UL Solutions IISG

TEST REPORT: 24.35909

This report is composed by 13 pages, of which: 2 pages for the Summary
11 pages for the Report

Date in sample: 3 September 2024
Issue date: 20 September 2024

FACILITY

CARVICO S.p.A.
Via Don A.Pedrinelli, 96
24030 Carvico BG ITALIA

SAMPLE DESCRIPTION

Date and time of the beginning of sampling:	03-09-2024 7:50
Date and time of the end of sampling:	03-09-2024 15:45
Date Received Sample:	03-09-2024
Sampling by:	UL In-Charge Technician according to SOP 200-AT-S0059
Sampler certification number:	ZDHC-A-21-E-C001068-R247A-673EE
Discharge Type:	Indirect Discharge With Pretreatment

WATER - CARVICO S.p.A. Via Don A.Pedrinelli, 96 24030 CARVICO

UNTREATED WATER
SAMPLING LOCATION: PRODUCTION WASTEWATER COLLECTION TANK
SAMPLING METHOD: COMPOSITE SAMPLE

EFFLUENT WATER
SAMPLING LOCATION: S1 - WATER DISCHARGE
SAMPLING METHOD: COMPOSITE SAMPLE
PRETREATMENT: EQUALIZATION BASIN, BIOLOGICAL TREATMENT WITH MBBR TECNOLOGY

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TEST REPORT: 24.35909 **dated** 20 Sep 2024

Test Name	Untreated	Effluent			Comment
Alkylphenol and Alkylphenol Ethoxylates	No Detected	//			
Determination of Anti-Microbials & Biocides (o-Phenylphenol)	No Detected	//			
Determination of Anti-Microbials & Biocides (Triclosan)	No Detected	//			
Determination of Anti-Microbials & Biocides (Permethrin)	No Detected	//			
Determination of short-chain chlorinated paraffins (SCCPs)	No Detected	//			
Determination of medium-chain chlorinated paraffins (MCCPs)	No Detected	//			
Chlorobenzenes and Chlorotoluenes	No Detected	//			
Chlorophenols	No Detected	//			
Determination of Dimethylformamide (DMFa)	No Detected	//			
Carcinogenic Dyes	No Detected	//			
Disperse Dyes (Allergenic)	No Detected	//			
Determination of Navy Blue	No Detected	//			
Flame Retardants	No Detected	//			
Flame Retardants	Detected	//			
Glycols	No Detected	//			
Halogenated Solvents	No Detected	//			
Organotin Compounds	No Detected	//			
Other/Miscellaneous Chemicals: AEEA [2-(2-aminoethylamino) ethanol]	No Detected	//			
Other/Miscellaneous Chemicals: Bisphenol A (BPA)	No Detected	//			
Other/Miscellaneous Chemicals: Thiourea	No Detected	//			
Other/Miscellaneous Chemicals: Quinoline	No Detected	//			
Other/Miscellaneous Chemicals: Borate, Zinc salt	No Detected	//			
Perfluorinated and Polyfluorinated Chemicals (PFCs)	No Detected	//			
Phthalates	No Detected	//			
Polycyclic Aromatic Hydrocarbons (PAH)	No Detected	//			
Aromatic Amines	Detected	//			
UV Absorbers	No Detected	//			
Volatile Organic Compounds (VOC)	Detected	//			
Metals	//	See comment			ASPIRATIONAL
Cr (VI) - Hexavalent Chromium	//	See comment			ASPIRATIONAL

NA = Not Applicable; NR = Not Required

Chemical Laboratory Supervisor
Luciano Buraschi

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	CAS No.	limit	udm	Untreated	Effluent			
Alkylphenol and Alkylphenol Ethoxylates 286-AT-L0084 Issue 1.0 2022								
Nonylphenol (NP)	104-40-5/11066-49-2/25154-52-3/84852-15-3	< 5	µg/L	< 5	NA			
Octylphenol (OP)	140-66-9/1806-26-4/27193-28-8	< 5	µg/L	< 5	NA			
Octylphenol ethoxylates, (OPEO)	9002-93-1/9036-19-5/68987-90-6	< 5	µg/L	< 5	NA			
Nonylphenol ethoxylates(NPEO)	9016-45-9/26027-38-3/37205-87-1/68412-54-4/127087-87-0	< 5	µg/L	< 5	NA			
Determination of Anti-Microbials & Biocides (o-Phenylphenol) 286-AT-L0067 Issue 1.0 2022								
o-Phenylphenol	90-3-7	< 100	µg/L	< 100	NA			
Determination of Anti-Microbials & Biocides (Triclosan) 286-AT-L0067 Issue 1.0 2022								
Triclosan	3380-34-5	< 100	µg/L	< 100	NA			
Determination of Anti-Microbials & Biocides (Permethrin) 286-AT-L0068 Issue 1.0 2022								
Permethrin	Various	< 500	µg/L	< 500	NA			
Determination of short-chain chlorinated paraffins (SCCPs) ISO 12010:2019								
Short chain (SCCPs) C10-C13	85535-84-8	< 25	µg/L	< 25	NA			
Determination of medium-chain chlorinated paraffins (MCCPs) According to ISO 18219-2:2021								
Medium-chain (MCCPs) C14-C17	85535-85-9	< 500	µg/L	< 500	NA			
Chlorobenzenes and Chlorotoluenes 286-AT-L0069 Issue 1.0 2022								
Monochlorobenzene	108-90-7	< 0,2	µg/L	< 0,2	NA			
1,2-dichlorobenzene	95-50-1	< 0,2	µg/L	< 0,2	NA			
1,3-dichlorobenzene	541-73-1	< 0,2	µg/L	< 0,2	NA			
1,4-dichlorobenzene	106-46-7	< 0,2	µg/L	< 0,2	NA			
1,2,3-trichlorobenzene	87-61-6	< 0,2	µg/L	< 0,2	NA			
1,2,4-trichlorobenzene	120-82-1	< 0,2	µg/L	< 0,2	NA			
1,3,5-trichlorobenzene	108-70-3	< 0,2	µg/L	< 0,2	NA			
1,2,3,4-tetrachlorobenzene	634-66-2	< 0,2	µg/L	< 0,2	NA			
1,2,3,5-tetrachlorobenzene	634-90-2	< 0,2	µg/L	< 0,2	NA			
1,2,4,5-tetrachlorobenzene	95-94-3	< 0,2	µg/L	< 0,2	NA			
Pentachlorobenzene	608-93-5	< 0,2	µg/L	< 0,2	NA			
Hexachlorobenzene	118-74-1	< 0,2	µg/L	< 0,2	NA			
2-chlorotoluene	95-49-8	< 0,2	µg/L	< 0,2	NA			

