



TC-6598



South Asia

**1.1.1 Date of Sample** 19/08/2021**Received:**

**Applicant's** AKR INDUSTRIES PRIVATE LIMITED  
Plot No., FF2, 2<sup>nd</sup> Cross, Sipcot Industrial Growth  
Centre, Perundurai, Erode,  
Tamil Nadu – 638 052  
India

**Attention:** Mr. Rajamanickam

<b>Sample Description</b>	:	Sample (A): Sludge; Color : - (B): Raw Waste Water; Color :-
<b>Test Period</b>	:	20/08/2021 – 02/09/2021
<b>Retest No.</b>	:	N/A
<b>Buyer</b>	:	Self Reference

<b>Tests Conducted</b>	:	As Requested By The Applicant, For Details Refer To Attached Page(s).
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**SUMMARY OF TEST RESULTS- ANALYTICAL TEST**

<u>TEST REQUESTED</u>	<u>Result</u>	
	<b>A (Sludge)</b>	<b>B (Water)</b>
Heavy Metals	○	○
Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers	□	□
Chlorobenzenes and Chlorotoluenes	□	□
Chlorophenols	□	□
Dyes – Azo (Forming Restricted Amines)	□	□
Dyes – Carcinogenic or Equivalent Concern	□	□
Dyes – Disperse (Sensitizing)	□	□
Flame Retardants	□	□
Glycols	□	□
Halogenated Solvents	□	□
Organotin Compounds	□	□
Perfluorinated and Polyfluorinated Chemicals (PFCs)	□	□
Ortho-Phthalates – Including all ortho esters of phthalic acid	□	□
Polycyclic Aromatic Hydrocarbons (PAHs)	□	□
Volatile Organic Compounds (VOC)	□	□

Note: (1) By accepting this document the customer hereby agrees and accepts the 'Terms & Conditions' and the relevant 'Testing & Certification Regulations' of TÜV SÜD South Asia Pvt. Ltd. Which are available at Company's website at the link-<http://www.tuv-sud.in/in-en/resource-centre/terms-and-conditions>  
(2) For details of the accredited scope please contact the laboratory or visit [www.nabl-india.org](http://www.nabl-india.org)

**Laboratory:**  
TÜV SÜD South Asia Pvt. Ltd.  
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Mumbai – 400072. India



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Note/ Key:

- ■ — Detected/ Fail\*
- □ — Not Detected/Pass\*
- O — Refer Results
- - — Not Tested

\*The Reporting limits are followed by ZDHC Wastewater Guidelines (Version 1.1) July, 2019. The Reporting limits for ZDHC MRSL parameters are expected to be fully met by suppliers by January 1, 2020. From January 2018, ZDHC expects suppliers to be able to provide evidence of a progressive schedule to phase out hazardous chemicals by 2020.

**Remarks:** Test Results are extracted from Report Number RPT/T(W)/21/011859, Dated: September 08, 2021 to follow the "ZDHC Wastewater Guidelines Version 1.1, July-2019" as per Applicant's request.

Authorized By

C. Arun  
(Authorised Signatory)

Please contact :

For any technical issues : V. Vimalnath at [Vimalnath.Vadivel@tuvsud.com](mailto:Vimalnath.Vadivel@tuvsud.com)

For any complaint : M. Rajasekar at [Rajasekar.M@tuvsud.com](mailto:Rajasekar.M@tuvsud.com)



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## Sampling Plan

Method of wastewater sampling used is composite sampling as per 2021 ZDHC Wastewater Guidelines. Wastewater was sampled by time-weighted composite grab samples to obtain a single mixed sample

## Photo of Sampling points



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## Test Results – Accredited Parameters

Sample : Sludge

Table 1: Heavy Metals

Parameter	Method	Results (mg/kg)	Limits
<b>Anions</b>			
Cyanide (# *)	USEPA 9013A	<1.0 mg/kg	1 mg/kg
<b>Heavy Metals</b>			
Arsenic	Acid Digestion.ICP or ICP/MS	<1.0 mg/kg	2 mg/kg
Cadmium		<1.0 mg/kg	2 mg/kg
Lead		<1.0 mg/kg	2 mg/kg
Mercury		<0.2 mg/kg	0.2 mg/kg
Chromium (VI)	Extraction in Buffer Solution Derivatisation and UV or IC-ICP/MS	<0.2 mg/kg	2 mg/kg

# Test is not covered under NABL Scope of Accreditation

\* Test is subcontracted to other approved laboratory.

