

TEST REPORT

Technical Report April 21, 2022 (7322)060-0012

Date Received Feb 28, 2022 Page 1 of 31

Artistic Garment Industries (AGI DENIM) (Pvt) Ltd. Factory Company Name:

Factory Address: Survey # 16 & 17 Deh Khando Tappo Landhi Bin Qasim Town Karachi, Pakistan,

75020

Project No.: 2022

Client Reference No.:

Sampling Method: I001) Incoming Water - Grab Sample

N/A

None

Comply

I002) Raw Wastewater – 6 hours - Time – Weighted Composite Grab Samples I003) Treated Wastewater - 6 hours - Time - Weighted Composite Grab Samples

I004) Sludge – Grab Sample

Sample Pick Up Date: Feb 26, 2022

Wastewater Discharge to: Factory Owned ETP

On-Site Effluent Treatment

Plant (ETP):

Discharge Type: Direct Discharge

Off-site ETP name (if N/A

applicable):

Off-site ETP address (if

applicable):

Local Regulation / Ordinance /

requirements related to wastewater discharged are

followed:

Permit Validation Date: Parameters Exceeded Local

Regulation

Legal compliance:

Conventional Parameters

Overall Category:

Foundational (ZDHC WW Guideline V 1.1)

Test Period: Feb 26, 2022 – April 21, 2022

Sample Description:

1001) Colorless Liquid-Incoming Water I002) Black Color Liquid – Raw Wastewater

1003) Light Yellowish Color Liquid - Treated Wastewater

Sindh Environmental Quality Standard-Pakistan. (SEQS)

1004) Black Color Solid – Sludge

Parameters exceeded maximum

Total -P, Coliform holding time:

Environmental Conditions:

26.37°C Relative Humidity = Temperature = 51.23%

BV Consumer Products Services Pakistan Pvt. Ltd. 191-S, Quaid-i-Azam Industrial Estate Area, Kot Lakpath, Township, Tel: +92-42-35215779-83 Fax: +92-42-35215787

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REMARK

Extractions of parameters of 2A) APs and APEOs, 2B) Chlorobenzenes and Chlorotoluenes 2C) Chlorophenols, 2D) Azo Dyes, 2E) Carcinogenic Dyes, 2F) Disperse Dyes, 2L) Phthalates have been performed in BV Pakistan Laboratory, other substance instrumental analysis has been subcontracted.

Analysis of Table 1B) Conventional Parameters - heavy metals have subcontracted and Analysis of Table 1A conventional parameters, except pH, temperature, TSS, COD, BOD and Oil & Grease have subcontracted to other Local Lab

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

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BV CONSUMER PRODUCTS SERVICES (PAKISTAN) PVT. LTD.

Reviewed by: Approved by: Abdullah Liagat Irshad Ahmad Technical Manager Analytical Deputy Manager Environment/Analytical irshad.ahmad@bureauveritas.com



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Executive Summary:

1A) Conventional Parameters	1001	1002	1003	1004
Temperature				
TSS				
COD				
Total-N				
pH Value				
Color [m ⁻¹] (436nm; 525nm; 620nm)]			
BOD ₅				
Ammonium-N	N/A	N/A		N/R
Total-P]			
AOX]			
Oil and Grease]			
Phenol]			
Coliform				
Persistent Foam]			
ANIONS – Cyanide				N/A
ANIONS – Sulfide				N/R
ANIONS – Sulfite				IN/IX
1B) Conventional Parameters – METALS				N/A

Notes/keys:

- \square Meet Foundational Limit / Meet discharge license criteria
- – Exceeding Foundational Limit / Exceeding discharge license criteria

NR - Not Requested / Not required

N/A- Not Applicable

ZDHC MRSL Substances	1001	1002	1003	1004
2A) APs and APEOs	N/A	О	О	О
2B) Chlorobenzenes and Chlorotoluenes	N/A	О	О	О
2C) Chlorophenols	N/A	О	О	О
2D) Azo Dyes	N/A	О	О	О
2E) Carcinogenic Dyes	N/A	О	О	О
2F) Disperse Dyes	N/A	О	О	О
2G) Flame Retardants	N/A	0	0	0
2H) Glycols	N/A	О	О	О
2I) Halogenated Solvents	N/A	О	О	О
2J) Organotin Compounds	N/A	0	0	0
2K) Perfluorinated and Polyfluorinated Chemicals	N/A	О	О	О
2L) Phthalates	N/A	0	0	0
2M) Poly Aromatic Hydrocarbons	N/A	0	0	0
2N) Volatile Organic Compounds	N/A	0	0	0



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Note / Key:

- \bullet Detected
- o-Not Detected
- NR-Not Request
- 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, four environment samples were sampled per factory, including 1) Incoming Water; 2) Raw Wastewater; 3) Discharged Wastewater (treated wastewater) and 4) 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 data records are attached in Appendix C.



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Test Result

1A) Conventional Parameters

Temperature

Test Method: Measurement by thermometer

Tested Item(s)	Result	Unit	Conclusion
1003	33.94 (Foundational)	deg. C	DATA

Note:

deg. C = degree Celsius (°C)

Foundational Limit: ▲15 / max. 35°C; Progressive Limit: ▲10 / max. 30°C; Aspirational Limit: ▲5 / max. 25°C

Total Suspended Solids (TSS)

Test Method: Reference to APHA 2540D

Tested Item(s)	Result	Unit	Conclusion
1003	20 (Foundational)	mg/L	DATA

Note:

 $mg/L = milligram \ per \ liter$

Foundational Limit: 50 mg/L; Progressive Limit: 15 mg/L; Aspirational Limit: 5 mg/L

Chemical Oxygen Demand (COD)

Test Method: Reference to APHA 5220D

Tested Item(s)	Result	Unit	Conclusion
1003	55 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per lite

Foundational Limit: 150 mg/L; Progressive Limit: 80 mg/L; Aspirational Limit: 40 mg/L



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Total Nitrogen (Total-N)

Test Method: Reference to APHA 4500N-C

Tested Item(s)	Result	Unit	Conclusion
1003	ND (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

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

pH Value

Test Method : Reference to APHA-4500-H⁺B

-	Unit	Result	
Test Item(s)	-	1003	
Parameter	-	-	
Temp. of sample	deg. C	33.94	
pH value of sample	-	8.0 (Comply with ZDHC WWG requirements)	
Conclusion	-	DATA	

Note:

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

Color [m⁻¹] (436nm; 526nm; 620nm)

Test Method: With reference to ISO 7887-B,

Tested Item(s)	Result	Unit	Conclusion
1003	6.4,3.4,2.4 (Foundational)	m ⁻¹	DATA

Note:

Foundational Limit: 7;5; 3 m⁻¹; Progressive Limit: 5;3;2 m⁻¹; Aspirational Limit: 2;1;1 m⁻¹



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Biochemical Oxygen Demand (BOD₅)

Test Method : Reference to APHA 5210B

Tested Item(s)	Result	Unit	Conclusion
1003	28.4 (Foundational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 30 mg/L; Progressive Limit: 15 mg/L; Aspirational Limit: 5 mg/L

Ammonia Nitrogen

Test Method : Reference to APHA 4500 NH₃-N

Tested Item(s)	Result	Unit	Conclusion
1003	ND (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 10 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.5 mg/L

Total Phosphorus (Total-P)

Test Method: Reference to APHA 4500P-J

Tested Item(s)	Result	Unit	Conclusion
1003	3.00 (Foundational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 3 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.1 mg/L

Adsorbable Organic Halogen (AOX)