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3-chlorotoluene	108-41-8	< 0,2	µg/L	< 0,2	NA			
4-chlorotoluene	106-43-4	< 0,2	µg/L	< 0,2	NA			
2,3-dichlorotoluene	32768-54-0	< 0,2	µg/L	< 0,2	NA			
2,4-dichlorotoluene	95-73-8	< 0,2	µg/L	< 0,2	NA			
2,5-dichlorotoluene	19398-61-9	< 0,2	µg/L	< 0,2	NA			
2,6-dichlorotoluene	118-69-4	< 0,2	µg/L	< 0,2	NA			
3,4-dichlorotoluene	95-75-0	< 0,2	µg/L	< 0,2	NA			
3,5-dichlorotoluene	25186-47-4	< 0,2	µg/L	< 0,2	NA			
2,3,4-trichlorotoluene	7359-72-0	< 0,2	µg/L	< 0,2	NA			
2,3,6-trichlorotoluene	2077-46-5	< 0,2	µg/L	< 0,2	NA			
2,4,5-trichlorotoluene	6639-30-1	< 0,2	µg/L	< 0,2	NA			
2,4,6-trichlorotoluene	23749-65-7	< 0,2	µg/L	< 0,2	NA			
3,4,5-trichlorotoluene	21472-86-6	< 0,2	µg/L	< 0,2	NA			
2,3,4,5-tetrachlorotoluene	76057-12-0	< 0,2	µg/L	< 0,2	NA			
2,3,5,6-tetrachlorotoluene	29733-70-8	< 0,2	µg/L	< 0,2	NA			
2,3,4,6-tetrachlorotoluene	875-40-1	< 0,2	µg/L	< 0,2	NA			
Pentachlorotoluene	877-11-2	< 0,2	µg/L	< 0,2	NA			
Chlorophenols EN 12673:1998								
2-Chlorophenol	95-57-8	< 0,5	µg/L	< 0,5	NA			
3-Chlorophenol	108-43-0	< 0,5	µg/L	< 0,5	NA			
4-Chlorophenol	106-48-9	< 0,5	µg/L	< 0,5	NA			
2,3-Dichlorophenol	576-24-9	< 0,5	µg/L	< 0,5	NA			
2,4-Dichlorophenol	120-83-2	< 0,5	µg/L	< 0,5	NA			
2,5-Dichlorophenol	583-78-8	< 0,5	µg/L	< 0,5	NA			
2,6-Dichlorophenol	87-65-0	< 0,5	µg/L	< 0,5	NA			
3,4-Dichlorophenol	95-77-2	< 0,5	µg/L	< 0,5	NA			
3,5-Dichlorophenol	591-35-5	< 0,5	µg/L	< 0,5	NA			
2,3,4-Trichlorophenol	15950-66-0	< 0,5	µg/L	< 0,5	NA			
2,3,5-Trichlorophenol	933-78-8	< 0,5	µg/L	< 0,5	NA			
2,3,6-Trichlorophenol	933-75-5	< 0,5	µg/L	< 0,5	NA			
2,4,5-Trichlorophenol	95-95-4	< 0,5	µg/L	< 0,5	NA			
2,4,6-Trichlorophenol	88-06-2	< 0,5	µg/L	< 0,5	NA			
3,4,5-Trichlorophenol	609-19-8	< 0,5	µg/L	< 0,5	NA			