Sample : Raw Waste Water

Table 1: Heavy Metals

Parameter	Method	Results (mg/l)	Foundational	Progressive	Aspirational	
<b>Heavy Metals</b>						
Antimony	USEPA 200.7. USEPA 200.8. USEPA 6010c. USEPA 6020a	<0.001	0.1 mg/l	0.05 mg/l	0.01 mg/l	
Chromium, total		0.022	0.2 mg/l	0.1 mg/l	0.05 mg/l	
Cobalt		<0.001	0.05 mg/l	0.02 mg/l	0.01 mg/l	
Copper		0.032	1 mg/l	0.5 mg/l	0.25 mg/l	
Nickel		<0.001	0.2 mg/l	0.1 mg/l	0.05 mg/l	
Silver		<0.001	0.1 mg/l	0.05 mg/l	0.005 mg/l	
Zinc		0.041	5.0 mg/l	1.0 mg/l	0.5 mg/l	
Arsenic		<0.001	0.05 mg/l	0.01 mg/l	0.005 mg/l	
Cadmium		<0.001	0.1 mg/l	0.05 mg/l	0.01 mg/l	
Lead		<0.001	0.1 mg/l	0.05 mg/l	0.01 mg/l	
Mercury		<0.001	0.01 mg/l	0.005 mg/l	0.001 mg/l	
Chromium (VI)		EN ISO 18412 -2005, USEPA 218.6	<0.001	0.05 mg/l	0.005 mg/l	0.001 mg/l

Detection Limit = 0.001 mg/l

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Table 2A: Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers

Test Method : With reference to NP/OP: ISO 18857-2 (modified dichloromethane extraction) & OPEO/NPEO: ISO 18254-1: By Liquid Chromatography - Mass Spectrometry (LC/MS-MS)

Compound(s)	CAS No.	Result (mg/kg)		Result (µg/L)	
			Reporting Limit (mg/kg)		Reporting Limit (µg/L)
		Sludge		Water	
Nonylphenol (NP), mixed isomers	104-40-5	ND	0.4	ND	5
	11066-49-2				
	25154-52-3				
	84852-15-3				
Octylphenol (OP), mixed isomers	140-66-9	ND	0.4	ND	5
	1806-26-4				
	27193-28-8				
Nonylphenoethoxylates	68412-54-4	ND	0.4	ND	5
Octylphenoethoxylates	9002-93-1	ND	0.4	ND	5

Remark: ND = Not detected  
 Detection Limit = 0.2 mg/kg for Sludge  
 Detection Limit = 5 µg/L for water



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Table 2B: Chlorobenzenes and Chlorotoluenes