Test Method: Reference to U. S. EPA 1650

Tested Item(s)	Result	Unit	Conclusion
1003	0.28 (Progressive)	mg/L	DATA



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Note:

mg/L = milligram per liter

Foundational Limit: 5 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.1 mg/L

Oil and Grease

Test Method: Reference to ISO 9377-2

Tested Item(s)	Result	Unit	Conclusion
1003	1.29 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 10 mg/L; Progressive Limit: 2 mg/L; Aspirational Limit: 0.5 mg/L

Phenol

Test Method: Reference to APHA 5530B

Tested Item(s)	Result	Unit	Conclusion
1003	ND (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

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

Coliform

Test Method: Reference to ISO 9308-1

Tested Item(s)	Result	Unit	Conclusion
1003	20 (Aspirational)	CFU/ 100 mL	DATA

Note:

CFU100 mL = Colony Forming Unit per 100 milliliters

Foundational Limit: 400 / 100 ml; Progressive Limit: 100 / 100 ml; Aspirational Limit: 25 / 100 ml;



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<u>Foam</u>

Test Method : Visual

Tested Item(s)	Result	Unit	Conclusion
1003	No foam (Comply with ZDHC WWG requirements)	-	DATA

ANIONS - Cyanide

Test Method: Reference to APHA 4500-CN (waste water)

Tested Item(s)	Result	Unit	Conclusion
1003	0.006 (Aspirational)	mg/L	DATA
1004	ND	mg/Kg	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L

ANIONS - Sulfide

Test Method : Reference to APHA 4500 S²—D

Tested Item(s)	Result	Unit	Conclusion
1003	0.02 (Progressive)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 0.5 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L

ANIONS - Sulfite

Test Method : Reference to U. S. EPA 377.1

Tested Item(s)	Result	Unit	Conclusion
1003	0.06 (Aspirational)	mg/L	DATA

Note:

mg/L = milligram per liter

Foundational Limit: 2 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.2 mg/L



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Dry mass (total solids)

Test Method : Reference to US EPA 160.3

Tested Item(s)	Result	Unit	Conclusion
I004	67	%	DATA



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1B) Conventional Parameters – METALS

Heavy Metals	1001 (mg/L))	1002 (mg/L)	1003 (mg/L)	1004(mg/Kg)
Antimony(Sb) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L		0.015 (Progressive)	0.007 (Aspirational)	
Chromium(Cr), total Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L		0.1 (Progressive)	0.095 (Progressive)	
Cobalt(Co) Foundational Limit: 0.05 mg/L; Progressive Limit: 0.02 mg/L; Aspirational Limit: 0.01 mg/L		ND (Aspirational)	ND (Aspirational)	
Copper(Cu) Foundational Limit: 1 mg/L; Progressive Limit: 0.5 mg/L; Aspirational Limit: 0.25 mg/L	N/A	0.07 (Aspirational)	0.18 (Aspirational)	
Nickel (Ni) Foundational Limit: 0.2 mg/L; Progressive Limit: 0.1 mg/L; Aspirational Limit: 0.05 mg/L		0.07 (Progressive)	0.03 (Aspirational)	
Silver (Ag) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.005 mg/L		ND (Aspirational)	ND (Aspirational)	
Zinc(Zn) Foundational Limit: 5 mg/L; Progressive Limit: 1 mg/L; Aspirational Limit: 0.5 mg/L		0.68 (Progressive)	0.91 (Progressive)	
Arsenic (As) Foundational Limit: 0.05 mg/L; Progressive Limit: 0.01 mg/L; Aspirational Limit: 0.005 mg/L	ND (Aspirational)	ND (Aspirational)	0.002 (Aspirational)	ND
Cadmium(Cd) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L	ND (Aspirational)	ND (Aspirational)	ND (Aspirational)	ND
Lead(Pb) Foundational Limit: 0.1 mg/L; Progressive Limit: 0.05 mg/L; Aspirational Limit: 0.01 mg/L	0.1 (Foundational)	0.012 (Progressive)	0.008 (Aspirational)	2.7
Mercury (Hg) Foundational Limit: 0.01 mg/L; Progressive Limit: 0.005 mg/L; Aspirational Limit: 0.001 mg/L	ND (Aspirational)	ND (Aspirational)	ND (Aspirational)	ND
Chromium VI(CrVI) Foundational Limit: 0.05 mg/L; Progressive Limit: 0.005 mg/L; Aspirational Limit: 0.001 mg/L	ND (Aspirational)	0.0044 (Progressive)	ND (Aspirational)	0.072



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Others Priority Chemical Groups

ZDHC MRSL Substances	1001	1002	1003	1004
2A) APs and APEOs	N/A	ND	ND	ND
2B) Chlorobenzenes and Chlorotoluenes	N/A	ND	ND	ND
2C) Chlorophenols	N/A	ND	ND	ND
2D) Azo Dyes	N/A	ND	ND	ND
2E) Carcinogenic Dyes	N/A	ND	ND	ND
2F) Disperse Dyes	N/A	ND	ND	ND
2G) Flame Retardants	N/A	ND	ND	ND
2H) Glycols	N/A	ND	ND	ND
2I) Halogenated Solvents	N/A	ND	ND	ND
2J) Organotin Compounds	N/A	ND	ND	ND
2K) Perfluorinated and Polyfluorinated	N/A	ND	ND	ND
2L) Phthalates	N/A	ND	ND	ND
2M) Poly Aromatic Hydrocarbons	N/A	ND	ND	ND
2N) Volatile Organic Compounds	N/A	ND	ND	ND

Remark:

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



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APPENDIX A- Photo of the Sample/ Sampling Location

(**I001**) Sampling Point 24°52'26.9"N 67°16'08.5"E



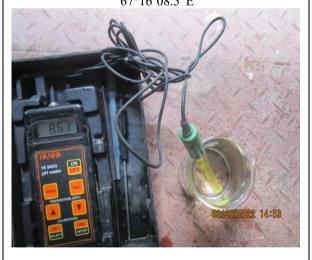
(I001) Sampling Point Surrounding Environment $24^{\circ}52'26.9"N$ $67^{\circ}16'08.5"E$



(I001) All sampled bottles with label $24^{\circ}52^{\circ}26.9^{\circ}N$ $67^{\circ}16^{\circ}08.5^{\circ}E$



(**I001**) **pH value** 24°52'26.9"N 67°16'08.5"E





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(I001) Sample for Phthalate Testing



(I001) Packaging



(**I002**) Sampling Point 24°52'26.9"N 67°16'08.5"E



(I002) Sampling Point Surrounding Environment 24°52'26.9"N 67°16'08.5"E



(I002) All sampled bottles with label $24^{\circ}52^{\circ}26.9$ "N $67^{\circ}16^{\circ}08.5$ "E



(**I002**) **pH value** 24°52'26.9"N 67°16'08.5"E





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(**I002**) Sample for Phthalate Testing 24°52'26.9"N 67°16'08.5"E



(I002) Packaging



(**I003**) Sampling Point 24°52'26.9"N 67°16'08.5"E



(I003) Sampling Point Surrounding Environment 24°52'26.9"N 67°16'08.5"E



(I003) All sampled bottles with label $24^{\circ}52\dot{\,}'26.9\ddot{\,}''N$ $67^{\circ}16\dot{\,}'08.5\ddot{\,}'E$



(**I003**) **pH value** 24°52'26.9"N 67°16'08.5"E





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(**I003**) Sample for Phthalate Testing 24°52'26.9"N 67°16'08.5"E