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2,3,4,5-Tetrachlorophenol	4901-51-3	< 0,5	µg/L	< 0,5	NA			
2,3,4,6-Tetrachlorophenol	58-90-2	< 0,5	µg/L	< 0,5	NA			
2,3,5,6-Tetrachlorophenol	935-95-5	< 0,5	µg/L	< 0,5	NA			
Pentachlorophenol	87-86-5	< 0,5	µg/L	< 0,5	NA			
Determination of Dimethylformamide (DMFa) 286-AT-L0070 Issue 1.0 2022								
Dimethylformamide (DMFa)	68-12-2	< 1000	µg/L	< 1000	NA			
Carcinogenic Dyes 286-AT-L0085 Issue 1.0 2022								
Basic Violet 3	548-62-9	< 500	µg/L	< 500	NA			
Acid Red 26	3761-53-3	< 500	µg/L	< 500	NA			
Acid Violet 49	1694-09-3	< 500	µg/L	< 500	NA			
Basic Blue 26	2580-56-5	< 500	µg/L	< 500	NA			
Basic Green 4 (Malachite Green Chloride)	569-64-2	< 500	µg/L	< 500	NA			
Basic Green 4 (Malachite Green Oxalate)	2437-29-8	< 500	µg/L	< 500	NA			
Basic Green 4 (Malachite Green)	10309-95-2	< 500	µg/L	< 500	NA			
Basic Red 9	569-61-9	< 500	µg/L	< 500	NA			
Basic Violet 14	632-99-5	< 500	µg/L	< 500	NA			
Direct Black 38	1937-37-7	< 500	µg/L	< 500	NA			
Direct Blue 6	573-58-0	< 500	µg/L	< 500	NA			
Direct Red 28	573-58-0	< 500	µg/L	< 500	NA			
Disperse Blue 1	2475-45-8	< 500	µg/L	< 500	NA			
Disperse Blue 3	2475-46-9	< 500	µg/L	< 500	NA			
Disperse Orange 11	82-28-0	< 500	µg/L	< 500	NA			
Disperse Dyes (Allergenic) 286-AT-L0085 Issue 1.0 2022								
Disperse Blue 102	12222-97-8	< 50	µg/L	< 50	NA			
Disperse Blue 106	12223-01-07	< 50	µg/L	< 50	NA			
Disperse Blue 124	61951-51-7	< 50	µg/L	< 50	NA			
Disperse Blue 26	3860-63-7	< 50	µg/L	< 50	NA			
Disperse Blue 35	12222-75-2	< 50	µg/L	< 50	NA			
Disperse Blue 7	3179-90-6	< 50	µg/L	< 50	NA			
Disperse Brown 1	23355-64-8	< 50	µg/L	< 50	NA			
Disperse Orange 1	2581-69-3	< 50	µg/L	< 50	NA			

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Disperse Orange 3	730-40-5	< 50	µg/L	< 50	NA			
Disperse Orange 37/59/76	13301-61-6	< 50	µg/L	< 50	NA			
Disperse Red 1	2872-52-8	< 50	µg/L	< 50	NA			
Disperse Red 11	2872-48-2	< 50	µg/L	< 50	NA			
Disperse Red 17	3179-89-3	< 50	µg/L	< 50	NA			
Disperse Yellow 1	119-15-3	< 50	µg/L	< 50	NA			
Disperse Yellow 3	2832-40-8	< 50	µg/L	< 50	NA			
Disperse Yellow 39	12236-29-2	< 50	µg/L	< 50	NA			
Disperse Yellow 49	6858-49-7	< 50	µg/L	< 50	NA			
Disperse Yellow 9	6373-73-5	< 50	µg/L	< 50	NA			
Disperse Blue 35a	56524-77-7	< 50	µg/L	< 50	NA			

note: CAS Number of the mixture 12222-75-2, is the sum of the components Disperse Blue 35A (CAS 56524-77-7) and Disperse Blue 35B (CAS 56524-76-6).

Determination of Navy Blue 286-AT-L0085 Issue 1.0 2022								
Navy Blue (Component 1)	118685-33-9	< 500	µg/L	< 500	NA			
Navy Blue (Component 2)	-	< 500	µg/L	< 500	NA			

Flame Retardants 286-AT-L0072 Issue 1.0 2022								
BBMP	3296-90-0	< 25	µg/L	< 25	NA			
BIS	5412-25-9	< 25	µg/L	< 25	NA			
DecaBDE	1163-19-5	< 25	µg/L	< 25	NA			
HBCDD	3194-55-6	< 25	µg/L	< 25	NA			
OctaBDE	32536-52-0	< 25	µg/L	< 25	NA			
PentaBDE	32534-81-9	< 25	µg/L	< 25	NA			
PBB	59536-65-1	< 25	µg/L	< 25	NA			
TBBPA	79-94-7	< 25	µg/L	< 25	NA			
TCPP	13674-84-5	< 25	µg/L	< 25	NA			
TEPA	545-55-1	< 25	µg/L	< 25	NA			
TDCP	13674-87-8	< 25	µg/L	< 25	NA			
TCEP	115-96-8	< 25	µg/L	< 25	NA			
TRIS	126-72-7	< 25	µg/L	< 25	NA			
DecaBB	13654-09-6	< 25	µg/L	< 25	NA			
DiBB	Multiple	< 25	µg/L	< 25	NA			
OctaBB	Multiple	< 25	µg/L	< 25	NA			

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BDDP	21850-44-2	< 25	µg/L	< 25	NA			
HeptaBDE	68928-80-3	< 25	µg/L	< 25	NA			
HexaBDE	36483-60-0	< 25	µg/L	< 25	NA			
MonoBB	Multiple	< 25	µg/L	< 25	NA			
MonoBDE	Multiple	< 25	µg/L	< 25	NA			
NonaBB	Multiple	< 25	µg/L	< 25	NA			
NonaBDE	63936-56-1	< 25	µg/L	< 25	NA			
TetraBDE	40088-47-9	< 25	µg/L	< 25	NA			
TriBDE	Multiple	< 25	µg/L	< 25	NA			
Flame Retardants ISO 17294-2:2023								
Boric Acid (*)	10043-35-3/11113-50-1	< 100	µg/L	1091	NA			
Diboron Trioxide (*)	1303-86-2	< 100	µg/L	614	NA			
Disodium Octaborate (*)	12008-41-2	< 100	µg/L	752	NA			
Disodium Tetraborate Anhydrous (*)	1303-96-4/1330-43-4	< 100	µg/L	885	NA			
Tetraboron Disodium Heptaoxide, hydrate (*)	12267-73-1	< 100	µg/L	967	NA			

note: Determinated as total boron (B) via ICP.
Nitric acid digestion using microwave-assisted heating according to ISO 15587-2:2022.