Test Method : Based on USEPA 8260B & 8270D: Dichloromethane extraction followed By Gas Chromatography-Mass Spectrometry (GC-MS/MS).						
Compound(s)	CAS No.	Result (mg/kg)	Reporting	Result(µg/L)	Reporting	
			Limit (mg/kg)		Limit (µg/L)	
		Sludge		Water		
Monochlorobenzene	108-90-7	ND	0.2	ND	0.2	
1,2-Dichlorobenzene	95-50-1	ND	0.2	ND	0.2	
1,3-Dichlorobenzene	541-73-1	ND	0.2	ND	0.2	
1,4-Dichlorobenzene	106-46-7	ND	0.2	ND	0.2	
1,2,3-Trichlorobenzene	87-61-6	ND	0.2	ND	0.2	
1,2,4-Trichlorobenzene	120-82-1	ND	0.2	ND	0.2	
1,3,5-Trichlorobenzene	108-70-3	ND	0.2	ND	0.2	
1,2,3,4-Tetrachlorobenzene	634-66-2	ND	0.2	ND	0.2	
1,2,3,5-Tetrachlorobenzene	634-90-2	ND	0.2	ND	0.2	
1,2,4,5-Tetrachlorobenzene	95-94-3	ND	0.2	ND	0.2	
Pentachlorobenzene	608-93-5	ND	0.2	ND	0.2	
Hexachlorobenzene	118-74-1	ND	0.2	ND	0.2	
2-Chlorotoluene	95-49-8	ND	0.2	ND	0.2	
3-Chlorotoluene	108-41-8	ND	0.2	ND	0.2	
4-Chlorotoluene	106-43-4	ND	0.2	ND	0.2	
2,3-Dichlorotoluene	32768-54-0	ND	0.2	ND	0.2	
2,4-Dichlorotoluene	95-73-8	ND	0.2	ND	0.2	
2,5-Dichlorotoluene	19398-61-9	ND	0.2	ND	0.2	
2,6-Dichlorotoluene	118-69-4	ND	0.2	ND	0.2	
3,4-Dichlorotoluene	95-75-0	ND	0.2	ND	0.2	
3,5-Dichlorotoluene	25186-47-4	ND	0.2	ND	0.2	
2,3,4-Trichlorotoluene	7359-72-0	ND	0.2	ND	0.2	
2,3,6-Trichlorotoluene	2077-46-5	ND	0.2	ND	0.2	
2,4,5-Trichlorotoluene	6639-30-1	ND	0.2	ND	0.2	
2,4,6-Trichlorotoluene	23749-65-7	ND	0.2	ND	0.2	
3,4,5-Trichlorotoluene	21472-86-6	ND	0.2	ND	0.2	
2,3,4,5-Tetrachlorotoluene	76057-12-0	ND	0.2	ND	0.2	
2,3,5,6-Tetrachlorotoluene	29733-70-8	ND	0.2	ND	0.2	
2,3,4,6-Tetrachlorotoluene	875-40-1	ND	0.2	ND	0.2	
Pentachlorotoluene	877-11-2	ND	0.2	ND	0.2	

Remark: ND = Not detected

Detection Limit = 0.01 mg/kg for Sludge

Detection Limit = 0.1 µg/L for water

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Table 2C: Chlorophenols

Test Method :	Based on USEPA 8270 D Solvent Extraction, derivatization with KOH, acetic anhydride followed by By Gas Chromatography-Mass Spectrometry (GC-MS/MS).
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Compound(s)	CAS No.	Reporting Limit (mg/kg)		Reporting Limit (µg/L)	
		Result (mg/kg)	Sludge	Result (µg/L)	Water
2-chlorophenol	95-57-8	ND	0.05	ND	0.5
3-chlorophenol	108-43-0	ND	0.05	ND	0.5
4-chlorophenol	106-48-9	ND	0.05	ND	0.5
2,3-dichlorophenol	576-24-9	ND	0.05	ND	0.5
2,4-dichlorophenol	120-83-2	ND	0.05	ND	0.5
2,5-dichlorophenol	583-78-8	ND	0.05	ND	0.5
2,6-dichlorophenol	87-65-0	ND	0.05	ND	0.5
3,4-dichlorophenol	95-77-2	ND	0.05	ND	0.5
3,5-dichlorophenol	591-35-5	ND	0.05	ND	0.5
2,3,4-trichlorophenol	15950-66-0	ND	0.05	ND	0.5
2,3,5-trichlorophenol	933-78-8	ND	0.05	ND	0.5
2,3,6-trichlorophenol	933-75-5	ND	0.05	ND	0.5
2,4,5-trichlorophenol	95-95-4	ND	0.05	ND	0.5
2,4,6-trichlorophenol	88-06-2	ND	0.05	ND	0.5
3,4,5-trichlorophenol	609-19-8	ND	0.05	ND	0.5
2,3,4,5-tetrachlorophenol	4901-51-3	ND	0.05	ND	0.5
2,3,4,6-tetrachlorophenol	58-90-2	ND	0.05	ND	0.5
2,3,5,6-tetrachlorophenol	935-95-5	ND	0.05	ND	0.5
Pentachlorophenol	87-86-5	ND	0.05	ND	0.5

Remark: ND = Not detected

Detection Limit = 0.02 mg/kg for Sludge

Detection Limit = 0.2 µg/L for Water

**Laboratory:**

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Table 2D: Dyes – Azo (Forming Restricted Amines)