(I003) Sample for Phthalate Testing



(**I004**) Sampling Point 24°52'26.9"N 67°16'08.5"E



(I004) Sampling Point Surrounding Environment $24^{\circ}52'26.9"N$ $67^{\circ}16'08.5"E$



(I004) All sampled bottles with label $24^{\circ}52'26.9$ "N $67^{\circ}16'08.5$ "E



(**I004**) Sample for Phthalate Testing 24°52'26.9"N 67°16'08.5"E





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APPENDIX B

			Repor	t Limit	
Group	Substance (Testing parameter)	CAS No.	Wastew ater (ug/L)/(ppb)	Sludge (mg/kg) /(ppm)	Name of the testing method
	Octylphenol OP, mixed isomers	Various (incl. 140-66-9, 1806-26-4, 27193-28-8)	5	0.2	NP/OP: ISO 18857- 2 (modified dichloromethane
2A. Alkylphenol	Nonylphenol NP	Various (incl. 104-40-5, 11066-49-2, 25154-52-3, 84852-15-3)	5	0.2	extraction) or ASTM D7065 (GC/MS or LC/MS(-MS)
(AP) and Alkylphenol Ethoxylates	Octylphenol Ethoxylates OPEO (2-16)	Various (incl. 9002-93-1, 9036-19-5, 68987-90-6)	5	0.2	OPEO/NPEO: ISO18857-2 or
(APEOs): including all isomers	Nonylphenol Ethoxylates NPEO (2-18)	Various (inc. 9016-45-9, 26027-38-3, 37205-87-1, 68412-54-4, 127087-87-0)	5	0.2	ASTM D7065(LC/MS; GC/MS or LC/MSMS for n=1,2)
					APEO 1-18
	Chlorobenzene	108-90-7	0.2	0.1	
	Dichlorobenzene	Various	0.2	0.1	
	Trichlorobenzene	Various	0.2	0.1	
	Tetrachlorobenzene	Various	0.2	0.1	
	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-Tetraclorobenzene	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	USEPA
2B. Chlorobenzenes	Hexachlorobenzene	1198-74-1	0.2	0.1	8260B,8270D.
and Chlorotoluenes	2-Chlorotoluene	95-49-8	0.2	0.1	Dichloromethane
and emorotoracines	3-Chlorotoluene	108-41-8	0.2	0.1	extraction followed
	4-Chlorotoluene	106-43-4	0.2	0.1	by GC/MS
	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	



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			Danas	t Limit	
			Repor	l LIIIIII	
	Substance (Testing	G . G . Y	Wastew		Name of the testing
Group	parameter)	CAS No.	ater	Sludge	method
			(ug/L)/((mg/kg)	
			ppb)	/(ppm)	
	2,3,4,6-Tetrachlorotoluene	875-40-1	0.2	0.1	
	Pentachlorotoluene	877-11-2	0.2	0.1	
	2-Chlorophenol	95-57-8	0.5	0.025	1
	3-Chlorophenol	108-43-0	0.5	0.025	-
	4-Chlorophenol 2,3-Dichlorophenol	106-48-9 576-24-9	0.5	0.025	-
	2,4-Dichlorophenol	120-83-2	0.5	0.025	-
	2,4-Dichlorophenol	583-78-8	0.5	0.025	-
	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	USEPA 8270 D
	2,3,4-Trichlorophenol	15950-66-0	0.5	0.025	Solvent extraction, derivatisation with
2C. Chlorophenols	2,3,5-Trichlorophenol	933-78-8	0.5	0.025	KOH, acetic
	2,3,6-Trichlorophenol	933-75-5	0.5	0.025	anhydride followed
	2,4,5-Trichlorophenol	95-95-4	0.5	0.025	by GC/MS
	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	
	Tetrachlorophenol (TeCP)	Various (incl. 25167-83-3)	0.5	0.025	
	4,4`-Methylene-bis-(2-chloro-aniline)	101-14-4	0.1	0.1	
	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	<u> </u>
	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-	615-05-4	0.1	0.1	EN 14362.
2D. Dyes - Azo	phenylenediamine 4,4`-Methylene-di-o-				Reduction step with
(Forming Restricted Amines)	toluidine	838-88-0	0.1	0.1	Sodiumdithionite, solvent extraction,
,	2,6-Xylidine	87-62-7	0.1	0.1	GC/MS or LC/MS
	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-	95-80-7	0.1	0.1	
	phenylenediamine				-
	o-Aminoazotoluene	97-56-3	0.1	0.1	-
2F Dues	5-nitro-o-toluidine	99-55-8		0.1	Liquid Extraction
2E. Dyes-	C.I. Direct Black 38	1937-37-7	500	1	Liquid Extraction



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			Renor	t Limit		
			Керог	t Lillit		
Group	Substance (Testing	CAS No.	Wastew	Sludge	Name of the testing	
Group	parameter)	CAS NO.	ater	(mg/kg)	method	
			(ug/L)/(/(ppm)		
	GI Di a Di a	2502.45.2	ppb)		T C 2 T C	
Carcionogenic or	C.I. Direct Blue 6	2602-46-2	500	1	LC/MS	
Equivalent Concern	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 C.I. Basic Blue 26	2475-46-9	500	1	-	
	(withMichler's Ketone >	2580-56-5	500	1		
	(withvirener's Ketone > 0.1%)	2380-30-3	300	1		
	C.I. Basic Green				-	
	4(malachite green chloride)	569-64-2	500	1		
	C.I. Basic Green 4				1	
	(malachite green oxalate)	2437-29-8	500	1		
	C.I. Basic Green	10200 07.2	705		1	
	4(malachite green)	10309-95-2	500	1		
	Disperse Orange 11	82-28-0	500	1	1	
	Disperse Yellow 1	119-15-3	50	1		
	Disperse Blue 102	12222-97-8	50	1		
	Disperse Blue 106	12223-01-7	50	1		
	Disperse Yellow 39	12236-29-2	50	1	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		
2E D 1'	Disperse Red 11	2872-48-2	50	1	1	
2F. Dyes-disperse (sensitizing)	Disperse Red 1	2872-52-8	50	1	Liquid Extraction LC/MS	
(sensitizing)	Disperse Red 17	3179-89-3	50	1	LC/MS	
	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		
	Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	5	1		
	Decabromodiphenyl ether (DecaBDE)	1163-19-5	5	1		
	Tris(2,3-dibromopropyl) phosphate (TRIS/TDBPP)	126-72-7	5	1		
2G F	Pentabromodiphenyl ether (PentaBDE)	32534-81-9	5	1	ISO 22032, USEPA527 and	
2G. Flame Retardants	Octabromodiphenyl ether (OctaBDE)	32536-52-0	5	1	USEPA8321B. Dichloromethane	
	Bis(2,3-dibromopropyl) phosphate (BIS/BDBPP)	5412-25-9	5	1	extraction GC/MS or LC/MS(-MS)	
	Tris(aziridinyl)- phosphineoxide (TEPA)	545-55-1	5	1		
	Polybromobiphenyls (PBBs)	59536-65-1	5	1		
	Tetrabromobisphenol A	79-94-7	5	1	1	
	ı ı	l .	1		1	