Glycols 286-AT-L0073 Issue 1.0 2022								
Bis(2-methoxyethyl)-ether	111-96-6	< 50	µg/L	< 50	NA			
2-ethoxyethanol	110-80-5	< 50	µg/L	< 50	NA			
2-ethoxyethyl acetate	111-15-9	< 50	µg/L	< 50	NA			
Ethylene glycol dimethyl ether	110-71-4	< 50	µg/L	< 50	NA			
2-methoxyethanol	109-86-4	< 50	µg/L	< 50	NA			
2-methoxyethylacetate	110-49-6	< 50	µg/L	< 50	NA			
2-methoxypropylacetate	70657-70-4	< 50	µg/L	< 50	NA			
Triethylene glycol dimethyl ether	112-49-2	< 50	µg/L	< 50	NA			
Halogenated Solvents 286-AT-L0074 Issue 1.0 2022								
1,2-Dichloroethane	107-06-2	< 1,0	µg/L	< 1,0	NA			
Methylene chloride	75-09-2	< 1,0	µg/L	< 1,0	NA			
Trichloroethylene	79-01-6	< 1,0	µg/L	< 1,0	NA			
Tetrachloroethylene	127-18-4	< 1,0	µg/L	< 1,0	NA			

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Organotin Compounds ISO 17353:2004								
DPrT	Multiple	< 0,01	µg/L	< 0,01	NA			
Mono-, di-, tri-butyltin derivates	Multiple	< 0,01	µg/L	< 0,01	NA			
Mono-, di-, tri-methyltin derivates	Multiple	< 0,01	µg/L	< 0,01	NA			
Mono-, di-, tri-octyltin derivates	Multiple	< 0,01	µg/L	< 0,01	NA			
Mono-, di-, tri-phenyltin derivates	Multiple	< 0,01	µg/L	< 0,01	NA			
TeBT	Multiple	< 0,01	µg/L	< 0,01	NA			
TPrT	Multiple	< 0,01	µg/L	< 0,01	NA			
TeOT	Multiple	< 0,01	µg/L	< 0,01	NA			
TCyHT	Multiple	< 0,01	µg/L	< 0,01	NA			
TeET	Multiple	< 0,01	µg/L	< 0,01	NA			
DBT	1002-53-5	< 0,01	µg/L	< 0,01	NA			
Other/Miscellaneous Chemicals: AEEA [2-(2-aminoethylamino) ethanol] 286-AT-L0086 Issue 1.0 2022								
AEEA [2-(2-aminoethylamino) ethanol]	111-41-1	< 500	µg/L	< 500	NA			
Other/Miscellaneous Chemicals: Bisphenol A (BPA) 286-AT-L0087 Issue 1.0 2022								
Bisphenol A	80-05-07	< 10	µg/L	< 10	NA			
Other/Miscellaneous Chemicals: Thiourea 286-AT-L0088 Issue 1.0 2022								
Thiourea	62-56-6	< 50	µg/L	< 50	NA			
Other/Miscellaneous Chemicals: Quinoline 286-AT-L0085 Issue 1.0 2022								
Quinoline	91-22-5	< 50	µg/L	< 50	NA			
Other/Miscellaneous Chemicals: Borate, Zinc salt ISO 17294-2:2023								
Borate, Zinc salt	12767-90-7	< 100	µg/L	< 100	NA			

note: Determinated as total boron (B) and total zinc (Zn) via ICP.
Nitric acid digestion using microwave-assisted heating according to ISO 15587-2:2022.

Perfluorinated and Polyfluorinated Chemicals (PFCs) ISO 21675:2019 + 286-AT-L0082 Issue 1.0 2022								
PFOS	1763-23-1	< 0,01	µg/L	< 0,01	NA			
PFOA	335-67-1	< 0,01	µg/L	< 0,01	NA			
PFBS	375-73-5	< 0,01	µg/L	< 0,01	NA			
PFHpS	375-92-8	< 0,01	µg/L	< 0,01	NA			
PFDS/PFDcS	335-77-3/126105-34-8	< 0,01	µg/L	< 0,01	NA			
1H,1H,2H,2H-PFOS	27619-97-2	< 0,01	µg/L	< 0,01	NA			