Test Method : Based on EN 14362:1:2017 & EN 14362-3:2017 , By Gas Chromatography - Mass Spectrometric (GC-MS/MS) and High Performance Liquid Chromatography (UPLC-DAD) Analysis.						
Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	Reporting Limit (µg/L)	
		Sludge		Water		
4,4'-methy-lene-bis-(2-chloro-aniline)	101-14-4	ND	0.2	ND	0.1	
4,4'-methylenedianiline	101-77-9	ND	0.2	ND	0.1	
4,4'-oxydianiline	101-80-4	ND	0.2	ND	0.1	
4-chloroaniline	106-47-8	ND	0.2	ND	0.1	
3,3'-dimethoxybenzi-dine	119-90-4	ND	0.2	ND	0.1	
3,3'-dimethylbenzidine	119-93-7	ND	0.2	ND	0.1	
6-methoxy-m-toluidine	120-71-8	ND	0.2	ND	0.1	
2,4,5-trimethylaniline	137-17-7	ND	0.2	ND	0.1	
4,4'-thiodianiline	139-65-1	ND	0.2	ND	0.1	
4-aminoazobenzene	60-09-3	ND	0.2	ND	0.1	
4-methoxy-m-phenylenediamine	615-05-4	ND	0.2	ND	0.1	
4,4'-methylene-di-o-toluidine	838-88-0	ND	0.2	ND	0.1	
2,6-xylidine	87-62-7	ND	0.2	ND	0.1	
o-anisidine	90-04-0	ND	0.2	ND	0.1	
2-Naphthylamine	91-59-8	ND	0.2	ND	0.1	
3,'3-dichlorobenzidine	91-94-1	ND	0.2	ND	0.1	
4-aminodiphenyl	92-67-1	ND	0.2	ND	0.1	
Benzidine	92-87-5	ND	0.2	ND	0.1	
o-toluidine	95-53-4	ND	0.2	ND	0.1	
2,4-xylidine	95-68-1	ND	0.2	ND	0.1	
4-chloro-o-toluidine	95-69-2	ND	0.2	ND	0.1	
4-methyl-m-phenylene-diamine	95-80-7	ND	0.2	ND	0.1	
o-aminoazotoluene	97-56-3	ND	0.2	ND	0.1	
5-nitro-o-toluidine	99-55-8	ND	0.2	ND	0.1	

Remark: ND = Not detected

Detection Limit = 0.01 mg/kg for Sludge

Detection Limit = 0.1 µg/L for Water

**Laboratory:**

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Table 2E: Dyes – Carcinogenic or Equivalent Concern

Test Method :		Solvent Extraction followed by Liquid Chromatography - Mass Spectrometry (LC-MS/MS)			
Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	Reporting Limit (µg/L)
		Sludge		Water	
C.I. Direct Black 38	1937-37-7	ND	10	ND	500
C.I. Direct Blue 6	2602-46-2	ND	10	ND	500
C.I. Acid Red 26	3761-53-3	ND	10	ND	500
C.I. Basic Red 9	569-61-9	ND	10	ND	500
C.I. Direct Red 28	573-58-0	ND	10	ND	500
C.I. Basic Violet 14	632-99-5	ND	10	ND	500
C.I. Disperse Blue 1	2475-45-8	ND	10	ND	500
C.I. Basic Blue 26 (with Michler's Ketone > 0.1%)	2580-56-5	ND	10	ND	500
C.I. Basic Green 4 (malachite greenchloride)	569-64-2	ND	10	ND	500
C.I. Basic Green 4 (malachite green oxalate)	2437-29-8	ND	10	ND	500
C.I. Basic Green 4 (malachite green)	10309-95-2	ND	10	ND	500
Disperse Orange 11	82-28-0	ND	10	ND	500

Remark: ND = Not detected  
 Detection Limit = 0.5 mg/kg for Sludge  
 Detection Limit = 50 µg/L for Water



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Table 2F: Dyes – Disperse (Sensitizing)

