

Rimini, 10/14/2022

CERTIFICATE OF ANALYSIS n° 2215209-002 del 10/14/2022

Lab. sample lot id.: **2215209**
Sample receipt date: **09/28/2022**
Sampling carried out by: **Client**

Client:
Newster System S.r.l.
Via Pascoli, 26/28
47853 CORIANO- ITALIA (RN)

Lab. sample id: **2215209-002**
Client sample id: **Wastewater 3.1_LD1_2022_09_27**
Sampling site: **Sterilization system NW15 SN. 534**
Accredited Private Hospital "Sol et Salus" - via San Salvador, 108 - Rimini (RN)
Matrix: **Wastewater Sterilization System NW15 SN. 534**
Distributor: **Steriltech Waste Company S.r.l.**
Analysis start: **09/28/2022** Analysis end: **10/10/2022**

Parameters	U.M.	Results	M.U.	L.o.Q.	D.Lgs n° 152/06 Surface water	D.Lgs n° 152/06 Public sewerage	Test Methods	Accred. Param.
[1] pH start/end date: 09-22-2022/09-22-2022	pH unit	9,21	± 0,46		5,5 - 9,5	5,5 - 9,5	APAT CNR IRSA 2060 Man 29 2003	
[1] Temperature start/end date: 09-22-2022/09-22-2022	°C	undeterminable	N.A.	0,1			APAT CNR IRSA 2100 Man 29 2003	
[1] Color start/end date: 09-22-2022/09-22-2022	dilution rate	not perc. 1:20 dil	N A		not perc. 1:20 dil	not perc. 1:40 dil	APAT CNR IRSA 2020 Man 29 2003	
[1] Odour Operator threshold value: 1 ppm butanol start/end date: 09-22-2022/09-22-2022	dilution rate	< 1		1	not causing nuisance	not causing nuisance	APAT CNR IRSA 2050 Man 29 2003	
[1] Floating matter start/end date: 09-22-2022/09-22-2022		absent	N A		absent	absent	D.Lgs 319/1976 10/05/1976 GU 141 29/05/1976 Tab A p.to 5 + APAT CNR IRSA 2090 B Man 29 2003	
[1] Total suspended solids (total suspended matter) start/end date: 09-22-2022/09-23-2022	mg/L	25,0	± 1,8	5	80	200	APAT CNR IRSA 2090 B Man 29 2003	
[1] Biochemical oxygen demand (BOD5) start/end date: 09-22-2022/09-27-2022	mg/L O2	135	± 11	5	40	250	APHA Standard Methods for the Examination of Water and Wastewater, ed 23rd 2017, 5210 D	
[1] Chemical oxygen demand (COD) start/end date: 09-22-2022/09-27-2022	mg/L O2	466	± 56	5	160	500	ISO 15705:2002	
[1] Aluminium start/end date: 09-22-2022/09-28-2022	mg/L	0,179	± 0,020	0,005	1	2	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Arsenic start/end date: 09-22-2022/09-28-2022	mg/L	0,0900	± 0,0072	0,01	0,5	0,5	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	

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follows CERTIFICATE OF ANALYSIS n° 2215209-002 del 10/14/2022

