonabromodiphenyl ethers (NonaBDE)	63936-56-1	0.05	
	Decabromodiphenyl ether (DecaBDE)	1163-19-5	0.05	
	Tris(2,3-dibromopropyl) phosphate (TRIS/TDBPP)	126-72-7	0.5	
	Tetrabromobisphenol A (TBBPA)	79-94-7	0.5	
	Bis(2,3-dibromopropyl) phosphate (BIS/BDBPP)	5412-25-9	0.5	
	Hexabromocyclododecane (HBCDD)	3194-55-6	0.5	
	2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	0.5	
	Tris(aziridinyl)-phosphineoxide (TEPA)	545-55-1	0.5	
	Bis(2,3-dibromopropylether) of Tetrabromobisphenol (BDBPT)	21850-44-2	0.5	
	Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	0.5	
	Tris(1,3-dichloroisopropyl) phosphate (TDCP)	13674-87-8	0.5	
	Short chain chlorinated paraffins (SCCPs)	85535-84-8	5	
2H. Glycols	Bis(2-methoxyethyl)-ether	111-96-6	5000	US EPA 8270 Liquid Extraction LC/MS
	2-ethoxyethanol	110-80-5	5000	
	2-ethoxyethyl acetate	111-15-9	5000	
	Ethylene glycol dimethyl ether	110-71-4	5000	
	2-methoxyethanol	109-86-4	5000	
	2-methoxyethylacetate	110-49-6	5000	
	2-methoxypropylacetate	70657-70-4	5000	
Triethylene glycol dimethyl ether	112-49-2	5000		
2I. Halogenated Solvents	1,2-Dichloroethane	107-06-2	1	USEPA 8260B Headspace GC/MS or Purgeand-Trap-GC/MS
	1,1-Dichloroethylene	75-35-4	1	
	Methylene Chloride	75-09-2	1	
	cis-1,2-Dichloroethylene	156-59-2	1	
	trans-1,2-Dichloroethylene	156-60-5	1	
	Chloroform	67-66-3	1	
	1,1,1-Trichloroethane	71-55-6	1	
Carbon Tetrachloride	56-23-5	1		



Group	Substance (C&A parameter)	CAS No.	Detection Limit (ug/L)/(ppb)	Name of the testing method
	Trichloroethylene	79-01-6	1	
	1,1,2-Trichloroethane	79-00-5	1	
	1,1,1,2-Tetrachloroethane	630-20-6	1	
	Tetrachloroethylene	127-18-4	1	
	1,1-Dichloroethane	75-34-3	1	
	1,1,2,2-Tetrachloroethane	79-34-5	1	
2J. Organotin Compounds	Monobutyltin (MBT)	Various (incl. 78763-54-9, 1118-46-3)	0.01	ISO 17353 Derivatisation with NaB(C ₂ H ₅) GC/MS
	Dibutyltin (DBT)	Various (incl. 1002-53-5, 683-18-1)	0.01	
	Dioctyltin (DOT)	Various (incl. 94410-05-6, 3542-36-7)	0.01	
	Tributyltin (TBT)	Various (incl. 36643-28-4, 56573-85-4, 1461-22-9)	0.01	
	Triphenyltin (TPhT)	Various (incl. 892-20-6, 639-58-7, 668-34-8)	0.01	
	Tricyclohexyltin (TCyT)	Various (incl. 6056-50-4, 3091-32-5)	0.01	
	Trioctyltin (TOT)	Various (incl. 869-59-0, 2587-76-0)	0.01	
	Tripropyltin (TPT)	Various (incl. 688-73-3, 2279-76-7)	0.01	
	Mono-octyltin (MOT)	Various (incl. 15231-44-4, 3091-25-6)	0.01	
	Diphenyltin (DPhT)	Various (incl. 1011-95-6, 6381-06-2, 1135-99-5)	0.01	
	Tetrabutyltin (TeBT)	1461-25-2	0.01	
	Mono-, di- and tri-methyltin derivatives	Various (incl. 993-16-8, 753-73-1, 1066-45-1)	0.01	
	Mono-, di- and tri-butyltin derivatives	Various (incl. 78763-54-9, 1118-46-3, 1002-53-5, 683-18-1, 36643-28-4, 56573-85-4, 1461-22-9)	0.01	
Mono-, di- and tri-phenyltin derivatives	Various (1124-19-2, 1011-95-6, 6381-06-2, 1135-99-5, 892-20-6, 639-58-7, 668-34-8)	0.01		
Mono-, di- and tri-octyltin derivatives	Various (incl. 15231-44-4, 3091-25-6, 94410-05-6, 3542-36-7, 869-59-0, 2587-76-0)	0.01		
2K. Perfluorinated and Polyfluorinated Chemicals (PFCs)	Perfluoro-n-octanoic acid (PFOA)	335-67-1/ 335-95-5	0.01	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
	Perfluorobutanesulfonic acid (PFBS)	375-73-5, 29420-49-3, 29420-43-3	0.01	
	Perfluorooctanesulfonic acid (PFOS)	1763-23-1 ,432-50-7	0.01	
	Perfluorohexanesulfonic acid (PFHxS)	355-46-4	0.01	
	Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	0.01	
	Perfluorobutyric Acid (PFBA)	375-22-4	0.01	
	8:2 FTOH	678-39-7	1	
	6:2 FTOH	647-42-7	1	
2L. Phthalates (including all other)	Butyl benzyl phthalate (BBP)	85-68-7	1	US EPA 8270D, ISO 18856