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			Repor	t Limit	
Group	Substance (Testing parameter)	CAS No.	Wastew ater (ug/L)/(ppb)	Sludge (mg/kg) /(ppm)	Name of the testing method
	(TBBPA)				
	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)	85535-84-8	5	1	
	Bis(2-methoxyethyl)-ether	111-96-6	50	5	
	2-ethoxyethanol	110-80-5	50	5	
	2-ethoxyethyl acetate	111-15-9	50	5	
OH Classia	Ethylene glycol dimethyl ether	110-71-4	50	5	US EPA 8270 Liquid Extraction
2H. Glycols	2-methoxyethanol	109-86-4	50	5	LC/MS
	2-methoxyethylacetate	110-49-6	50	5	LC/WIS
	2-methoxypropylacetate	70657-70-4	50	5	
	Triethylene glycol dimethyl ether	112-49-2	50	5	
	1,2-Dichloroethane	107-06-2	1	1	USEPA 8260B
2I. Halogenated	Methylene Chloride	75-09-2	1	1	Headspace GC/MS
Solvents	Trichloroethylene	79-01-6	1	1	or Purgeand-Trap-
	Tetrachloroethylene	127-18-4	1	1	GC/MS
	Mono-, di- and tri- methyltin derivatives	Various (incl. 993-16-8, 753-73-1, 1066-45-1)	0.01	0.1	
	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	0.1	100 17252
2J. Organotin Compounds	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	0.1	ISO 17353 Derivatisation with NaB(C2H5) GC/MS
	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	0.1	
	Perfluorooctanesulfonic acid (PFOS)	355-46-4 ,432-50-7	0.01	0.05	DIN 38407-42 (modified)
	Perfluoro-n-octanoic acid (PFOA)	335-67-1/335-95-5	0.01	0.05	Ionic PFC: Concentration or
2K. Perfluorinated and Polyfluorinated	Perfluorobutanesulfonic acid (PFBS)	29420-49-3, 29420-43-3	0.01	0.05	direct injection, LC/MS(-MS);
Chemicals (PFCs)	Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	0.01	0.05	Non-ionic PFC (FTOH):
	8:2 FTOH	678-39-7	1	0.5	derivatisation with
	6:2 FTOH	647-42-7	1	0.5	acetic anhydride, followed by GC/MS
2L. Phthalates (including all other	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	10	1	US EPA 8270D, ISO 18856
esthers of phthalic acid)	Dimethoxyethyl phthalate (DMEP)	117-82-8	10	1	Dichloromethane extraction GC/MS
/	Di-n-octyl phthalate	117-84-0	10	1	



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			Repor	t Limit	
Group	Substance (Testing parameter)	CAS No.	Wastew ater (ug/L)/(ppb)	Sludge (mg/kg) /(ppm)	Name of the testing method
	(DNOP)				
	Di-iso-decyl phthalate (DIDP)	26761-40-0	10	1	
	Di-iso-nonyl phthalate (DINP)	28553-12-0	10	1	
	Di-n-hexyl phthalate (DnHP)	84-75-3	10	1	
	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	
	Benzo[a]pyrene (BaP)	50-32-8	1	1	
	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	
2M. Poly Aromatic	Benzo[b]fluoranthene	205-99-2	1	1	DIN 38407-39
Hydrocarbons	Fluoranthene	206-44-0	1	1	Solvent extraction
(PaHs)	Benzo[k]fluoranthene	207-08-9	1	1	GC/MS
(= ====)	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	
	Benzene	71-43-2	1	0.1	ISO 11423-1
2N. Volatile	Xylene	1330-20-7	1	0.1	Headspace- or
Organic Compound	o-cresol	95-48-7	1	0.1	Purge-and-Trap-
(VOCs)	p-cresol	106-44-5	1	0.1	GC/MS
	m-cresol	108-39-4	1	0.1	
1A. Conventional	Temperature	_	N/A	N/A	Apply the standard
Parameters	TSS	_	N/A	N/A	methods that best



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			Repor	t Limit		
Group	Substance (Testing parameter)	CAS No.	Wastew ater (ug/L)/(ppb)	Sludge (mg/kg) /(ppm)	Name of the testing method	
	COD	_	N/A	N/A	apply to the region	
	Total-N	<u> </u>	N/A	N/A	(ISO, EU, US,	
	pH	-	N/A	N/A	China), please refer	
	Color [m ⁻¹] (436nm; 526nm; 620nm)	_	N/A	N/A	to ZDHC Wastewater	
	BOD5	_	N/A	N/A	Guidelines for more	
	Ammonium-N	-	N/A	N/A	details on the testing	
	Total-P	-	N/A	N/A	method and the levels (Exceeded	
	AoX	-	N/A	N/A	Foundational Limit,	
	Oil and Grease	_	N/A	N/A	Foundational,	
	Phenol	_	N/A	N/A	Progressive, and	
	Coliform(bacteria/100ml)		N/A	N/A	Aspirational).	
	Persistent Foam	_	Not visible	Not visible		
	ANIONS	1				
	Sulfide	_	N/A	N/A		
	Sulfite	<u> </u>	N/A	N/A		
			Report L	imit		
	Substance (Testing		Wastew	Sludge	Name of Testing	
Group	parameter)	CAS No.	ater	(mg/kg)	Method	
	parameter)		(mg/L)/ (ppm)	/(ppm)	Wichiod	
	Antimony(Sb)	7440-36-0	0.001	N/A	Various	
	Chromium(Cr), total	7440-47-3	0.001	N/A	Acid Digestion with	
	Cobalt(Co)	7440-48-4	0.001	N/A	ICP analysis	
	Copper(Cu)	7440-50-8	0.001	N/A		
	Nickel (Ni)	7440-02-0	0.001	N/A	please refer to	
	Silver (Ag)	7440-22-4	0.001	N/A	ZDHC Wastewater	
	Zinc(Zn)	7440-66-6	0.001	N/A	Guidelines for more	
	Arsenic (As)	7440-38-2	0.001	1	details on the testing method and the	
	Cadmium(Cd)	7440-43-9	0.0001	1	levels (Exceeded	
	Lead(Pb)	7439-92-1	0.001	1	Foundational Limit,	
1B. Conventional Parameters - METALS	Mercury (Hg)	7439-97-6	0.00005	0.1	Foundational, Progressive, and Aspirational).	
	Chromium VI(CrVI)	18540-29-9	0.001	1	Various Solvent extraction and derivatisation followed by UV analysis	
	Cyanide(CN-)	Various (incl. 57-12-5)	0.02	0.5	With reference to APHA 4500 CN— B,C&E and followed by UV analysis	

Note / Key:

ppb = part(s) per billion; ppm - part(s0 per million
 U. S. EPA = United States Environmental Protection Agency
 APHA = American Public Health Association



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APPENDIX C- Onsite Field Data Record Sheet