<Tabella non correlata>

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PFHxS	355-46-4	< 0,01	µg/L	< 0,01	NA			
PFBA	375-22-4	< 1,0	µg/L	< 1,0	NA			
PFPA	2706-90-3	< 1,0	µg/L	< 1,0	NA			
PFHxA	307-24-4	< 1,0	µg/L	< 1,0	NA			
PFHpA	375-85-9	< 1,0	µg/L	< 1,0	NA			
PFNA	375-95-1	< 1,0	µg/L	< 1,0	NA			
PFDA/PFDcA	335-76-2	< 1,0	µg/L	< 1,0	NA			
PFUnA	2058-94-8	< 1,0	µg/L	< 1,0	NA			
PFDoA	307-55-1	< 1,0	µg/L	< 1,0	NA			
PFTeA	376-06-7	< 1,0	µg/L	< 1,0	NA			
HPFHpA	1546-95-8	< 1,0	µg/L	< 1,0	NA			
PF-3,7-DMOA	172155-07-6	< 1,0	µg/L	< 1,0	NA			
H2PFDA	27854-31-5	< 1,0	µg/L	< 1,0	NA			
6:2 FTA	17527-29-6	< 1,0	µg/L	< 1,0	NA			
8:2 FTA	27905-45-9	< 1,0	µg/L	< 1,0	NA			
10:2 FTA	17741-60-5	< 1,0	µg/L	< 1,0	NA			
4:2 FTOH	2043-47-2	< 1,0	µg/L	< 1,0	NA			
6:2 FTOH	647-42-7	< 1,0	µg/L	< 1,0	NA			
8:2 FTOH	678-39-7	< 1,0	µg/L	< 1,0	NA			
10:2 FTOH	865-86-1	< 1,0	µg/L	< 1,0	NA			
Phthalates 286-AT-L0089 Issue 1.0 2022								
DEHP	117-81-7	< 10	µg/L	< 10	NA			
BBP	85-68-7	< 10	µg/L	< 10	NA			
DBP	84-74-2	< 10	µg/L	< 10	NA			
DEP	84-66-2	< 10	µg/L	< 10	NA			
DNOP	117-84-0	< 10	µg/L	< 10	NA			
DINP	28553-12-0	< 10	µg/L	< 10	NA			
DIDP	26761-40-0	< 10	µg/L	< 10	NA			
DIBP	84-69-5	< 10	µg/L	< 10	NA			
DnHP	84-75-3	< 10	µg/L	< 10	NA			
DMEP	117-82-8	< 10	µg/L	< 10	NA			
DPRP	131-16-8	< 10	µg/L	< 10	NA			
DIOP	27554-26-3	< 10	µg/L	< 10	NA			

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TEST REPORT: 24.35909a dated 20 September 2024

	CAS No.	limit	udm	Untreated	Effluent			
DCHP	84-61-7	< 10	µg/L	< 10	NA			
DNP	84-76-4	< 10	µg/L	< 10	NA			
DHNUP	68515-42-4/68515-50-4	< 10	µg/L	< 10	NA			
DIHP	71888-89-6/84777-06-0	< 10	µg/L	< 10	NA			
DPP	131-18-0	< 10	µg/L	< 10	NA			
DIPP	605-50-5	< 10	µg/L	< 10	NA			
Polycyclic Aromatic Hydrocarbons (PAH) ISO 28540:2011								
Benzo(a)pyrene	50-32-8	< 1,0	µg/L	< 1,0	NA			
Benzo(e)pyrene	192-97-2	< 1,0	µg/L	< 1,0	NA			
Benzo(a)anthracene	56-55-3	< 1,0	µg/L	< 1,0	NA			
Benzo(b)fluoranthene	205-99-2	< 1,0	µg/L	< 1,0	NA			
Benzo(j)fluoranthene	205-82-3	< 1,0	µg/L	< 1,0	NA			
Benzo(k)fluoranthene	207-08-9	< 1,0	µg/L	< 1,0	NA			
Chrysene	218-01-9	< 1,0	µg/L	< 1,0	NA			
Dibenzo(a,h)anthracene	53-70-3	< 1,0	µg/L	< 1,0	NA			
Acenaphtene	83-32-9	< 1,0	µg/L	< 1,0	NA			
Acenaphthylene	208-96-8	< 1,0	µg/L	< 1,0	NA			
Anthracene	120-12-7	< 1,0	µg/L	< 1,0	NA			
Benzo(g,h,i)perylene	191-24-2	< 1,0	µg/L	< 1,0	NA			
Fluoranthene	206-44-0	< 1,0	µg/L	< 1,0	NA			
Fluorene	86-73-7	< 1,0	µg/L	< 1,0	NA			
Indeno(1,2,3-cd)pyrene	193-39-5	< 1,0	µg/L	< 1,0	NA			
Naphthalene	91-20-3	< 1,0	µg/L	< 1,0	NA			
Phenanthrene	85-01-8	< 1,0	µg/L	< 1,0	NA			
Pyrene	129-00-0	< 1,0	µg/L	< 1,0	NA			
Aromatic Amines 286-AT-L0090 Issue 1.0 2022								
4-Aminobiphenyl	92-67-1	< 0,1	µg/L	< 0,1	NA			
Benzidine	92-87-5	< 0,1	µg/L	< 0,1	NA			
4-Chloro-o-Toluidine	95-69-2	< 0,1	µg/L	< 0,1	NA			
2-Naphthylamine	91-59-8	< 0,1	µg/L	< 0,1	NA			
o-Aminoazotoluene	97-56-3	< 0,1	µg/L	< 0,1	NA			
5-Nitro-o-Toluidine	99-55-8	< 0,1	µg/L	< 0,1	NA			
4-Chloroaniline	106-47-8	< 0,1	µg/L	< 0,1	NA			