Parameters	U.M.	Results	M.U.	L.o.Q.	D.Lgs n° 152/06 Surface water	D.Lgs n° 152/06 Public sewerage	Test Methods	Accred. Param.
[1] Barium start/end date: 09-22-2022/09-28-2022	mg/L	0,0600	± 0,0054	0,01	20		APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Boron start/end date: 09-22-2022/09-28-2022	mg/L	0,160	± 0,013	0,01	2	4	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Cadmium start/end date: 09-22-2022/09-28-2022	mg/L	< 0,001		0,001	0,02	0,02	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Total chromium start/end date: 09-22-2022/09-28-2022	mg/L	0,0120	± 0,0017	0,005	2	4	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Hexavalent chromium start/end date: 09-22-2022/09-23-2022	mg/L	0,01000	± 0,00065	0,01	0,2	0,2	EPA 7199 1996	
[1] Iron start/end date: 09-22-2022/09-28-2022	mg/L	0,223	± 0,015	0,005	2	4	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Manganese start/end date: 09-22-2022/09-28-2022	mg/L	0,0100	± 0,0016	0,005	2	4	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Mercury start/end date: 09-22-2022/09-28-2022	mg/L	< 0,0005		0,0005	0,005	0,005	UNI EN ISO 12846 (not chapter 6): 2013	
[1] Nickel start/end date: 09-22-2022/09-28-2022	mg/L	0,0320	± 0,0029	0,005	2	4	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Lead start/end date: 09-22-2022/09-28-2022	mg/L	0,0100	± 0,0045	0,01	0,2	0,3	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Copper start/end date: 09-22-2022/09-28-2022	mg/L	0,0310	± 0,0019	0,005	0,1	0,4	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Selenium start/end date: 09-22-2022/09-28-2022	mg/L	< 0,025		0,025	0,03	0,03	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Tin start/end date: 09-22-2022/09-28-2022	mg/L	< 0,5		0,5	10		APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Zinc start/end date: 09-22-2022/09-28-2022	mg/L	0,168	± 0,012	0,01	0,5	1	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Total cyanides (cyanide ion) start/end date: 09-22-2022/09-28-2022	mg/L	< 0,02		0,02	0,5	1	EPA 9010C 2004 + EPA 9014 2014	
[1] Free chlorine (as Cl ₂) start/end date: 09-22-2022/09-22-2022	mg/L	< 0,05		0,05	0,2	0,3	APAT CNR IRSA 4080 Man 29 2003	
[1] Sulphides (as H ₂ S) start/end date: 09-22-2022/09-24-2022	mg/L	< 0,5		0,5	1	2	APAT CNR IRSA 4160 Man 29 2003	
[1] Sulphites (sulphite ion) start/end date: 09-22-2022/09-28-2022	mg/L	< 0,1		0,1	1	2	APAT CNR IRSA 4150 Man 29 2003	
[1] Sulphates (sulphate ion) start/end date: 09-22-2022/09-28-2022	mg/L	88	± 11	0,1	1000	1000	APAT CNR IRSA 4020 Man 29 2003	