A COLOR								coep	****	
(F)		FIELD DATA	RECORD O	N ZERO DI	SCHARGE S	SAMPLE		Issue Date	00613-DATA 0	
				NDIVIDUAL				Version No		
VERITAS									Line: Analytical	
Seneral Data				-000 -000 -000 -000	8				1	
aboratory Sample No	umber:		7322-060-0012							
lient Name:			2DHC/ SELF							
eld Contact Person:		MR-IM			Phone No: C	313- 21	68589		_	
roject (Facility Name	and Address):	APTISTICS	MR-INVAN FUKAD Phone No: 63/3-2/168569 APTITICS GARPIAT NODUSTRICS PUT LTD SURVAY 152-17 DEH, KHANDO, TAPP							
ampling Location / D	escription:		INTOMING							
ample Identification:		Zero discharge	with sampling p	lan					_	
ample Type:		Composite Sa	mple / Grab samp	Please delete	as appropriate)				_	
ame of Sampler:		AR	SHAD	ALI					_	
scharge mode:				pacify destination: f	tiver, Coa, Otram.) OR Indirect d	asharya ta samaya k	-toste teamter		
ate of collection:			EB - 202							
ctory Type:		Dyeina Printin	g / Washing / Fir	others (olease specify):	DYEIN	4 / FINISH	HING	_	
		"Note: It would b	e selected more the	an one						
eld Data for Wastey ival Time:	yater	10:		In		11		1		
eld Parameters		рн: 8-6		Departure Time		16:1		Flow rate :	(volume/min)	
ntrol No. of field equ	ipment	p 0 . 6		Temp: 31-	C	Color 72A	NSPARANT	Fiow rate :	(votume/min)	
tory with effluent tre	3.0-0.10/p-300	_		Yos				No.		
,			Incoming water					40		
nple matrix:			Wastewater be							
			Wastewater after treatment – water at discharge point							
mpler container num	ber								1	
		1	2	3	4	5	6	7	8	
	ID				-					
ording time	Time	14:50								
3	•	8-61			 	15				
· (°C) :		31-1								
(visual estimation):	TANNS								
rate (volume/time)	1	-								
ne collected, mL		6000 ml								
volume collected		Goom	Remark: Total v	olume collected r	nust be greater th	an total of sam	ple size required		•	
vsis Required and	Preservation Method									
	MRSL Parameters)	Test required	Total of		ype of containe	_	1 2	servation met		
	-	(%)	sample size		ype or containe	<u> </u>	Pri	servation met	noa	
	1. Phthalate			1						
Combined test or	2. Chlorobenzenes, Chlorotoluene & PAH		1000 mL total				1			
individual test (Remark 4)	3. SCCPs		or 1000 mL each	l			1			
,	4. APS			1			1			
PEOs	1	_					1			
			100 mL				1			
hiorophenois & Cres	sols		100 mL	Amber G	ass,washed with ni	tric acid.				
lame retardant			500 mL	rir	need thoroughly wit istillated water and dried before use	h	l k	Vithout adding actions sample at 6°	id C	
yes			10 mL		dried before use					
tycol			50 mL				1			
			ASSESSED				1		- 1	
			1000 mL				1		1	
			10 mL						- 1	
			2000 ml	1						
Nitrosamina			2000 ML	4 1						
Nitrosamine Banned Azodyes	tic amines	-	500 mL							
*Pesticides *Nitrosamine Benned Azodyes *Free primery aroma Organotin Compoun			500 mL				Additute to the 2-	dib HCl and ct	annote at 61C	
Nitrosamine Banned Azodyes Free primary aroma Organotin Compoun	de		500 mL	Amber Gl	sss, washed with ni	tric sold		with HCl and store		
Nitrosamine Banned Azodyes Free primary aroma Organotin Compoun			500 mL		wee, washed with ni washed with pestici grade Acetone		Fill to full container		icidify to pH 2 with	

CPSD-AN-00813-DATA 04-FIELD DATA RECORD ZDHC SAMPLING-V13

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

CPSD-AN-00613-DATA 04 Issue Date: Version No.: 13 Business Line: Ana

Kernera					Business Line: Analytical
Tests (Conventional F	Paramoters)	Test required (V)	Total of sample	Type of container	Preservation method
or (TSS)	otal dissolved solids		2000 mL total or 2000 mL each	Amber Glass, washed with nilric acid, rinsed thoroughly with distillated water and dried before use	Without adding scid Store sample at 6°C
19. 5-day Brochemical Oxygen I	Demand (BODS)		1000 mL		
20. Heavy Metals except Cr(VI) 6)	& Total-P (Remark	V	9 mL	PE, washed with nitric acid	Acidify to pH 2 with HNO ₃ and store at 6°C
21 C/(VI)	95 ml. Amber Glass, washed with posticide grade scalone		Filter by 0.45µm filter in field, filt to full container without air gap; adjust pH to 9.0-9.5 by adding ammonium buffer. Store sample at 6°C		
22 Cyanide			500 mL	¥0	Adjust pH 12 with 50% NaOH, add 0.05 ml of 10% Na ₂ S ₂ O ₃ , and store sample at 6°C
23. Chemical oxygen demand (COD)			150 mL		Acidity to pH 2 with H2SO4
24 Phenois			500 mL	Amber Glass; washed with nitric acid	Store sample at 6°C
25. "Formaldehyde			25 mL		Fill to full container without air gap, acidify to pH 2 with H2SO4 and store sample at 5°C
26. Sulfide (Remark 5)	3. Sulfide (Remark 5)		50 mL	PE, washed with pesticide grade Acetone;	Fill to full container without air gap; add 2 drops of 2M zinc acetate, adjust pH to 9 with 6M NaOH Store sample at 6°C
27 Adsorbeble organically bound halogens (AOX)			100 mL	Amber Glass, washed with nitric acid	Add 0.05 ml of 10% Na ₂ S ₂ O ₃ , acidify to pH 2 with H ₂ SO ₄ . Store sample at 6°C
26. Total Coliform (Remark 6)			125 mL	PE, clean, sterile, non-reactive	Add 0.05 ml of 10% Na2S2O3, Store sample at 6°C
29 Persistent foam			N A	Foam higher than 45 cm (visu	al estimation): Yes / No
30 Suffite			100 mL	Amber Glass, washed with pesticide grade acetone	Add 1mL of 2.5% EDTA, 0.5g zinc acetate Store sample at 6°C
31 Total-N			100 mL	Amber Glass with wide-mouth PTFE lid;washed with	Acidity to pH 2 with H2SO4
32 Ammonium-N			500 mL	nitric acid;	Store sample at 6°C
33 Oil and Grease & Total Hydro	ocarbon		1000 mL	Amber Glass; washed with nitric acid;	Acidity to pH 2 with HCI Store sample at 6*C
34. Luminus Bacteria Toxicity			1000 mL		
35. Sulphate			100 mL	Amber Glass, washed with nitric acid, rinsed	Without adding acid
36. Chloride			100 mL	thoroughly with distillated water and dried before use	Store sample at 6°C
37, Color			100 mL		
38 Others:					
Observation/ Remark					

- 2 The minimum sampling time for 2016 ZDHC guideline is 6 hours with no more than one hour between discrete samples. Sampling time could be adjusted upon request.
- 3. Scope of ZDHC guideline: Parameter 1, 2, 4-9, 12, 14-17, 19-24, 26-33
 - Scope of synthetic leather industry: Parameter 1, 2, 4-9, 12, 14-17, 19-33
- Scope of MMCF Parameter 4, 5, 15, 17, 19-21, 23, 24, 26, 27, 31-34, 37
- Free primary aromatic amine, pesticides, nitrosamine and TDS are not in the scope of ZDHC Guidline, they are tested upon request.
- 4 Refer to CPSD-AN-G00019-STIP01, loactions with those CPSD test capability inside TCD matrix can perform the combined test.
- 5. Refer to CPSD-AN-000570-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested.