<Tabella non correlata>

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	CAS No.	limit	udm	Untreated	Effluent			
2,4-Diaminoanisole	615-05-4	< 0,1	µg/L	< 0,1	NA			
4.4-Diaminodiphnylmethane	101-77-9	< 0,1	µg/L	0,78	NA			
3,3'-Dichlorobenzidine	91-94-1	< 0,1	µg/L	< 0,1	NA			
3.3-Dimethoxybenzidine	119-90-4	< 0,1	µg/L	< 0,1	NA			
3.3-Dimethylbenzidine	119-93-7	< 0,1	µg/L	< 0,1	NA			
3.3-dimethyl-4.4-diaminodiphenylmethane	838-88-0	< 0,1	µg/L	< 0,1	NA			
p-Cresidine	120-71-8	< 0,1	µg/L	< 0,1	NA			
4.4-methylenebis(2-chloroaniline)	101-14-4	< 0,1	µg/L	< 0,1	NA			
4,4'-Oxydianiline	101-80-4	< 0,1	µg/L	< 0,1	NA			
4,4'-Thiodianiline	139-65-1	< 0,1	µg/L	< 0,1	NA			
o-Toluidine	95-53-4	< 0,1	µg/L	< 0,1	NA			
2,4-Toluendiamine	95-80-7	< 0,1	µg/L	< 0,1	NA			
2.4.5-Trimethylaniline	137-17-7	< 0,1	µg/L	< 0,1	NA			
o-Anisidine	90-04-0	< 0,1	µg/L	< 0,1	NA			
4-aminoazobenzene	60-09-3	< 0,1	µg/L	< 0,1	NA			
2,4-Xylidine	95-68-1	< 0,1	µg/L	< 0,1	NA			
2,6-Xylidine	87-62-7	< 0,1	µg/L	< 0,1	NA			
4-Chloro-o-toluidinium chloride	3165-93-3	< 0,1	µg/L	< 0,1	NA			
2-Naphtylammoniumacetate	553-00-4	< 0,1	µg/L	< 0,1	NA			
2,4-Diaminoanisole suplhate	39156-41-7	< 0,1	µg/L	< 0,1	NA			
2,4,5-Trimethylaniline hydrochloride	21436-97-5	< 0,1	µg/L	< 0,1	NA			
UV Absorbers 286-AT-L0091 Issue 1.0 2022								
UV-320	3846-71-7	< 100	µg/L	< 100	NA			
UV-328	25973-55-1	< 100	µg/L	< 100	NA			
UV-327	3864-99-1	< 100	µg/L	< 100	NA			
UV-350	36437-37-3	< 100	µg/L	< 100	NA			
Volatile Organic Compounds (VOC) ISO 11423-1:1997								
Benzene	71-43-2	< 1,0	µg/L	< 1,0	NA			
Xylene	1330-20-7	< 1,0	µg/L	< 1,0	NA			
o-cresol	95-48-7	< 1,0	µg/L	< 1,0	NA			
p-cresol	106-44-5	< 1,0	µg/L	< 1,0	NA			
m-cresol	108-39-4	< 1,0	µg/L	1,4	NA			

<Tabella non correlata>

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	CAS No.	limit	udm	Untreated	Effluent			
Toluene	108-88-3	< 1,0	µg/L	< 1,0	NA			
Cr (VI) - Hexavalent Chromium ISO 18412:2005								
Chromium VI	18540-29-9	< 0,001	mg/L	NA	< 0,001			
Metals ISO 17294-2:2023								
Arsenic (As)	7440-38-2	< 0,005	mg/L	NA	< 0,005			
Cadmium (Cd)	7440-43-9	< 0,01	mg/L	NA	< 0,01			
Lead (Pb)	7439-92-1	< 0,01	mg/L	NA	< 0,01			
Mercury (Hg)	7439-97-6	< 0,001	mg/L	NA	< 0,001			

note: Nitric acid digestion using microwave-assisted heating according to ISO 15587-2:2022.

(*) Test not accredited by ACCREDIA.

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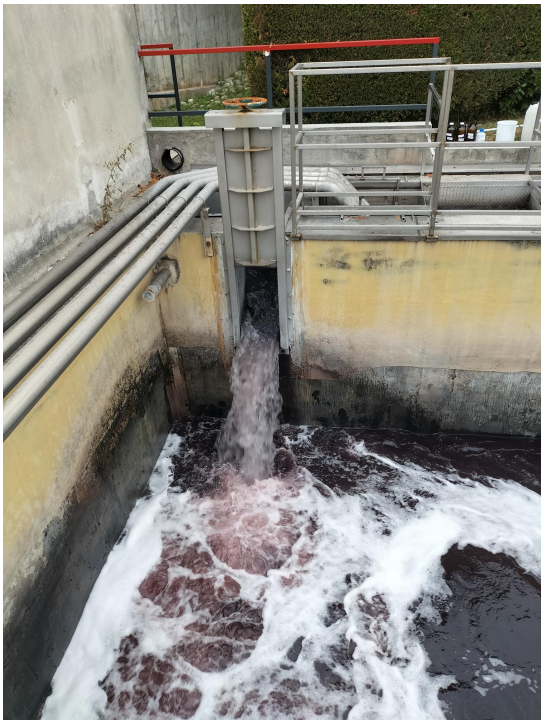
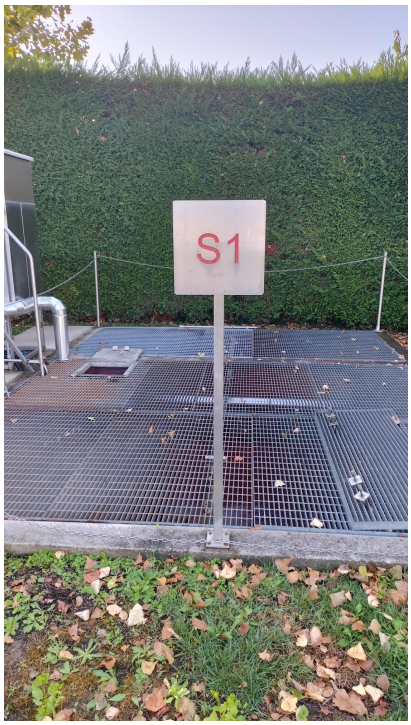


Untreated water - 03/09/2024 h.8:55



Effluent water - 03/09/2024 h.8:50

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WASTEWATER SAMPLING FIELD DATA FORM AND REPRESENTATIVE SAMPLE DECLARATION