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Group	Substance (C&A parameter)	CAS No.	Detection Limit (ug/L)/(ppb)	Name of the testing method
esters of phthalic acid)	Dibutyl phthalate (DBP)	84-74-2	1	Dichloromethane extraction GC/MS
	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	1	
	Di-n-octyl phthalate (DNOP)	117-84-0	1	
	Di-iso-nonyl phthalate (DINP)	28553-12-0	1	
	Di-iso-decyl phthalate (DIDP)	26761-40-0	1	
	Dimethyl phthalate (DMP)	131-11-3	1	
	Diethyl phthalate (DEP)	84-66-2	1	
	Di-n-propyl phthalate (DPRP)	131-16-8	1	
	Di-iso-butyl phthalate (DIBP)	84-69-5	1	
	Di-cyclohexyl phthalate (DCHP)	84-61-7	1	
	Di-n-hexyl phthalate (DnHP)	84-75-3	1	
	Dinonyl phthalate (DNP)	84-76-4	1	
	Di-iso-octyl phthalate (DIOP)	27554-26-3	1	
	Dimethoxyethyl phthalate (DMEP)	117-82-8	1	
	2M. Poly Aromatic Hydrocarbons (PaHs)	1,2-benzenedicarboxylic acid, di-C7-11-branched and linearalkyl esters (DHNUP)	68515-42-4	
1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)		71888-89-6	1	
Di-penty Phthalate (n-, iso-, or mixed), (DPP)		605-50-5 / 776297-69-9 / 131-18-0 / 84777-06-0	1	
Benzo[a]pyrene (BaP)		50-32-8	1	
Anthracene		120-12-7	1	
Pyrene		129-00-0	1	
Benzo[ghi]perylene		191-24-2	1	
Benzo[e]pyrene		192-97-2	1	
Indeno[1,2,3-cd]pyrene		193-39-5	1	
Benzo[j]fluoranthene		205-82-3	1	
Benzo[b]fluoranthene		205-99-2	1	
Fluoranthene		206-44-0	1	
Benzo[k]fluoranthene		207-08-9	1	
Acenaphthylene		208-96-8	1	
Chrysene		218-01-9	1	
2N. Volatile Organic Compound (VOCs)	Dibenz[a,h]anthracene	53-70-3	1	ISO 11423-1 Headspace- or Purge-and-Trap-GC/MS
	Benzo[a]anthracene	56-55-3	1	
	Acenaphthene	83-32-9	1	
	Phenanthrene	85-01-8	1	
	Fluorene	86-73-7	1	
	Naphthalene	91-20-3	1	
	Benzene	71-43-2	1	
	Xylene	1330-20-7	1	
	o-cresol	95-48-7	1	
	p-cresol	106-44-5	1	
	m-cresol	108-39-4	1	



