



ClearStream

By ZDHC

Daeshin Textile co., ltd

Report Date:

03-11-2021

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Version:

ZDHC Wastewater Guidelines V1.1

DETAILED PERFORMANCE BREAKDOWN

The section below shows the detailed results from your Laboratory test report in context with the ZDHC Wastewater Guidelines and scoring methodology. Please note that indirect suppliers are not expected to achieve the foundational limits for conventional parameters set forth in Appendix A, Tables 1A-1B, of the ZDHC Wastewater Guidelines, therefore, indirect suppliers' data is not compared to ZDHC limits for conventional parameters, and Indirect Supplier should not compare their data to ZDHC limits for conventional parameters in line with the Wastewater Guideline. Temperature data is not currently scored on the ClearStream Report.

| | INCOMING WATER | RAW WASTEWATER | SLUDGE | DISCHARGE WASTEWATER |
|--|----------------|----------------|--------------|----------------------|
| <p>Conventional Legend:</p> <ul style="list-style-type: none"> ■ Aspirational ■ Progressive ■ Foundational ■ Alert ■ Not Analysed | | NOT ANALYSED | NOT ANALYSED | |
| <p>MRS� Legend:</p> <ul style="list-style-type: none"> ■ Meets Requirements ■ Doesn't Meet Requirements ■ Not Analysed | | NOT ANALYSED | NOT ANALYSED | |

| CHEMICAL NAME | | UNIT | | UNIT | | UNIT | | UNIT | STANDARD TEST METHODS |
|--|----------------|------|----------------|------|--------|------|----------------------|------|-----------------------|
| | INCOMING WATER | | RAW WASTEWATER | | SLUDGE | | DISCHARGE WASTEWATER | | |
| Conventional Parameters | | | | | | | | | |
| Phenol | | | | | | | ND | | APHA 5530B |
| COD | | | | | | | 117 | mg/l | ISO 6060** |
| Oil and Grease | | | | | | | ND | | ISO 9377-2 |
| TSS | | | | | | | 5 | mg/l | ISO 11923 |
| BOD5 | | | | | | | 69 | mg/l | APHA 5210B |
| Persistent Foam | | | | | | | ND | | N/A |
| COLOUR 436 NM | | | | | | | 5.4 | M-1 | ISO 7887-B |
| COLOUR 525 NM | | | | | | | 3.7 | M-1 | ISO 7887-B |
| COLOUR 620 NM | | | | | | | 3.9 | M-1 | ISO 7887-B |
| Coliform | | | | | | | ND | | ISO 9308 |
| Temp-Difference | | | | | | | | | - |
| Temp-Discharge Pipe | | | | | | | | | - |
| Total-P | | | | | | | ND | | USEPA 365.4 |
| Temp-Receiving Water | | | | | | | | | - |
| Total-N | | | | | | | ND | | ISO 5663 |
| pH | | | | | | | 7.7 | None | ISO 10523 |
| Ammonium-N | | | | | | | ND | | USEPA 350.1 |
| AOX | | | | | | | ND | | ISO 9562 |
| Anions | | | | | | | | | |
| Cyanide | | | | | | | ND | | APHA 4500-CN |
| Sulfite | | | | | | | ND | | USEPA 377.1 |
| Sulfide | | | | | | | ND | | ISO 10530 |
| Metals | | | | | | | | | |
| Copper | | | | | | | ND | | USEPA 200.7 |
| Antimony | | | | | | | ND | | USEPA 200.7 |
| Cadmium | | | | | | | ND | | USEPA 200.7 |
| Mercury | | | | | | | ND | | USEPA 200.7 |
| Silver | | | | | | | ND | | USEPA 200.7 |
| Lead | | | | | | | ND | | USEPA 200.7 |
| Chromium, total | | | | | | | ND | | USEPA 200.7 |
| Cobalt | | | | | | | ND | | USEPA 200.7 |
| Nickel | | | | | | | ND | | USEPA 200.7 |
| Zinc | | | | | | | ND | | USEPA 200.7 |
| Arsenic | | | | | | | ND | | USEPA 200.7 |
| Chromium (VI) | | | | | | | ND | | USEPA 200.7 |
| Alkylphenol (AP) and Alkylphenol Ethoxylates (APEOs): Including All Isomers | | | | | | | | | |
| Octylphenol ethoxylates (OPEO) | | | | | | | ND | | ISO 18857-2 |
| Octylphenol (OP), mixed isomers | | | | | | | ND | | ISO 18857-2 |
| Nonylphenol (NP), mixed isomers | | | | | | | ND | | ISO 18857-2 |
| Nonylphenol ethoxylates (NPEO) | | | | | | | ND | | ISO 18857-2 |