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

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Date: AB 26. 2022

A RECORD ZDHC SAMPLING-V13



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

CPSD-AN-00613-DATA 04
Issue Date:
Version No.: 13
Business Line: Analytical

General Data										
Laboratory Sample Nun	nber:		7322 -	-060-	0012					
Client Name:			70	AC I SE	LF				<u> </u>	
Field Contact Person:		MO.T				313 - 2	168589		_	£112911
Project (Facility Name a	nd Address):	Aprictic /	CARMENT	NOUMBIE	(ALIDENIN	DOYT LTD.	SURVEYILE	17 DEH.KH	ONOD TAPPO	PIN BASIM ENTHER!
Sampling Location / Des	scription:	PINISHE	OCT GIALAT	ER BEFL	183 TRE	TMENT	701-01111	, Park		Bin Oasim Karachi
Sample Identification:			with sampling pl		140	11			-	
Sample Type:			ple / Grab samp	_						
Name of Sampler:		ARSHAD ALI								
Discharge mode:		Direct discharge to environment (Specify destination: Others See, Stream) TOWARDS ETP								
Date of collection:		24- FEB- 2022-								
Factory Type:	1	Dyeing Printing / Washing Finishing Others (please specify): DYETNE /FINISHING *Note: It would be selected more than one								**
Field Data for Wastewa	ater	10	r			16:4	0	1		
Arrival Time:		10:1		Departure Time				F1	First man feet a	1
Field Parameters		pH: 11-3	+1	Temp: 33-	95 ℃	Color: BL	ACK	Flow rate :125	•5 (volume/min)	+
Control No. of field equip										4
Factory with effluent trea	itment plant:			res				No		4
			Incoming water	(If required)						-
Sample matrix:		4	1							
			Wastewater aft	er treatment – wa	ater at discharge	point				1
Sampler container numb	per]
1		1	2	3	4	5	6	7	8	
Recording time	ID]
Recording time	Time	10:35	11:35	12:39	13:35	14:41	15:38]
∲Н:		11095	11.03	11-92	12-04	11-77	11-58			
Temp (°C):		34.2	33.7	32.9	33.8	34.3	34.8]
Color (visual estimation)		BLACK	BLACK	BLACK	BLACK	BLACK	BLACK			
Flow rate (volume/time)		110	125	127	129	128	122			
Volume collected, mL		locome	1000 ml	louint	leaml	lowmz	1000 inL			
Total volume collected		Bers mL	Remark: Total v	volume collected	must be greater t	han total of samp	ole size required			
										Ī.
Analysis Required and Tests (ZDHC	Preservation Method MRSL Parameters)	Test required (v)	Total of sample size		Type of contain	er	Pr	reservation met	thod	
	1. Phthalate	1								
Combined test or	Chlorobenzenes, Chlorotoluene & PAH	-	1000 mL total							
Individual test (Remark 4)	3. SCCPs		1000 mL each							
	4. APS	~								
5. APEOs		V	100 mL							
6. Chlorophenols & Cres	ols	~	100 mL		Glass, washed with					
7. Flame retardant			500 mL		rinsed thoroughly w distillated water an dried before use	d		Without adding at 6 Store sample at 6		*
B. Dyes		レ	10 mL							
9. Glycol		レ	50 mL							
10. *Pesticides	1 ¹¹		1000 mL							

3. *Free primary aromatic amines

15. VOC & Halogenated Solvents (Remark 6)

4. Organotin Compounds

2000 mL

500 mL

500 mL

10 mL

Acidify to pH 2 with HCI and store sample at 6°C



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

CPSD-AN-00613-DATA 04 Issue Date: Version No.: 13

Tests (Conve	ntional Parameters)	Test required (v)	Total of sample size	Type of container	Preservation method	
Combined test or Individual test (Remark 4)	17. Total suspened solids (TSS) 18. *Total dissolved solids (TDS)		2000 mL lotal or 2000 mL each	Amber Glass, washed with nitric acid, rinsed thoroughly with distillated water and	Without adding acid Store sample at 6°C	
19. 5-day Biochemical C	xygen Demand (BOD5)		1000 mL	dried before use		
20. Heavy Metals excep	Cr(VI) & Total-P (Remark 6)	レ	9 mL	PE, washed with nitric acid	Acidity to pH 2 with HNO ₃ and store at 6°C	
21. Cr(VI)		レ	95 mL	Amber Glass, washed with pesticide grade acetone	Filter by 0.45µm filter in field, fill to full container without air gap, adjust pH to 9,0-9.5 by adding ammonium buffer. Store sample at 6°C	
22. Cyanide			500 mL		Adjust pH 12 with 50% NaOH, add 0.05 ml of 10 Na ₂ S ₂ O ₃ , and store sample at 5°C	
23. Chemical oxygen demand (COD)			150 mL		Acidity to pH 2 with H ₂ SO ₄	
24. Phenois			500 mL	Amber Glass; washed with nitric acid	Store sample at 6°C	
25. *Formaldehyde			25 mL		Fill to full container without air gap; acidity to pH 2 with H2SO4 and store sample at 6°C	
26. Sulfide (Remark 5)			50 mL	PE, washed with pesticide grade Acetone:	Fill to full container without air gap; add 2 drops of 28 zinc acetate, adjust pH to 9 with 6M NaOH Store sample at 6°C	
7. Adsorbable organically bound halogens (AOX)			100 mL	Amber Gless, washed with nitric acid	Add 0.05 ml of 10% Ne ₂ S ₂ O ₃ , acidly to pH 2 with H ₂ SO ₄ , Store sample at 6°C	
28. Total Coliform (Rema	rk 6)		125 mL	PE, clean, sterile, non-reactive	Add 0.05 ml of 10% Na2S2O3, Store sample at 6°C	
29. Persistent foam			N.A.	Foam higher than 45 cm (vieu	ual estimation): Yos / No	
30. Sulfite			100 mL	Amber Glass, washed with pesticide grade acetone	Add 1mL of 2.5% EDTA, 0.5g zinc acetate Store sample at 6°C	
31. Total-N			100 mL	Amber Glass with wide-mouth PTFE lid;washed with	Acidity to pH 2 with H25O4	
32. Ammonium-N			500 mL	nitric acid;	Store sample at 6°C	
33. Oil and Grease & Tota	al Hydrocarbon		1000 mL	Amber Glass; washed with nitric acid;	Acidify to pH 2 with HCI Store sample at 6°C	
4. Luminus Bacteria Tox	icity		1000 mL			
5. Sulphate			100 mL	Amber Glass, washed with nitric acid, rinsed thoroughly with distillated water and	Without adding acid	
6. Chloride			100 mL	dried before use	Store sample at 6°C	
7. Color	Later III and the		100 mL			
8. Others:						

- 1.Individual sampling can be performed upon request
- 2. The minimum sampling time for 2016 ZDHC guideline is 6 hours with no more than one hour between discrete sample.
- 3. Scope of ZDHC guideline: Parameter 1, 2, 4-9, 12, 14-17, 19-24, 26-33

Scope of synthetic leather industry: Parameter 1, 2, 4-9, 12, 14-17, 19-33

Scope of MMCF: Parameter 4, 5, 15, 17, 19-21, 23, 24, 26, 27, 31-34, 37

Free primary aromatic amine, pesticides, nitrosamine and TDS are not in the scope of ZDHC Guidline, they are tested upon request. 4. Refer to CPSD-AN-G00019-STIP01, loactions with those CPSD test capability inside TCD matrix can perform the combined test.

- 5. Refer to CPSD-AN-000570-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested.
- ē. Refer to CPSD-AN-00613-MTHD for preparation of field blank for specific parameters.