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Group	Substance (C&A parameter)	CAS No.	Detection Limit (ug/L)/(ppb)	Name of the testing method
1A. Conventional Parameters	Temperature	—	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).
	TSS	—	N/A	
	COD	—	N/A	
	Total-N	—	N/A	
	pH	—	N/A	
	Color (Pt-Co)	—	N/A	
	BOD5	—	N/A	
	Ammonium-N	—	N/A	
	Total-P	—	N/A	
	AoX	—	N/A	
	Oil and Grease	—	N/A	
	Phenol	—	N/A	
	Coliform(bacteria/100ml)	—	N/A	
	Persistent Foam	—	Not visible	
ANIONS				
Sulfide	—	N/A		
Sulfite	—	N/A		
1B. Conventional Parameters - METALS	Cadmium(Cd)	7440-43-9	0.1	Various Acid Digestion with ICP analysis
	Lead(Pb)	7439-92-1	1	
	Mercury (Hg)	7439-97-6	0.05	
	Silver (Ag)	7440-22-4	1	
	Cobalt(Co)	7440-48-4	1	
	Nickel (Ni)	7440-02-0	1	
	Antimony(Sb)	7440-36-0	1	
	Arsenic (As)	7440-38-2	1	
	Copper(Cu)	7440-50-8	1	
	Zinc(Zn)	7440-66-6	1	
	Chromium(Cr), total	7440-47-3	1	
	Manganese(Mn)	7439-96-5	1	
	Chromium VI(CrVI)	18540-29-9	1	Various Solvent extraction and derivatisation followed by UV analysis
Cyanide(CN-)	Various (incl. 57-12-5)	20	With reference to APHA 4500 CN— B,C&E and followed by UV analysis	

Note / Key :

ppb = part(s) per billion

U. S. EPA = United States Environmental Protection Agency

APHA = American Public Health Association

Comment 1: The report [(6816)272-0243] is sub-contracted to BVCPS (Germany) For Perfluorinated Chemicals, Brominated and Chlorinated Flame Retardants, Other Flame Retardants, Halogenated Solvents, Glycols, Other Vocs & AOX Test.

Comment 2: The report [(6816)272-0243] is sub-contracted to BVCPS (Chennai, India) For Phenol, Ammonium-N, Total-N, ANIONS – Sulfide, ANIONS – Sulfite & Coliform Test.