| CHEMICAL NAME | | UNIT | | UNIT | | UNIT | | UNIT | STANDARD TEST METHODS |
|--|----------------|------|----------------|------|--------|------|----------------------|------|--------------------------|
| | INCOMING WATER | | RAW WASTEWATER | | SLUDGE | | DISCHARGE WASTEWATER | | |
| Chlorobenzenes and Chlorotoluenes | | | | | | | | | |
| 2,3,4,5-Tetrachlorotoluene | | | | | | | ND | | USEPA 8260B |
| 2,3,4,6-Tetrachlorotoluene | | | | | | | ND | | USEPA 8260B |
| Monochlorobenzene | | | | | | | ND | | USEPA 8260B |
| 2,4,6-Trichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 2,3,5,6-Tetrachlorotoluene | | | | | | | ND | | USEPA 8260B |
| Pentachlorobenzene | | | | | | | ND | | USEPA 8260B |
| 1,2-Dichlorobenzene | | | | | | | ND | | USEPA 8260B |
| 2,4-Dichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 3-Chlorotoluene | | | | | | | ND | | USEPA 8260B |
| Hexachlorobenzene | | | | | | | ND | | USEPA 8260B |
| 1,3,5-Trichlorobenzene | | | | | | | ND | | USEPA 8260B |
| 1,2,3,4-Tetrachlorobenzene | | | | | | | ND | | USEPA 8260B |
| 1,2,3,5-Tetrachlorobenzene | | | | | | | ND | | USEPA 8260B |
| 1,4-Dichlorobenzene | | | | | | | ND | | USEPA 8260B |
| 2,5-Dichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 1,2,3-Trichlorobenzene | | | | | | | ND | | USEPA 8260B |
| 3,5-Dichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 2,3,4-Trichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 3,4,5-Trichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 3,4-Dichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 2,3,6-Trichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 2,4,5-Trichlorotoluene | | | | | | | ND | | USEPA 8260B |
| Pentachlorotoluene | | | | | | | ND | | USEPA 8260B |
| 1,3-Dichlorobenzene | | | | | | | ND | | USEPA 8260B |
| 1,2,4-Trichlorobenzene | | | | | | | ND | | USEPA 8260B |
| 1,2,4,5-Tetrachlorobenzene | | | | | | | ND | | USEPA 8260B |
| 2-Chlorotoluene | | | | | | | ND | | USEPA 8260B |
| 4-Chlorotoluene | | | | | | | ND | | USEPA 8260B |
| 2,3-Dichlorotoluene | | | | | | | ND | | USEPA 8260B |
| 2,6-Dichlorotoluene | | | | | | | ND | | USEPA 8260B |
| Chlorophenols | | | | | | | | | |
| 2,4,6-trichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,3,5-trichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,6-dichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,3-dichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2-chlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 4-chlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,5-dichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,3,4,5-tetrachlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,3,6-trichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| Pentachlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 3,4,5-trichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |

| CHEMICAL NAME | | UNIT | | UNIT | | UNIT | | UNIT | STANDARD TEST METHODS |
|---|----------------|------|----------------|------|--------|------|----------------------|------|--------------------------|
| | INCOMING WATER | | RAW WASTEWATER | | SLUDGE | | DISCHARGE WASTEWATER | | |
| 2,3,4,6-tetrachlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,3,5,6-tetrachlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,4-dichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,4,5-trichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 3,5-dichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 3,4-dichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 3-chlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| 2,3,4-trichlorophenol | | | | | | | ND | | Solvent extraction GC/MS |
| Dyes - Azo (Forming Restricted Amines) | | | | | | | | | |
| 4-methoxy-m-phenylenediamine | | | | | | | ND | | EN 14362-1 |
| Benzidine | | | | | | | ND | | EN 14362-1 |
| 2-naphthylamine | | | | | | | ND | | EN 14362-1 |
| 4-methyl-m-phenylenediamine | | | | | | | ND | | EN 14362-1 |
| 2,4-xylidine | | | | | | | ND | | EN 14362-1 |
| 4,4'-thiodianiline | | | | | | | ND | | EN 14362-1 |
| 4,4'-methylenedianiline | | | | | | | ND | | EN 14362-1 |
| 4,4'-methylenedi-o-toluidine | | | | | | | ND | | EN 14362-1 |
| 4-aminoazobenzene | | | | | | | ND | | EN 14362-1 |
| 4,4'-methylene-bis-(2-chloro-aniline) | | | | | | | ND | | EN 14362-1 |
| 4,4'-oxydianiline | | | | | | | ND | | EN 14362-1 |
| 4-chloroaniline | | | | | | | ND | | EN 14362-1 |
| 3,3'-dimethoxybenzidine | | | | | | | ND | | EN 14362-1 |
| 3,3'-dimethylbenzidine | | | | | | | ND | | EN 14362-1 |
| 6-methoxy-m-toluidine | | | | | | | ND | | EN 14362-1 |
| 2,4,5-trimethylaniline | | | | | | | ND | | EN 14362-1 |
| 2,6-xylidine | | | | | | | ND | | EN 14362-1 |
| o-anisidine | | | | | | | ND | | EN 14362-1 |
| 4-aminodiphenyl | | | | | | | ND | | EN 14362-1 |
| o-toluidine | | | | | | | ND | | EN 14362-1 |
| 4-chloro-o-toluidine | | | | | | | ND | | EN 14362-1 |
| o-aminoazotoluene | | | | | | | ND | | EN 14362-1 |
| 5-nitro-o-toluidine | | | | | | | ND | | EN 14362-1 |
| Dyes - Carcinogenic | | | | | | | | | |
| Disperse Orange 11 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Basic Red 9 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Acid Red 26 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Basic Green 4 (malachite green oxalate) | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Direct Blue 6 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Disperse Blue 3 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Disperse Blue 1 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Direct Red 28 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Direct Black 38 | | | | | | | ND | | Liquid Extraction, LC/MS |

| CHEMICAL NAME | | UNIT | | UNIT | | UNIT | | UNIT | STANDARD TEST METHODS |
|--|----------------|------|----------------|------|--------|------|----------------------|------|--------------------------|
| | INCOMING WATER | | RAW WASTEWATER | | SLUDGE | | DISCHARGE WASTEWATER | | |
| C.I. Basic Violet 14 | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Basic Blue 26 (with Michler's Ketone > 0.1%) | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Basic Green 4 (malachite green chloride) | | | | | | | ND | | Liquid Extraction, LC/MS |
| C.I. Basic Green 4 (malachite green) | | | | | | | ND | | Liquid Extraction, LC/MS |
| Dyes - Disperse (Sensitizing) | | | | | | | | | |
| Disperse Yellow 3 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Red 17 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Blue 7 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Blue 26 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Yellow 49 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Blue 124 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Orange 3 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Yellow 1 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Orange 37/59/76 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Red 11 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Red 1 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Yellow 9 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Brown 1 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Blue 35 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Blue 102 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Blue 106 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Yellow 39 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Disperse Orange 1 | | | | | | | ND | | Liquid Extraction, LC/MS |
| Halogenated Solvents | | | | | | | | | |
| Methylene chloride | | | | | | | ND | | Headspace GC/MS |
| Trichloroethylene | | | | | | | ND | | Headspace GC/MS |
| Tetrachloroethylene | | | | | | | ND | | Headspace GC/MS |
| 1,2-dichloroethane | | | | | | | ND | | Headspace GC/MS |
| Flame Retardants | | | | | | | | | |
| Tris(2-chloroethyl)phosphate (TCEP) | | | | | | | ND | | USEPA 8270 |
| Tris(2,3-dibromopropyl)phosphate (TRIS) | | | | | | | ND | | USEPA 8270 |
| Pentabromodiphenyl ether (PentaBDE) | | | | | | | ND | | USEPA 8270 |
| Octabromodiphenyl ether (OctaBDE) | | | | | | | ND | | USEPA 8270 |
| Tris(1-aziridinyl)phosphine oxide (TEPA) | | | | | | | ND | | USEPA 8270 |
| Tetrabromobisphenol A (TBBPA) | | | | | | | ND | | USEPA 8270 |
| Hexabromocyclododecane (HBCDD) | | | | | | | ND | | USEPA 8270 |
| 2,2-bis(bromomethyl)-1,3-propanediol (BBMP) | | | | | | | ND | | USEPA 8270 |
| Short-chain chlorinated Paraffins (SCCP) (C10-C13) | | | | | | | ND | | USEPA 8270 |