Recorded by:					Date:		
	Full name:						
Comment from factory	For full	ies mys	wemont	of ten	peralure	at	discharge
pant we as	e in mou	as of in	istalling of	doling 1	Toves.		U
Acknowledge of BR		eled the stated sampling a	octivity at captioned date	time and location. All	samole(s) is/are collecte	d in desinates	
1. 74	· / · · · · · ·	ge. Sample(s) collected by					
	EN MA	mojam Full Namo:	Mugael	_		, ,	ion



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COLUMN TO THE PARTY OF THE PART												
()		FIELD DATA	DECCES O	N 7500 DI	SCHAPGE (SAMD! E			0613-DATA 04			
			RECORD C					Issue Date: Version No.:				
VIIIIA		(00)	m OSHE/II	DIVIDUAL	LING	•			ne: Analytical			
General Data												
aboratory Sample N	umber:			- 1-	4017							
Client Name:				-060 -	0012							
field Contact Person:		10 5	and the second second second	HC/SE					•			
roject (Facility Name	and Address):	MR	MPAN 1	TURAD	Phone No:	0313-2	168.589	01.	outen KA			
Sampling Location / D		HEISTIC	GARFIEHT IN	DUSTRIES IVI	LTD. SURVE	Y 169-17-081	KHANDO	JARYO, BIL	DASIM KA			
sample Identification:			WASTE WA		FIER TR	PHITIENT			•			
ample Type:			mple Grab samp		as appropriate)				***			
ame of Sampler.		-	ARSHAD ALI									
ischarge mode:			to environment (S		tiver, See, Streeth) MAL	R DRAIN	4				
ate of collection:		26- F	EB -202	2		1,1416.			■ 6			
actory Type:		Dyeing / Printing	Dyeing / Printing / Washing / Finishing Others (please specify): DYEING FIN									
		*Note: It would b	e selected more th	en one					•0			
eld Data for Wastew rival Time:	rater	10:	16	L	70			1				
eld Parameters				Departure Time	<u> </u>	16:						
ontrol No. of field equ	ipment	рн: 8-с	,	Temp: 33-4	14 °C	Color: LYE	HOW	Flow rate : 119-	(volume/min)			
ctory with effluent tre			**	res I				<u> </u>				
	Processing and the second		Incoming water					40				
mple matrix:												
		×	Westewater before treatment Wastewater after treatment – water at discharge point									
mpler container numi	ber		The same of the sa	- Jeanon - wa	at also large p							
		1	2	3	4	5	6	7	8			
cording time	ID											
	Time	10:40	11:30	12:33	13:29	14:38	15:34					
:		8.06	7-93	7.47	8-02	8-11	7-91					
mp (°C):		34.01	33.8	34. 2	33.4	33.7	34.5					
or (visual estimation)		1. YELLOW	1. YELLOW	L-YELLOW	1. YELLOW	1-YELLOW	1-YELLOW					
v rate (volume/time)		118	112	117	119	125	128					
ume collected, mL		3000 ML	3000mL	30mmL	3000mL	3500 mL	3500 mL		200,140000			
il volume collected		19000 mL	Remark: Total v	olume collected n	nust be greater th	nan total of samp	le size required					
typis Required and	Preservation Method											
	ARSL Parameters)	Test required	Total of	1	vpe of containe		D.	eservation meth	0.4			
		(v)	sample size				Pr	31 TELLOII III BUI				
Combinations	1. Phthalate	1 V										
Combined test or	2. Chlorobenzenes, Chlorotoluene & PAH	-	1000 mL total		•	5						
	3. SCCPs		or 1000 mL each									
(Remark 4)	J. 50001 B											
	4. APS	V	1000 III.2 00011						1			
(Remark 4)		<i></i>	Total Control of the									
(Remark 4) PEOs	4. APS	V	100 mL									
(Remark 4) PEOs	4. APS		Total Control of the	Amber Gi	ass,washed with n	itric acid,						
(Remark 4)	4. APS	V	100 mL	rin d	sed thoroughly wit	h	\ \$	Without adding acid				
(Remark 4) PEOs Norophenois & Creso	4. APS	V V	100 mL	rin d	sed thoroughly wit	h	Š	Without adding acid				
(Remark 4) FEOs storophenois & Cresc ime retardant	4. APS	V V	100 mL 100 mL 500 mL 10 mL	rin d	sed thoroughly wit	h	\ \$	Without adding acid store sample at 6°C				
(Remark 4) FEOs korophenois & Cresc ime retardant es	4. APS	2 2 2 2 2 2	100 mL 100 mL 500 mL 10 mL	rin d	sed thoroughly wit	h	è	Without adding acid store sample at 6°C				
(Remark 4) EOs torophenols & Cresc me retardant es col esticides	4. APS	2 2 2 2 2 2	100 mL 100 mL 500 mL 10 mL	rin d	sed thoroughly wit	h	à	Without adding acid store sample at 6°C				
(Remark 4) EOs torophenols & Cresc me retardant	4. APS	2 2 2 2 2 2	100 mL 100 mL 500 mL 10 mL	rin d	sed thoroughly wit	h	à	Without adding acid				
(Remark 4) ECs torophenois & Cresc me retardant ss cool esticides	4. APS	2 2 2 2 2 2	100 mL 100 mL 500 mL 10 mL 50 mL	rin d	sed thoroughly wit	h	à	Milhout adding acid				
(Remark 4) EOs iorophenois & Cresc me retardant es col	4. APS	2 2 2 2 2 2	100 mL 100 mL 500 mL 10 mL 50 mL 1000 mL	rin d	sed thoroughly wit	h	Š	Without adding acid				
(Remark 4) EOs torophenois & Cresc me retardant es coil esticides litrosamine unned Azodyes ree primary aromatic	4. APS tis c amines	1 1 1 1 1	100 mL 100 mL 500 mL 10 mL 60 mL 1000 mL 1000 mL 10 mL 2000 mL	rin d	sed thoroughly wit	h	s	Slore sample at 6°C				
(Remark 4) EOs torophenois & Cresc me retardant se tool testicides litrosamine unned Azodyes ree primary aromatic ganotin Compounds	4. APS ties c amines	2 2 2 2 2 2	100 mL 100 mL 500 mL 10 mL 60 mL 1000 mL 1000 mL 2000 mL 500 mL	rie d	sed thoroughly wit	h	Acidity to pH 2	with HCI and store	sample at 6°C			
(Remark 4) EOs torophenois & Cresc me retardant se tool sesticides iltrosamine nned Azodyes ree primary aromatic	4. APS ties c amines	1 1 1 1 1	100 mL 100 mL 500 mL 10 mL 60 mL 1000 mL 1000 mL 10 mL 2000 mL	d d Amber Gir	used thoroughly wil stilliated water and dried before use	itric scid	Acidify to pH 2: Fill to full contains	Slore sample at 6°C	sample at 6°C idify to pH 2 with 6°C			