Customer:	**CARVICO S.p.A.**		
Facility name and address:	**CARVICO S.p.A. via Don A. Pedrinelli, 96 - 24030 Carvico (Bg)**	Facility AID:	**A871CO21**
Facility Representative Name:	**sig. Damiano Saresini**		
Contact:	Telephone: **035780215-443** eMail: D.SARESINI@CARVICO.COM		
Type of activity:	☑ Textile ☐ Textile - Mock Leather ☐ Textile Polyester ☐ Leather ☐ _____		
Sampling:	☐ Client ☑ UL Technician	Date:	**9/3/2024**
Sampler Name:	**ROCCHINA MADDALUNO**		
Sampler ZDHC Accreditation N°:	**ZDHC-A-21-E-C001068-R247A-673EE**		
Discharge:	☑ **≥ 15mc industrial wastewater per day** ☐ < 15mc industrial wastewater per day ☐ Direct Discharge ☑ **Indirect Discharge With pretreatment** ☐ with Sludge ☑ **without Sludge** ☐ Indirect Discharge Without pretreatment ☐ Zero Liquid Discarge (ZDL)		
Wet processing:	Days: from **MONDAY** to **SATURDAY** Hours from **6:00** to **6:00** Total working days in a 12-month period (1): **220**		
Description of the type of wastewater	☑ **Industrial Wastewater** ☐ Industrial Wastewater mixed with Domestic Wastewater Total Industrial Wastewater generated over a 12-month period (mc): **630.213**		
Sampler:	☐ Incoming water ☐ Untreated Wastewater ☐ Untreated-effluent Wastewater ☐ Effluent water ☐ Sludge solid ☐ Sludge liquid ☐ Sludge Doughy ☐ Chemicals N. ☐ Chemicals N. ☐ Chemicals N.		
Sampling mode	Start time: 7.50 Stop time: 15.45		
Note report:			

Sludge

☐	ZDHC Disposal Pathway A - Offsite Incineration at >1000 °C	% of use
☐	ZDHC Disposal Pathway B - Landfill with Significant Control Measures	% of use
☐	ZDHC Disposal Pathway C - Building Products Processed at >1000 °C	% of use
☐	ZDHC Disposal Pathway D - Landfill with Limited Control Measures	% of use
☐	ZDHC Disposal Pathway E - Offsite Incineration and Building Products Processed at <1000 °C	% of use
☐	ZDHC Disposal Pathway F - Landfills with No Control Measures	% of use
☐	ZDHC Disposal Pathway G - Land Application	% of use

Facility Confirmation:	☑	The Wastewater samples have been collected under the facilitie's normal production scale and wastewater flow rate. The sampler listed below was on-site and collected the samples.
Sampler's Signature:		Facility Representative Signature:

Primary Lab Information

Company Name:	UL SOLUTIONS – IISG s.r.l.
Lab name:	IISG s.r.l.
Lab Address:	Via Europa, 28 – 22060 – Cabiate (CO)
Contact Name:	Luciano Buraschi
Contact Name:	Telephone: +39 0318125000 eMail: CAH.ChemicalLabDivisionText@ul.com

Note (1): Intended to the full days of which Industrial Wastewater is generated)

WASTEWATER SAMPLING FIELD DATA FORM AND REPRESENTATIVE SAMPLE DECLARATION

UL Solutions

Cod. sample: **24-35909**

Sampler:

- ☐ Incoming water
- ☑ **Untreated Wastewater**
- ☐ Effluent water
- ☐ Sludge liquid
- ☐ Sludge solid
- ☐ Sludge Doughy
- ☐ Chemicals
- ☐ _____
- ☐ _____

Sampling location:

Latitude: **45.698317**

Longitude: **9.49566**

24.35909

PRODUCTION WASTWATER COLLECTION TANK

Sampling mode:

- ☐ Autosampler
- ☐ Single Grab
- ☑ **Manual**
- ☑ **Composit**

Sampling Device Description / Owner: //

Homogenization tank: ☑ **Not present** ☐ Present: average holding time > 12 h ☐ YES ☐ NO ☐ NA

Wastewater Flow Device Dimension

Measurment (cm)	Meter	Pipe (O)	Flume (U)	Weir (V)
Diameter	NA			
Depth	NA	NA	NA	

Wastewater Sampling Field Testing QA/QC

Parameter	LCS Known	LCS Measured	Accuracy %
pH			
Total Chlorine			

Wastewater Sample Collection Fiel test Measuments

Sampling Time (hours)	Temperature °C Wastewater Discharge	Temperature °C Receiving Water	pH (Units)	Dissolved Oxygen (mg/L)	220 Chlorine (mg/L)	Persistant Foam (yes/No)	Wastewater Flow Meter (mc/h)	Alternate Measured Flow Depth (cm)	Alternate Measured Flow Velocity (cm/Sec)
0 8.55									
1 9.55									
2 10.55									
3 11.55									
4 12.55									
5 13.55									
6 14.55									
Ave - Reported with lab data									

Analysis required

- ☑ **ZDHC MRSL (Table 1A-1T)** ☐ _____
- ☐ ZDHC Heavy Metals (Table 2) ☐ _____
- ☐ ZDHC Conventional and Anions (Table 3)
- ☐ ZDHC Sludges (Table 4) Note:

Note report:

Sampler's Signature: _____ Facility Representative Signature: _____

The parts below are reserved for UL

Delivery of samples to the laboratory — Date: **9/3/2024** Hour: 12:00

Timing of analysis: ☑ **NORMAL** ☐ RUSH — Return to the Customer: ☐ Yes ☑ **NO**

Sample accepted: ☑ Yes T: °C Reserve (☐ T° - ☐ Quantity - ☐ Container - ☐ Delivery day ☐ Other) ☐ NO