Test Method:		Solvent Extraction followed by Liquid Chromatography - Mass Spectrometry (LC-MS/MS)				
Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	Reporting Limit (µg/L)	
		Sludge		Water		
Disperse Yellow 1	119-15-3	ND	2	ND	50	
Disperse Blue 102	12222-97-8	ND	2	ND	50	
Disperse Blue 106	12223-01-7	ND	2	ND	50	
Disperse Yellow 39	12236-29-2	ND	2	ND	50	
Disperse Orange 37/59/76	13301-61-6	ND	2	ND	50	
Disperse Brown 1	23355-64-8	ND	2	ND	50	
Disperse Orange 1	2581-69-3	ND	2	ND	50	
Disperse Yellow 3	2832-40-8	ND	2	ND	50	
Disperse Red 11	2872-48-2	ND	2	ND	50	
Disperse Red 1	2872-52-8	ND	2	ND	50	
Disperse Red 17	3179-89-3	ND	2	ND	50	
Disperse Blue 7	3179-90-6	ND	2	ND	50	
Disperse Blue 26	3860-63-7	ND	2	ND	50	
Disperse Yellow 49	54824-37-2	ND	2	ND	50	
Disperse Blue 35	56524-77-7	ND	2	ND	50	
Disperse Blue 124	61951-51-7	ND	2	ND	50	
Disperse Yellow 9	6373-73-5	ND	2	ND	50	
Disperse Orange 3	730-40-5	ND	2	ND	50	
Disperse Blue 35	56524-77-7	ND	2	ND	50	

Remark: ND = Not detected  
 Detection Limit = 0.5 mg/kg for Sludge  
 Detection Limit = 50 µg/L for Water



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Table 2G: Flame Retardants

Test Method :	Based on US EPA 8270, ISO 22032, USEPA 527 & USEPA 8321 B: Solvent Extraction followed by Liquid Chromatography - Mass Spectrometry (LC-MS/MS)* and Gas Chromatography – Mass Spectrometry (GC-MS/MS)** Analysis.
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Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	Reporting Limit (µg/L)
		Sludge		Water	
*Tris-(2-chloro-ethyl)-phosphate(TCEP)	115-96-8	ND	1	ND	5
**Decabromodiphenyl ether (DecaBDE)	1163-19-5	ND	1	ND	5
*Tri-(2,3-di-bromo-propyl)-phosphate(TRIS)	126-72-7	ND	1	ND	5
**Pentabromodiphenyl ether (PentaBDE)	32534-81-9	ND	1	ND	5
**Octa-bromo-diphenyl-ether(OctaBDE)	32536-52-0	ND	1	ND	5
*Bis-(2,3-di-bromo-propyl)-phosphate	5412-25-9	ND	1	ND	5
*Tris(1-aziridinyl)phosphine oxide) (TEPA)	545-55-1	ND	1	ND	5
**Polybromobiphenyls (PBB)	59536-65-1	ND	1	ND	5
*Tetra-bromo-bisphenol-A(TBBPA)	79-94-7	ND	1	ND	5
*Hexa-bromo-cyclo-dodecane(HBCDD)	3194-55-6	ND	1	ND	5
*2,2-Bis(bromomethyl)-1,3-propanediol (BBMP)	3296-90-0	ND	1	ND	5
*Tris-(1,3-di-chloro-iso-propyl)-phosphate(TDCPP)	13674-87-8	ND	1	ND	5
**Short-chain chlorinated Paraffins (SCCP) (C10-C13)	85535-84-8	ND	1	ND	5

Remark: ND = Not detected  
 Detection Limit = 0.5 mg/kg for Sludge  
 Detection Limit = 5 µg/L for Water



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Table 2H: Glycols

Test Method :	Based on US EPA 8270 : 2004 Liquid Extraction followed by Gas Chromatography-Mass Spectrometry (GC-MS/MS) Analysis.
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Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	
				Sludge	Water
Bis(2-methoxyethyl)-ether	111-96-6	ND	10	ND	50
2-ethoxyethanol	110-80-5	ND	10	ND	50
2-ethoxyethyl acetate	111-15-9	ND	10	ND	50
Ethylene glycol dimethyl ether	110-71-4	ND	10	ND	50
2-methoxyethanol	109-86-4	ND	10	ND	50
2-methoxyethylacetate	110-49-6	ND	10	ND	50
2-methoxypropylacetate	70657-70-4	ND	10	ND	50
Triethylene glycol dimethyl ether	112-49-2	ND	10	ND	50