| CHEMICAL NAME | | UNIT | | UNIT | | UNIT | | UNIT | STANDARD TEST METHODS |
|---|----------------|------|----------------|------|--------|------|----------------------|------|----------------------------------|
| | INCOMING WATER | | RAW WASTEWATER | | SLUDGE | | DISCHARGE WASTEWATER | | |
| Tris(1,3-dichloro-isopropyl) phosphate (TDCP) | | | | | | | ND | | USEPA 8270 |
| Polybromobiphenyls (PBB) | | | | | | | ND | | USEPA 8270 |
| Bis(2,3-dibromopropyl)phosphate (BIS) | | | | | | | ND | | USEPA 8270 |
| Decabromodiphenyl ether (DecaBDE) | | | | | | | ND | | USEPA 8270 |
| Organotin Compounds | | | | | | | | | |
| Mono-, di- and tri-methyltin derivatives | | | | | | | ND | | ISO 17353 |
| Mono-, di- and tri-butyltin derivatives | | | | | | | ND | | ISO 17353 |
| Mono-, di- and tri-octyltin derivatives | | | | | | | ND | | ISO 17353 |
| Mono-, di- and tri-phenyltin derivatives | | | | | | | ND | | ISO 17353 |
| Perfluorinated and Polyfluorinated Chemicals (PFCs) | | | | | | | | | |
| PFBS | ND | | | | | | ND | | DIN 38407-42 (Modified) |
| PFHxA | ND | | | | | | ND | | DIN 38407-42 (Modified) |
| 8:2 FTOH | ND | | | | | | ND | | DIN 38407-42 (Modified) |
| 6:2 FTOH | ND | | | | | | ND | | DIN 38407-42 (Modified) |
| PFOS | ND | | | | | | ND | | DIN 38407-42 (Modified) |
| PFOA | ND | | | | | | ND | | DIN 38407-42 (Modified) |
| Glycols | | | | | | | | | |
| Bis(2-methoxyethyl)-ether | | | | | | | ND | | Liquid Extraction, LC/MS |
| 2-ethoxyethyl acetate | | | | | | | ND | | Liquid Extraction, LC/MS |
| Ethylene glycol dimethyl ether | | | | | | | ND | | Liquid Extraction, LC/MS |
| 2-methoxyethanol | | | | | | | ND | | Liquid Extraction, LC/MS |
| Triethylene glycol dimethyl ether | | | | | | | ND | | Liquid Extraction, LC/MS |
| 2-methoxypropylacetate | | | | | | | ND | | Liquid Extraction, LC/MS |
| 2-ethoxyethanol | | | | | | | ND | | Liquid Extraction, LC/MS |
| 2-methoxyethylacetate | | | | | | | ND | | Liquid Extraction, LC/MS |
| Otho-Phthalates - Including all ortho esters of phthalic acid | | | | | | | | | |
| Bis(2-methoxyethyl) phthalate (DMEP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di-iso-decyl phthalate (DIDP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di-n-hexyl phthalate (DnHP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Dibutyl phthalate (DBP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Dinonyl phthalate (DNP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di-n-propyl phthalate (DPRP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di-isobutyl phthalate (DIBP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di-iso-octyl phthalate (DIOP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| 1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| 1,2-benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP) | | | | | | | ND | | Dichloromethane extraction GC/MS |