Note: _____ CS Signature: RAV

UL Solutions

WASTEWATER SAMPLING FIELD DATA FORM AND REPRESENTATIVE SAMPLE DECLARATION

Cod. sample **24-35909**

Sampler:	☐ Incoming water	☐ Sludge liquid	☐ Chemicals
	☐ Untreated Wastewater	☐ Sludge solid	☐ _____
	☑ **Effluent water**	☐ Sludge Doughy	☐ _____

Sampling location:

Latitude: **45.695826**

Longitude: **9.494643**

S1 - WATER DISCHARGE

24.35909

Sampling mode:

☐ Autosampler	☑ **Manual**
☐ Single Grab	☑ **Composit**

Sampling Device Description / Owner: //

Homogenization tank: ☐ Not present ☐ Present: average holding time > 12 h ☐ YES ☐ NO ☐ NA

Wastewater Flow Device Dimension

Measurment (cm)	Meter	Pipe (O)	Flume (U)	Weir (V)
Diameter	NA			
Depth	NA	NA	NA	

Wastewater Sampling Field Testing QA/QC

Parameter	LCS Known	LCS Measured	Accuracy %
pH			
Total Chlorine			

Wastewater Sample Collection Fiel test Measuments

Sampling Time (hours)	Temperature °C Wastewater Discharge	Temperature °C Receiving Water	pH (Units)	Dissolved Oxygen (mg/L)	220 Chlorine (mg/L)	Persistant Foam (yes/No)	Wastewater Flow Meter (mc/h)	Alternate Measured Flow Depth (cm)	Alternate Measured Flow Velocity (cm/Sec)
0 8.50									
1 9.50									
2 10.50									
3 11.50									
4 12.50									
5 13.50									
6 14.50									
Ave - Reported with lab data									

Note report:

Wastewater treatment

Preliminary Treatment

- ☑ Equalization Basin
- ☐ Filtration
- ☐ Manual Grit Remover
- ☐ Mechanical or Aerated Grit Remover
- ☐ Other physical/chemical process
- ☐ pH adjustment
- ☐ Pre-Aeration
- ☐ Raw wastewater or effluent pumping
- ☐ Others (Please specify)

Primary Treatment

- ☐ Chemical injection with coagulation (DAF, inclined plate, etc.)
- ☐ Coagulation - flocculation
- ☐ Dissolved air flotation
- ☐ Lamellar settling
- ☐ Primary clarifier
- ☐ Others (Please specify)

Disinfection

- ☐ Chlorination (gas)
- ☐ Chlorination (others)
- ☐ Dechlorination
- ☐ Ozonation
- ☐ Sand filtration
- ☐ Ultraviolet
- ☐ Others - Please Specify: adjuvant in clarification

Secondary Treatment

- ☐ Activated Sludge
- ☐ Activated Sludge process (with membrane bioreactor)
- ☐ Activated Sludge process(without membrane bioreactor)
- ☐ Aerated biofilters
- ☐ Aerated ponds
- ☑ Biological Treatment (with MBBR technology)
- ☐ Chemical coagulation with rapid mix, flocculation, clarification
- ☐ Fluidized Bed
- ☐ Intermittent sand filter without recirculation
- ☐ Membrane bioreactors
- ☐ Rotating biological contactors
- ☐ Secondary clarifier
- ☐ Sequential batch reactor (SBR)
- ☐ Submerged aerated filters
- ☐ Trickling filter, biological filter with recirculation
- ☐ Trickling filter, biological filter without recirculation
- ☐ UASB Reactor (Upflow Anaerobic Sludge Blanket Reactor)
- ☐ Unaerated lagoon
- ☐ Others (Please specify): decolorization

Advanced Water Treatment / Tertiary treatment

- ☐ Activated carbon filters
- ☐ Adsorption with activated carbon
- ☐ Advanced Oxidation Processes (AOPs)
- ☐ Chemical Addition for Neutralization
- ☐ Electrocoagulation-Electroflocculation
- ☐ Evaporation
- ☐ Fenton reactions
- ☐ Intermittent Sand Filter
- ☐ Ion exchange
- ☐ Membrane filtration and reverse osmosis
- ☐ Microscreens
- ☐ Nitrification by Activated Sludge
- ☐ Nitrification by activated Sludge and dentrification
- ☐ Nitrification by other processes
- ☐ Nitrification by other processes and dentrification
- ☐ Phosphorus Removal
- ☐ Polishing Pond
- ☐ Rapid Sand filter
- ☐ Reverse osmosis, Electrodialysis
- ☐ Ultrafiltration
- ☐ Others - Please Specify

Cooling or hear recovery systems to cool wastewater

- ☐ Cooling tower
- ☐ Heat recovery Heat exchangers

Analysis required		
☐ ZDHC MRSL (Table 1A-1T)	☐ _____	
☑ **ZDHC Heavy Metals (Table 2)**	☐ _____	
☐ ZDHC Conventional and Anions (Table 3)		
☐ ZDHC Sludges (Table 4)		
Sampler's Signature:	Facility Representative Signature:	
The parts below are reserved for UL		
Delivery of samples to the laboratory	Date: **9/3/2024**	Hour: 17:00
Timing of analysis:	☑ **NORMAL** ☐ RUSH	Return to the Customer: ☐ Yes ☑ **NO**
Sample accepted:	☒ Yes T: °C	Reserve (☐ T° - ☐ Quantity - ☐ Container - ☐ Delivery day ☐ Other) ☐ NO
Note:	CS Signature:	