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Parameters	U.M.	Results	M.U.	L.o.Q.	D.Lgs n° 152/06 Surface water	D.Lgs n° 152/06 Public sewerage	Test Methods	Accred. Param.
[1] Chlorides (chloride ion) start/end date: 09-22-2022/09-28-2022	mg/L	24,1	± 2,9	0,1	1200	1200	APAT CNR IRSA 4020 Man 29 2003	
[1] Fluorides (fluoride ion) start/end date: 09-22-2022/09-28-2022	mg/L	< 0,1		0,1	6	12	APAT CNR IRSA 4020 Man 29 2003	
[1] Total phosphorus (as P) start/end date: 09-22-2022/09-27-2022	mg/L	3,19	± 0,18	0,05	10	10	APAT CNR IRSA 3010 A Man 29 2003 + APAT CNR IRSA 3020 Man 29 2003	
[1] Ammoniacal nitrogen (ammonium ion) start/end date: 09-22-2022/09-23-2022	mg/L	0,130	± 0,025	0,02	15	30	APAT CNR IRSA 4030 A1 Man 29 2003	
[1] Nitrous nitrogen (as N) start/end date: 09-22-2022/09-28-2022	mg/L	0,0900	± 0,0090	0,02	0,6	0,6	APAT CNR IRSA 4050 Man 29 2003	
[1] Nitric nitrogen (as N) start/end date: 09-22-2022/09-28-2022	mg/L	1,20	± 0,14	0,01	20	30	APAT CNR IRSA 4020 Man 29 2003	
[1] Vegetal and animal oils and fats start/end date: 09-22-2022/09-28-2022	mg/L	< 3		3	20	40	APAT CNR IRSA 5160 A Man 29 2003	
[1] Total hydrocarbons start/end date: 09-22-2022/09-28-2022	mg/L	< 0,03		0,03	5	10	UNI EN ISO 9377-2:2002	
[1] Phenols (phenol index) start/end date: 09-22-2022/09-28-2022	mg/L	< 0,1		0,1	0,5	1	ISO 6439-A:1990	
[1] Aldehydes start/end date: 09-22-2022/09-28-2022	mg/L	< 0,05		0,05	1	2	APAT CNR IRSA 5010 A Man 29 2003	
[1] Aromatic organic solvents start/end date: 09-22-2022/09-28-2022	mg/L	< 0,01		0,01	0,2	0,4	EPA 5021A 2014 + EPA 8260D 2018	
[1] Nitrogen organic solvents start/end date: 09-22-2022/09-28-2022	mg/L	< 0,01		0,01	0,1	0,2	EPA 5021A 2014 + EPA 8260D 2018	
[1] Organophosphorated pesticides start/end date: 09-22-2022/09-28-2022	mg/L	< 0,01		0,01	0,1	0,1	EPA 3510C 1996 + EPA 8270E 2018	
[1] Total pesticides (except for organophosphorated) start/end date: 09-22-2022/09-28-2022	mg/L	< 0,01		0,01	0,05	0,05	EPA 3510C 1996 + EPA 8270E 2018	*
[1] Aldrin start/end date: 09-22-2022/09-28-2022	mg/L	< 0,001		0,001	0,01	0,01	EPA 3510C 1996 + EPA 8270E 2018	
[1] Dieldrin start/end date: 09-22-2022/09-28-2022	mg/L	< 0,001		0,001	0,01	0,01	EPA 3510C 1996 + EPA 8270E 2018	
[1] Endrin start/end date: 09-22-2022/09-28-2022	mg/L	< 0,001		0,001	0,002	0,002	EPA 3510C 1996 + EPA 8270E 2018	
[1] Isodrin start/end date: 09-22-2022/09-28-2022	mg/L	< 0,001		0,001	0,002	0,002	EPA 3510C 1996 + EPA 8270E 2018	
[1] Chlorinated organic solvents start/end date: 09-22-2022/09-28-2022	mg/L	< 0,01		0,01	1	2	EPA 5021A 2014 + EPA 8260D 2018	

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Parameters	U.M.	Results	M.U.	L.o.Q.	D.Lgs n° 152/06 Surface water	D.Lgs n° 152/06 Public sewerage	Test Methods	Accred. Param.
OTHER SUBSTANCES								
[1] Electrical conductivity at 20°C start/end date: 09-22-2022/09-22-2022	µS/cm	850	± 140	5			APAT CNR IRSA 2030 Man 29 2003	
[1] Total nitrogen (as N) start/end date: 09-22-2022/09-23-2022	mg/L	12,0	± 1,8	1			POM 091 Rev. 3 2013	*
[1] Total organic carbon (TOC) start/end date: 09-22-2022/09-28-2022	mg/L	81	± 12	1			EPA 9060A 2004	
SURFACE ACTIVE AGENTS								
[1] Anionic surface active agents (MBAS) start/end date: 09-22-2022/09-28-2022	mg/L	< 0,025		0,025			APAT CNR IRSA 5170 Man 29 2003	
[1] Non ionic surface active agents start/end date: 09-22-2022/09-28-2022	mg/L	1,69	± 0,25	0,1			APAT CNR IRSA 5180 Man 29 2003	
[1] Cationic surface active agents start/end date: 09-22-2022/09-28-2022	mg/L	< 0,2		0,2			POM 190 Rev. 11 2013	*
[1] Total surface active agents start/end date: 09-22-2022/09-28-2022	mg/L	1,70	± 0,26	0,2	2	4	APAT CNR IRSA 5170 Man 29 2003 + APAT CNR IRSA 5180 Man 29 2003	

U.M. = Unit of Measurement

N A = Not Applicable

M.U. = Measurement Uncertainty

L.o.Q. = Limit of Quantification

[1] Site A: Via al Torrente n° 22 - 47923 Rimini (RN)

[2] Site B: Via al Torrente n° 26 - 47923 Rimini (RN)

CATEGORY PARAMETERS 0 = tests carried out at the laboratory.