Remark: ND = Not detected  
 Detection Limit = 0.1 mg/kg for Sludge  
 Detection Limit = 20 µg/L for Water

Table 2I: Halogenated Solvents

Test Method	Based on USEPA 8260B Purge and Trap GC-MS/MS
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Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	
				Sludge	Water
1,2-dichloroethane	107-06-2	ND	2	ND	1
Methylene chloride	75-09-2	ND	2	ND	1
Trichloroethylene	79-01-6	ND	2	ND	1
Tetrachloroethylene	127-18-4	ND	2	ND	1

Remark: ND = Not detected  
 Detection Limit = 0.1 mg/kg for Sludge  
 Detection Limit = 0.5 µg/L for Water



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Table 2J: Organotin Compounds

Test Method :	Based on ISO 17353: 2004 followed by Gas Chromatography-Mass Spectrometry (GC-MS/MS) Analysis.
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Compound(s)	CAS No.	Result (mg/kg)		Reporting Limit (mg/kg)		Result (µg/L)		Reporting Limit (µg/L)	
		Sludge		Water		Sludge		Water	
Mono-, di- and tri-methyltin derivatives	Multiple	ND	0.2	ND	0.01	ND	0.01	ND	0.01
Mono-, di- and tri-butyltin derivatives	Multiple	ND	0.2	ND	0.01	ND	0.01	ND	0.01
Mono-, di- and tri-phenyltin derivatives	Multiple	ND	0.2	ND	0.01	ND	0.01	ND	0.01
Mono-, di- and tri-octyltin derivatives	Multiple	ND	0.2	ND	0.01	ND	0.01	ND	0.01

Remark: ND = Not detected  
 Detection Limit = 0.01 mg/kg for Sludge  
 Detection Limit = 0.01 µg/L for Water

Table 2K: Perfluorinated and Polyfluorinated Chemicals (PFCs)

Test Method :	DIN 38407-42:2011 (modified) Ionic PFC: Concentration or direct injection, LC-MS/MS); Non-ionic PFC (FTOH): derivatisation with acetic anhydride followed by GC-MS/MS
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Compound(s)	CAS No.	Result (mg/kg)		Reporting Limit (mg/kg)		Result (µg/L)		Reporting Limit (µg/L)	
		Sludge		Water		Sludge		Water	
Perfluorooctane sulphonates (PFOS)	1763-23-1	ND	0.1	ND	0.01	ND	0.01	ND	0.01
Perfluorooctanoic acid (PFOA)	335-67-1	ND	0.1	ND	0.01	ND	0.01	ND	0.01
Perfluorobutane sulphonates (PFBS)	29420-49-3	ND	0.1	ND	0.01	ND	0.01	ND	0.01
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	ND	0.1	ND	0.01	ND	0.01	ND	0.01
8:2 FTOH	678-39-7	ND	1.0	ND	1	ND	1	ND	1
6:2 FTOH	647-42-7	ND	1.0	ND	1	ND	1	ND	1

Remark: ND = Not detected  
 Detection Limit = 1.0 µg/L (Water - Non Ionic PFC (FTOH)), 1.0 mg/kg (Sludge - Non Ionic PFC (FTOH))  
 Detection Limit = 0.01 µg/L (Water - Ionic PFC), 0.1 mg/kg (Sludge - Ionic PFC)



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Table 2L: Otho-Phthalates – Including all ortho esters of phthalic acid