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APPENDIX B

		FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE FOR 11 PRIORITY CHEMICALS (COMPOSITE SAMPLING)		
General Data				
Laboratory Sample Number	(6816)272-0243			
Client Name	C & A			
Field Contact Person	Engr. Md. Yasir Arafat	Phone No: 01823-237584		
Project (Facility Name and Address)	Comfit Composite Knit Ltd, Gorai, Mirzapur, Tangail, Bangladesh.			
Sampling Location / Description	Incoming water			
Sample Identification	Zero discharge with sampling plan			
Sample Type	Time-Weighted Composite Grab Samples			
Name of Sampler	Md. Mahade Hasan			
Discharge mode	Direct discharge to environment (Specify destination: River)			
Date and time collected	27/09/2016 (12.00 pm, 01.00 pm, 2.00 pm, 3.00 pm, 4.00 pm, 5.00 pm, 6.00 pm, 7.00 pm)			
Factory Type	Dyeing/Printing/Washing/Finishing/Other (please specify) Dyeing		Dyeing/Printing/Finishing	
	*Note: It would be selected more than one			
Field Data for wastewater				
Field Parameters	pH : 6.7, 6.9, 6.7, 6.6, 6.8, 6.7, 7.1, 6.9	Temp : 31.6, 30.9, 30.3, 32.1, 31.8, 32.2, 31.7, 33.2 °C	Color : Colorless	
Control No. of field equipment				
Analysis Required and Preservation Method				
Factory with effluent treatment plant	Yes			
	Incoming Water			
Sampler container number				
Recording time				
Volume collected, mL				
Total volume collected	Remark: Total volume collected must be greater than total of sample size required			
Tests	Test required	Total of sample size	Type of container	Preservation method
1. Phthalate		500 mL	Amber Glass, wash with nitric acid, rinse thoroughly with distilled water and dry before use	Without adding acid Store sample at 4°C
2. Brominated and chlorinated Flame retardant		500 mL		
3. Banned Azodyes		500 mL		
4. Organotin Compounds		500 mL		
5. SCCPs		500 mL		
6. Navy Blue		10 mL		
7. Dyes		500 mL		
8. Flame retardant		500 mL		
9. Free primary aromatic amines		500 mL		
10. Chlorobenzenes		500 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
11. Chlorophenols		500 mL		
12. APEOs/APs		500 mL		
13. Chlorinated Solvents		500 mL		Fill to full bottle without air; acidify to ~pH 2 with HCl and store sample at 4°C
14. Heavy Metals except CrVI		500 mL	Amber Glass, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Acidify to pH 2 with HNO ₃ and store at 4°C
15. CrVI		500 mL	Amber Glass, wash with pesticide grade acetone	Fill to full bottle without air nor adding acid and store sample at 4°C
16. PFCs		500 mL	PE, wash with pesticide grade Acetone;	Without adding acid Store sample at 4°C
17. Cyanide		500 mL	Amber Glass, wash with pesticide grade	Adjust pH 12 with 50% NaOH and store at 4°C




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 FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE FOR 11 PRIORITY CHEMICALS (COMPOSITE SAMPLING)				
General Data				
Laboratory Sample Number	(6816)272-0243			
Client Name	C & A			
Field Contact Person	Engr. Md. Yasir Arafat	Phone No: 01823-237584		
Project (Facility Name and Address)	Comfit Composite Knit Ltd, Gorai, Mirzapur, Tangail, Bangladesh.			
Sampling Location / Description	Wastewater before treatment			
Sample Identification	Zero discharge with sampling plan			
Sample Type	Time-Weighted Composite Grab Samples			
Name of Sampler	Md. Mahade Hasan			
Discharge mode	Direct discharge to environment (Specify destination: River)			
Date and time collected	27/09/2016 (12.00 pm, 01.00 pm, 2.00 pm, 3.00 pm, 4.00 pm, 5.00 pm, 6.00 pm, 7.00 pm)			
Factory Type	Dyeing/Printing/Washing/Finishing/Other (please specify) Dyeing		Dyeing/Printing/Finishing	
	*Note: It would be selected more than one			
Field Data for wastewater				
Field Parameters	pH : 8.7, 8.9, 9.1, 9.6, 8.7, 9.3, 8.6, 8.9	Temp : 43.6, 45.1, 42.8, 44.6, 43.8, 44.6, 43.2, 44.2 °C	Color : Green	
Control No. of field equipment				
Analysis Required and Preservation Method				
Factory with effluent treatment plant	Yes			
	Wastewater before treatment			
Sampler container number				
Recording time				
Volume collected, mL				
Total volume collected	Remark: Total volume collected must be greater than total of sample size required			
Tests	Test required	Total of sample size	Type of container	Preservation method
1. Phthalate		500 mL	Amber Glass, wash with nitric acid, rinse thoroughly with distilled water and dry before use	Without adding acid Store sample at 4°C
2. Brominated and chlorinated Flame retardant		500 mL		
3. Banned Azodyes		500 mL		
4. Organotin Compounds		500 mL		
5. SCCPs		500 mL		
6. Navy Blue		10 mL		
7. Dyes		500 mL		
8. Flame retardant		500 mL		
9. Free primary aromatic amines		500 mL		
10. Chlorobenzenes		500 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
11. Chlorophenols		500 mL		Fill to full bottle without air, acidify to ~pH 2 with HCl and store sample at 4°C
12. APEOs/APs		500 mL		
13. Chlorinated Solvents		500 mL	Amber Glass, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Acidify to pH 2 with HNO ₃ and store at 4°C
14. Heavy Metals except CrVI		500 mL		Fill to full bottle without air nor adding acid and store sample at 4°C
15. CrVI		500 mL	Amber Glass, wash with pesticide grade acetone	Without adding acid Store sample at 4°C
16. PFCs		500 mL	PE, wash with pesticide grade Acetone;	Adjust pH 12 with 50% NaOH and store at 4°C
17. Cyanide		500 mL	Amber Glass, wash with pesticide grade acetone	