CATEGORY PARAMETERS II = tests carried out in a mobile environment of a test laboratory specially equipped to perform certain tests.

CATEGORY PARAMETERS III [field parameters] = tests carried out by staff of the Laboratory on sites outside the Testing Laboratory.

If not otherwise specified, measurement uncertainty is expanded and calculated with a coverage factor k=2 with a probability of roughly 95%.

The Measurement Uncertainty of the laboratory tests does not include the sampling uncertainty. The Measurement Uncertainty is expressed only for results greater than the Limit of Quantification.

All tests are ACCREDIA accredited (Accred. Param. = Accredited Parameters) except for those marked with an asterisk (*).

Determination of residues/traces: the analytical results not complying with the recovery statistical test performed for the method validation, are increased with the recovery values. The recovery values are at client's disposal and they are reported in the certificate of analysis, if used for analytical result calculation.

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Gruppo CSA S.p.A. is not responsible for sampling: analysis results are referred exclusively to the sample as it was delivered to the laboratory.

The laboratory disclaims any liability about the information supplied by the customer (sample description, sampling date).

follows CERTIFICATE OF ANALYSIS n° 2215209-002 del 10/14/2022

Additional information about certificate of analysis with method UNI EN ISO 9377:

- Observations to be noticed: "none"
- Actions that affected the result not specified in the Test method procedure (PDP) of method "none"
- Presence of low boiling compounds (< C10) "none"
- Presence of high boiling compounds (> C40) "none"

Any further information about test methods not included in this certificate of analysis can be supplied by the laboratory subject to a formal request.

Analytical results are referred only to the samples tested.
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Laboratory Production Unit

The Director
(Dr. Ivan Fagiolino)


Rimini, 10/14/2022

CERTIFICATE OF ANALYSIS n° 2215204-002 del 10/14/2022

Lab. sample lot id.:	2215204	Client: Newster System S.r.l. Via Pascoli, 26/28 47853 CORIANO - ITALIA (RN)
Sample receipt date:	09/28/2022	
Sampling carried out by:	Client	
Sampling date:	09/27/2022	
Lab. sample id:	2215204-002	
Client sample id:	Wastewater in sewage system 1.2_WW1_2022_09_27	
Sampling site:	Sterilization System NW15 Matr. 534	
	Accredited Private Hospital "Sol et Salus" - via San Salvador, 108 - Rimini (RN)	
Matrix:	Wastewater from Sterilization System NW15 SN. 534	
Distributor:	Steriltech Waste Company S.r.l.	
Analysis start:	09/28/2022	Analysis end: 10/10/2022

Parameters	U.M.	Results	M.U.	L.o.Q.	Test Methods	Accred. Param.
CATEGORY PARAMETERS 0						
[1] Enumeration of Escherichia coli start/end date: 09-28-2022/09-29-2022	CFU/100 mL	0			APAT CNR IRSA 7030 E Man 29 2003	
[1] Enumeration of Coagulase-positive staphylococci (S. aureus) start/end date: 09-28-2022/09-30-2022	CFU/250 mL	0			ISTISAN Reports 2007/05 Met ISS pag 162 A 016A rev. 00	*
[1] Enumeration of Pseudomonas aeruginosa start/end date: 09-28-2022/09-30-2022	CFU/250 mL	0			UNI EN ISO 16266:2008	*
[1] Enumeration of Sulfite-reducing clostridia start/end date: 09-28-2022/09-29-2022	CFU/100 mL	0			APAT CNR IRSA 7060 B Man 29 2003	
[1] Detection of Salmonella spp. start/end date: 09-28-2022/10-02-2022	in 1000 mL	absente			APAT CNR IRSA 7080 Man 29 2003	
[1] Enumeration of Legionella spp. start/end date: 09-28-2022/10-08-2022	CFU/1000 mL	< 50		50	ISO 11731:2017	
[1] Geobacillus Stearothermophilus start/end date: 09-28-2022/09-30-2022	CFU/100 mL	0			Internal method	*

U.M. = Unit of Measurement

M.U. = Measurement Uncertainty

L.o.Q. = Limit of Quantification

C.F.U. = Colony Forming Unit

[1] Site A: Via al Torrente n° 22 - 47923 Rimini (RN)

[2] Site B: Via al Torrente n° 26 - 47923 Rimini (RN)

CATEGORY PARAMETERS 0 = tests carried out at the laboratory.