Test Method :	Based on US EPA 8270D,ISO 18866, Solvent Extraction followed by Gas Chromatography-Mass Spectrometry (GC-MS/MS) Analysis.
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Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	Reporting Limit (µg/L)
		Sludge		Water	
Di-(2-ethyl-hexyl)-phthalate(DEHP)	117-81-7	ND	2	ND	10
Bis-(2-methoxy-ethyl)-phthalate(DMEP)	117-82-8	ND	2	ND	10
Di-n-octyl-phthalate(DNOP)	117-84-0	ND	2	ND	10
Di-iso-decyl-phthalate(DIDP)	26761-40-0 68515-49-1	ND	2	ND	10
Di-iso-nonyl-phthalate(DINP)	28553-12-0 68515-48-0	ND	2	ND	10
Di-n-hexyl phthalate (DnHP)	84-75-3	ND	2	ND	10
Di-butyl-phthalate(DBP)	84-74-2	ND	2	ND	10
Benzyl-butyl-phthalate(BBP)	85-68-7	ND	2	ND	10
Di-nonyl-phthalate(DNP)	84-76-4	ND	2	ND	10
Di-ethyl-phthalate(DEP)	84-66-2	ND	2	ND	10
Di-n-propyl phthalate (DPRP)	131-16-8	ND	2	ND	10
Di-iso-butyl-phthalate(DIBP)	84-69-5	ND	2	ND	10
Di-cyclohexyl phthalate (DCHP)	84-61-7	ND	2	ND	10
Di-iso-octyl phthalate (DIOP)	27554-26-3	ND	2	ND	10
1,2-Benzene-di-carboxylic acid, di-C7,11-branched and linear alkyl esters(DHNUP)	68515-42-4	ND	2	ND	10
Di-iso-heptyl-phthalate(DIHP)	71888-89-6	ND	2	ND	10

Remark: ND = Not detected  
 Detection Limit = 0.2 mg/kg for Sludge  
 Detection Limit = 5 µg/L for Water



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Table 2M: Polycyclic Aromatic Hydrocarbons (PAHs)

Test Method :	Based on US EPA 8270, DIN 38407-39:2011 Solvent extraction followed Gas Chromatography – Mass Spectrometry (GC-MS) Analysis.
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Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	Reporting Limit (µg/L)
		Sludge		Water	
Benzo[a]pyrene (BaP)	50-32-8	ND	0.2	ND	1
Anthracene	120-12-7	ND	0.2	ND	1
Pyrene	129-00-0	ND	0.2	ND	1
Benzo[ghi]perylene	191-24-2	ND	0.2	ND	1
Benzo[e]pyrene	192-97-2	ND	0.2	ND	1
Indeno[1,2,3-cd]pyrene	193-39-5	ND	0.2	ND	1
Benzo[j]fluoranthene	205-82-3	ND	0.2	ND	1
Benzo[b]fluoranthene	205-99-2	ND	0.2	ND	1
Fluoranthene	206-44-0	ND	0.2	ND	1
Benzo[k]fluoranthene	207-08-9	ND	0.2	ND	1
Acenaphthylene	208-96-8	ND	0.2	ND	1
Chrysene	218-01-9	ND	0.2	ND	1
Dibenz[a,h]anthracene	53-70-3	ND	0.2	ND	1
Benzo[a]anthracene	56-55-3	ND	0.2	ND	1
Acenaphthene	83-32-9	ND	0.2	ND	1
Phenanthrene	85-01-8	ND	0.2	ND	1
Fluorene	86-73-7	ND	0.2	ND	1
Naphthalene	91-20-3	ND	0.2	ND	1

Remark: ND = Not detected  
 Detection Limit = 0.1 mg/kg for Sludge  
 Detection Limit = 0.5 µg/L for Water



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**Table 2N: Volatile Organic Compounds (VOC)**

Test Method : Based on ISO 11423-1/ USEPA 8260 Purge and Trap GC- MS/MS

Compound(s)	CAS No.	Result (mg/kg)	Reporting Limit (mg/kg)	Result (µg/L)	Reporting Limit (µg/L)
		Sludge		Water	
Benzene	71-43-2	ND	2	ND	1
Xylene	1330-20-7	ND	2	ND	1
o-cresol	95-48-7	ND	2	ND	1
p-cresol	106-44-5	ND	2	ND	1
m-cresol	108-39-4	ND	2	ND	1

Remark: ND = Not detected  
 Detection Limit = 0.1 mg/kg for Sludge  
 Detection Limit = 0.5 µg/L for Water