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

CPSD-AN-00613-DATA 04 Saue Date Version No.: 13

MENSIS					Business Line: Analytical	
feets (Conventional Paran	netere)	Twat resputedly (Y)	Total of eample	Type of container	Preservation method	
(196)	epaned solids	~	7900 mt total or 2000 mt each	Amber Gless, weshed with nitro exid, need (thereughly with shalled water and shall before use	Without solding sold Store sample at 9°C	
19 5 day Blochemical Deygen Dema	nd (BOD9)	~	1000 mt.	abled terors use		
20 Heavy Metals except Cr(VI) & Tot 6)	ei P (Remerk	v	9 mL	PE, washed with name acid	Asiaty to pit 3 was title), and alors at 8°C	
EL CUVI)		~	un mi	Amber Glass, washed with positicide grade accione	Filter by () 40,000 filter in field fill to hall container without as gap, expect pit in 0.0-0.0 by exhang environment buffer. Divine semple 41.0 %	
22 Cyanida		~	500 mL		Adjust pit 17 with 50% NaOrt, and 0.05 milet 10% Na ₂ St ₂ O ₂ and store sample at 6°C	
3 Chemical oxygen demand (COD) 4 Phenola		~	150 ml.		The second secon	
		~	500 mL	Amber Gless, weshed with nitric sold	Acidity to pit 2 with H ₂ 8CQ, Store earnple of 0°C	
25 'Formaldehyde			26 mL	70100 1330	Fel to full container without air gap, accepty to pin 2 with H2SO4 and store sample at 6°C	
Suifide (Remark 6) Adeorbatric organically bound halogens (AOX)		~	50 mL	PE, washed with positicide grade Acetena;	Fit to full container without air gap, and 2 drops of 2M sinc accetate, adjust pit to 9 with 6M NaOH Store sample at 6°C	
		V	100 mL	Amber Class, washed with nitric sold	Add 0 05 mi of 10% Na ₂ 6,0, acidify to pit 3 with H ₂ 60, Store sample at 0°C	
26 Total Coliform (Remark 6)		~	125 mL	PE, clean, sterile,	Add 0 06 mt of 10% Na263O3. Store sample at 6°C	
79 Persistent toam		~	NA	Foam higher than 45 cm (view	rel setimation)Yss_1_his	
30 Suifite		~	100 mL	Amber Glass, washed with posticide grade ecotone	Add timi, of 2.5% EDYA, 0.5g sinc acetate Store sample at 6°C	
11 Total-N			100 ml.	Amber Gless with wide-mouth PTFE inj.washed with	Assisty to pre 7 with 192604	
12 Ammonium-N		-	500 mL	nitre acid,	Store sample at 6°C	
13 Oil and Grease & Teathydreeast	-	~	1000 mL	Amber Glass, washed with nine acid.	Azidify to pH 2 with MCI Store earnple at 6°C	
14 Luminus Bacteria Toxicity			1000 mL			
35 Sulphale			100 mL	Amber Glass, washed with nitric acid, mised theroughly with distillated water and	Without ariting acid	
35 Chlorida			100 mL	dried before use	Store sample at 6 G	
37. Celor		~	100 mL			
M Others						
Observation/ Remark						

R	,	n	ri	

1. Individual sampling can be performed upon request

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

3 Scope of ZDHC guideline Parameter 1, 2, 4-9 12, 14-17, 19-24, 26-33

Scope of synthetic leather industry. Parameter 1, 2, 4-9, 12, 14-17, 19-33

Parameter 4, 5, 15, 17, 19-21, 23, 24, 25, 27, 31-34, 37

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

Refer to CPSD-Ant-G00019-STIP01, leactions with those CPSD test capability inside TCD matrix can perform the combined test.

5 Refer to CPSD-AN-000570-MTHD for additional pretreatment of sulfide if only dissolved sulfide is required to be tested. Refer to CPSD-AN-00513-MTHD for preparation of field blank for specific parameters.

Date FEB. 26. 2022

Comment from factory

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

CPSD-AN-00613-DATA 04	
Issue Date:	
Version No.: 13	
Business Line: Analytical	

Arrival Time:	10:15		Departure Time:	16:40
Field Parameters		pH:	Temp: *C	Color: Black
Control No. of field equ	ipment			

Factory with effluent tre	atment plant		1 40		No
Sample matrix			Sludge in clarifle	(sedimentation tank)	
Sampler container num	ber	6.3			
Recording time					
Tests (MRSL Parameter)		Test required (v)	Total of sample size	Type of container	Preservation method
	1. Phthalate	V			
Combined test or	Chlorobenzenes, Chlorotoluene & PAHs	V	10g total		
Individual test (Remark 3)	3. SCCPs		10g each		
-	4. APS	1	1 1		-
5. APEOs		1	20 g		
6. Chlorophenols & Cre	sols		20 g		1
7. Flame retardant		1	10 g	Amber Glass, washed with nitric acid	Fill to full bottle without any air gap and store at 6°C
8. Dyes 9. Glycols 10. "Pesticides 11. Banned Azodyes 12. "Free primary aromatic amines 13. Organotin Compounds			10 g		waste any an gap and allow all to to
			100 g		
			20g		1
		-	20 g		
			10 g		
		-	10 g		
14. VOC & Halogenated Solvents			10 g	Amber Glass, wash with pesticide grade ac	etone Fill to full container without any air gap and aci
15. PFCs			10 g	PE, wash with pesticide garde acetone	add and store at 6°C Fill to full bottle without any air gap and store at 6°C

Tests (Conventional Parameters)	Test required (v)	Total of sample size	Type of container	Preservation method	
16. Heavy Metals except Cr(VI)		0.2 g	PE, wash with nitric acid	Fill to full bottle without any air gap and store at 6°C	
17. Cr(VI)		2.5 g		Fill to full container without any air gap and aci add and slore at 6°C	
18. Adsorbable organically bound halogens (AOX)		10			
19. Extractable organichalides (EOX)		20 g	Amber Glass, wash with pesticide grade acetone		
20. Total organic carbon (TOC)		20 g			
21. Cyanide		50 g		Fill to full container without any air gap and adjust pH 12 with 50% NaOH and store at 6°C	
22. Others	of mak	-			
Observation/ Remark:	V				

Scope of ZDHC guidell Parameter 1, 2, 4-9, 11, 13-17, 21
Scope of synthetic leather industry: Parameter 1, 2, 4-9, 11, 13-17, 21
Scope of MMCF: Parameter 16, 18-20

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

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



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APPENDIX D – Limitation Value of Legal Requirements

	QUID INDUSTRIAL EFFLUENTS (mg/l, U	NLESS OTH		ND ED)	
S. No.	Parameter	Standards			
		Into Inland Waters	Into Sewage Treatment (5)	Sea 11	
1	2	3	4	5	
1.	Temperature 40 ⁰ C	≤3°C	≤3°C	≤3°C	
2.	or Temperature Increase * pH value (H*) .	6-9	6-9	6-9	
3.	Blochemical Oxygen Demand (BOD)5 at 20 ¹⁰ C ¹¹¹	80	250	80++	
5.	Chemical Oxygen Demand(COD) (1) Total Suspended Solids (TSS)	150 200	400	400 200	
6.	Total Dissolved Solids (TDS)	3500	3500	3500	
7. 8.	Oil and Grease Phenolic compounds (as phenol)	0.1	0.3	0.3	
9.	Chloride (as C1) Fluoride (as F)	1000	1000	SC***	
11.	Cyanide (as CN ⁻) total , An-ionic detergents (as MBAS) ⁽²⁾	1.0	1.0	1.0	
13.	Sulphate (SQ4 ²⁺)	600	Long	SC**	
14. 5	Sulphide (S ²⁻)	1.0	1.00	1.0	
15. /	Ammonia (NH3)	40	40	40	
16. F	Pesticides ⁽¹⁾ Cadmium ⁽⁴⁾	0.15	0.15	0.15	
18. C	hromium (trivalent and hexavalent (4)	0.1	0.1	1.0	
19. 0	ooper (4)	1.0	1.0	1.0	
-20. L	ead (4)	0.5	0.5	0.5	
21. 1	dercury (1) elenium (4)	0.01	0.01	0.01	
22. S	elenium (4)	0.5	0.5	0.5	
23. N	lickel (4) ··	1.0	1.0	1.0	
24. Si	lver (4)	1.0	1.0	1.0	
	otal toxic metals	2.0	2.0	2.0	
26. Z	inc a grant and a second a second and a second a second and a second a second and a	5.0	5.0	5.0	
27. As	senie (4)	1.0	1.0	1.0	
	rium (4)	1.5	1.5	1.5	
	n , ,, ,,, ,,, ,,, ,,, ,,, ,,, ,,, ,,,	8.0	8.0	8.0	
30. M	anganese	1.5	1.5	1.5	
31. Bc 32. Cl		1.0	6.0	6.0	

End