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	FIELD DATA RECORD ON ZERO DISCHARGE SAMPLE FOR 11 PRIORITY CHEMICALS (COMPOSITE SAMPLING)
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General Data	
Laboratory Sample Number	(6816)272-0243
Client Name	C & A
Field Contact Person	Engr. Md. Yasir Arafat Phone No: 01823-237584
Project (Facility Name and Address)	Comfit Composite Knit Ltd, Gorai, Mirzapur, Tangail, Bangladesh.
Sampling Location / Description	Discharged Wastewater
Sample Identification	Zero discharge with sampling plan
Sample Type	Time-Weighted Composite Grab Samples
Name of Sampler	Md. Mahade Hasan
Discharge mode	Direct discharge to environment (Specify destination: River)
Date and time collected	27/09/2016 (12.00 pm, 01.00 pm, 2.00 pm, 3.00 pm, 4.00 pm, 5.00 pm, 6.00 pm, 7.00 pm)
Factory Type	Dyeing/Printing/Washing/Finishing/Other (please specify) Dyeing Dyeing/Printing/Finishing
	*Note: It would be selected more than one

Field Data for wastewater			
Field Parameters	pH : 6.7, 6.6, 7.2, 6.8, 6.7, 7.2, 6.9, 6.8	Temp : 32.2, 31.8, 32.6, 33.5, 32.7, 32.6, 33.1, 31.2 °C	Color : Greenish
Control No. of field equipment			

Analysis Required and Preservation Method				
Factory with effluent treatment plant	Yes			
Sample matrix	Discharged Wastewater – water at discharge point			
Sampler container number				
Recording time				
Volume collected, mL				
Total volume collected	Remark: Total volume collected must be greater than total of sample size required			
Tests	Test required	Total of sample size	Type of container	Preservation method
1. Phthalate		500 mL	Amber Glass, wash with nitric acid, rinse thoroughly with distilled water and dry before use	Without adding acid Store sample at 4°C
2. Brominated and chlorinated Flame retardant		500 mL		
3. Banned Azodyes		500 mL		
4. Organotin Compounds		500 mL		
5. SCCPs		500 mL		
6. Navy Blue		10 mL		
7. Dyes		500 mL		
8. Flame retardant		500 mL		
9. Free primary aromatic amines		500 mL		
10. Chlorobenzenes		500 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
11. Chlorophenols		500 mL		
12. APEOs/APs		500 mL		
13. Chlorinated Solvents		500 mL		Fill to full bottle without air; acidify to ~pH 2 with HCl and store sample at 4°C
14. Heavy Metals except CrVI		500 mL	Amber Glass, wash with nitric acid, pre-add 6.5mL of 2M HNO3	Acidify to pH 2 with HNO3 and store at 4°C
15. CrVI		500 mL	Amber Glass, wash with pesticide grade acetone	Fill to full bottle without air nor adding acid and store sample at 4°C
16. PFCs		500 mL	PE, wash with pesticide grade Acetone;	Without adding acid Store sample at 4°C
17. Cyanide		500 mL	Amber Glass, wash with pesticide grade acetone	Adjust pH 12 with 50% NaOH and store at 4°C

END