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### FIELD DATA RECORD ZERO DISCHARGE SAMPLE FOR PRIORITY CHEMICALS

<b>General Data</b>								
Laboratory Sample Number	RPT/T(W)/21/011864							
Customer Name	AKR Industries Pvt Ltd.,							
Field Contact Person	MR. Rajamanickam							
Project(Facility Name and Address)	Plot No.FF-2, 2 <sup>nd</sup> Cross, Sipcot Industrial Growth Centre, Perundurai, Erode-52							
Sampling Location/Description	ETP Inlet							
Sample Identification	-							
Sample Type	Raw Waste Water & Sludge							
Name of Sample	--							
Name of Sampler	Mr.Srinath (8F146508769)							
Discharge Mode	Direct							
Date and time collected	18-08-2021 9.30am to 3.30pm							
Factory Type								
	*Note: It would be selected more than one.				*Note: It would be selected more than one.			
<b>Field Data for Water</b>								
Equipment used								
Factory with effluent treatment plant	Yes√				No			
Sample matrix	√	Raw waste water						
	√	Sludge						
Field Parameters	1	2	3	4	5	6	7	8
Recording Time, Hrs.	9.30 pm	10.30 pm	11.30 pm	12.30 pm	1.30 pm	2.30 pm	2.30 pm	
pH	8.2	8.3	8.3	8.4	8.4	8.5	-	
Temp(°C)	30.5	32.5	33.5	35	35	33	-	
Conductivity, µS/cm	-	-	-	-	-	-	-	
Color	Dark	Dark	Dark	Dark	Dark	Dark	Dark	
Sample Container Number	-	-	-	-	-	-	-	
Volume Collected (ml)	3000	3000	3000	3000	3000	3000	5kg	
Total Volume Collected (ml)	18000 ML	Remark: Total volume collected must be greater than total of sample size required						

Note: (1) By accepting this document the customer hereby agrees and accepts the 'Terms & Conditions' and the relevant 'Testing & Certification Regulations' of TÜV SÜD South Asia Pvt. Ltd. Which are available at Company's website at the link-<http://www.tuv-sud.in/in-en/resource-centre/terms-and-conditions>  
(2) For details of the accredited scope please contact the laboratory or visit [www.nabl-india.org](http://www.nabl-india.org)

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Analysis Required and Preservation Method				
Test	Test Required	Total of Sample Size	Type of Container	Preservation Method
1. Conventional parameters/Heavy Metals		5 Ltr	Amber Glass, pre-add 6.5 ml of 2M HNO <sub>3</sub>	Acidify to pH 2 with HNO <sub>3</sub> and store at 4° C
2. Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers		1 Ltr	Amber Glass, pre-add 6.5 ml of 1M H <sub>2</sub> SO <sub>4</sub> Amber Glass, pre-add 6.5 ml of 1M H <sub>2</sub> SO <sub>4</sub>	Acidify to pH 2 with H <sub>2</sub> SO <sub>4</sub> and store at 4°C
3. Chlorobenzenes and Chlorotoluenes				
4. Chlorophenols				
5. Dyes – Azo (Forming Restricted Amines)				
6. Dyes – Carcinogenic or Equivalent				
7. Dyes – Disperse (Sensitizing)				
8. Flame Retardants				
9. Glycols				
10. Halogenated Solvents		1 Ltr	Amber Glass, pre-add 6.5 ml of 2M HNO <sub>3</sub>	Acidify to pH 2 with H <sub>2</sub> SO <sub>4</sub> and store at 40C
11. Organotin Compounds		1 Ltr	Amber Glass, pre-add 6.5 ml of 1M H <sub>2</sub> SO <sub>4</sub>	Acidify to pH 2 with H <sub>2</sub> SO <sub>4</sub> and store at 4°C
12. Perfluorinated and Polyfluorinated Chemicals (PFCs)		1 Ltr	PE, pre-add 3.4 ml of 1M H <sub>2</sub> SO <sub>4</sub>	Acidify to pH 2 with H <sub>2</sub> SO <sub>4</sub> and store at 4°C
13. Ortho-Phthalates – Including all ortho esters of phthalic acid		1 Ltr	Amber Glass, pre-add 6.5 ml of 1M H <sub>2</sub> SO <sub>4</sub>	Acidify to pH 2 with H <sub>2</sub> SO <sub>4</sub> and store at 4°C
14. Polycyclic Aromatic Hydrocarbons (PAHs)		1 Ltr		
15. Volatile Organic Compounds (VOC)		1 Ltr	Amber Glass, wash with pesticide grade acetone	Fill to full bottle and store at 4°C

END OF THE REPORT

TUV  
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