| CHEMICAL NAME | | UNIT | | UNIT | | UNIT | | UNIT | STANDARD TEST METHODS |
|--|----------------|------|----------------|------|--------|------|----------------------|------|----------------------------------|
| | INCOMING WATER | | RAW WASTEWATER | | SLUDGE | | DISCHARGE WASTEWATER | | |
| Di-isononyl phthalate (DINP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di(ethylhexyl) phthalate (DEHP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di-n-octyl phthalate (DNOP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Butyl benzyl phthalate (BBP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Diethyl phthalate (DEP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Di-cyclohexyl phthalate (DCHP) | | | | | | | ND | | Dichloromethane extraction GC/MS |
| Polycyclic Aromatic Hydrocarbons (PAHs) | | | | | | | | | |
| Anthracene | | | | | | | ND | | Solvent extraction GC/MS |
| Pyrene | | | | | | | ND | | Solvent extraction GC/MS |
| Benzo[ghi]perylene | | | | | | | ND | | Solvent extraction GC/MS |
| Benzo[e]pyrene | | | | | | | ND | | Solvent extraction GC/MS |
| Indeno[1,2,3-cd]pyrene | | | | | | | ND | | Solvent extraction GC/MS |
| Benzo[j]fluoranthene | | | | | | | ND | | Solvent extraction GC/MS |
| Benzo[b]fluoranthene | | | | | | | ND | | Solvent extraction GC/MS |
| Benzo[k]fluoranthene | | | | | | | ND | | Solvent extraction GC/MS |
| Acenaphthylene | | | | | | | ND | | Solvent extraction GC/MS |
| Chrysene | | | | | | | ND | | Solvent extraction GC/MS |
| Dibenz[a,h]anthracene | | | | | | | ND | | Solvent extraction GC/MS |
| Fluorene | | | | | | | ND | | Solvent extraction GC/MS |
| Naphthalene | | | | | | | ND | | Solvent extraction GC/MS |
| Fluoranthene | | | | | | | ND | | Solvent extraction GC/MS |
| Phenanthrene | | | | | | | ND | | Solvent extraction GC/MS |
| Benzo[a]pyrene (BaP) | | | | | | | ND | | Solvent extraction GC/MS |
| Acenaphthene | | | | | | | ND | | Solvent extraction GC/MS |
| Benzo[a]anthracene | | | | | | | ND | | Solvent extraction GC/MS |
| Volatile Organic Compounds (VOC) | | | | | | | | | |
| o-Cresol | | | | | | | ND | | USEPA 8260 |
| p-Cresol | | | | | | | ND | | USEPA 8260 |
| m-Cresol | | | | | | | ND | | USEPA 8260 |
| Xylene | | | | | | | ND | | USEPA 8260 |
| Benzene | | | | | | | ND | | Solvent extraction GC/MS |

SAMPLE INFORMATION

The section below summarises the information regarding the samples and the testing laboratory.

| SAMPLE DETAILS | |
|-------------------|-----------------------|
| Sample Collection | 30-09-2021 |
| Duration Date | 30-09-2021 30-09-2021 |
| ZDHC Test ID | TR241NT82 |
| Sample Notes | |

LABORATORY DETAILS

| | |
|---------------------------|--|
| Laboratory | SGS Korea |
| Lab Test Reference | F690101/LF-CTSAYSA21-15806 |
| ZDHC Lab Status | PROVISIONALLY ACCEPTED (30-11-2017) |
| Address | # 322, The O Valley Bldg., 76, LS-ro, Dongan-gu, Anyang, Gyeonggi 14117, South Korea Anyang Gyeonggi South Korea |
| Contact Name | Donghyeok Heo |
| Contact E-mail | donghyeok.heo@sgs.com |