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CATEGORY PARAMETERS III [field parameters] = tests carried out by staff of the Laboratory on sites outside the Testing Laboratory.

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Codice Fiscale - Partita Iva - Iscrizione al registro Imprese di Rimini al n. 03231410402 - Capitale Sociale € 1.050.000,00 i.v.

follows CERTIFICATE OF ANALYSIS n° 2215204-002 del 10/14/2022

The expressions "Enumeration of" and "Detection of" identify quantitative and qualitative tests, respectively, and they do not have to be considered if the Limit of law specifies only the name of the microorganism detected.

If not otherwise specified, measurement uncertainty is expanded and calculated considering all contributions provided for by ISO 19036, with a coverage factor $k=2$ with a probability of roughly 95%. The Measurement Uncertainty of the laboratory tests include the sampling uncertainty. The Measurement Uncertainty is expressed only for results not equal to zero.

The result is always expressed as a numerical value by considering that:

- CFU values included between 1 or 2 (corresponding to 50 and 100 CFU/L in the case of Legionella) are equivalent to "microorganisms present in the volume analysed" because they are below the detection limit of 3 colonies;
- CFU values included between 3 or 9 (corresponding to 150 and 450 CFU/L in the case of Legionella) are expressed as "estimated number of microorganisms" because they are below the limit of quantification of 10 colonies.

All tests are ACCREDIA accredited (Accred. Param. = Accredited Parameters) except for those marked with an asterisk (*).

Determination of residue/traces: not applicable to microbiology.

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Gruppo CSA S.p.A. is not responsible for sampling: analysis results are referred exclusively to the sample as it was delivered to the laboratory. The laboratory disclaims any liability about the information supplied by the customer (sample description, sampling date).

In order to calculate the analytical Holding Time accurately, the analysis start date corresponds to the sampling date, while the start/end date is referred to each parameter tested.

Any further information about test methods not included in this certificate of analysis can be supplied by the laboratory subject to a formal request.

DECLARATION ABOUT LEGIONELLA

In accordance with Annex J of the International Standard ISO 11731 (Figure J1-Decision Matrix), the laboratory followed the procedure Matrix A; Procedure 8, 9, 10; Culture medium BCYE+MWY (or GVPC or A+B) Agar.

Analytical results are referred only to the samples tested.
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Laboratory Production Unit

The Director
(Dr. Ivan Fagiolino)


Rimini, 10/14/2022

CERTIFICATE OF ANALYSIS n° 2215204-003 del 10/14/2022

Lab. sample lot id.:	2215204	Client: Newster System S.r.l. Via Pascoli, 26/28 47853 CORIANO - ITALIA (RN)
Sample receipt date:	09/28/2022	
Sampling carried out by:	Client	
Sampling date:	09/27/2022	
Lab. sample id:	2215204-003	
Client sample id:	Wastewater in sewage system 2.2_LD2_2022_09_27	
Sampling site:	Sterilization System NW15 Matr. 534	
	Accredited Private Hospital "Sol et Salus" - via San Salvador, 108 - Rimini (RN)	
Matrix:	Wastewater from Sterilization System NW15 SN. 534	
Distributor:	Steriltech Waste Company S.r.l.	
Analysis start:	09/28/2022	Analysis end: 10/10/2022

Parameters	U.M.	Results	M.U.	L.o.Q.	Test Methods	Accred. Param.
CATEGORY PARAMETERS 0						
[1] Enumeration of Escherichia coli start/end date: 09-28-2022/09-29-2022	CFU/100 mL	0			APAT CNR IRSA 7030 E Man 29 2003	

U.M. = Unit of Measurement

M.U. = Measurement Uncertainty

L.o.Q. = Limit of Quantification

C.F.U. = Colony Forming Unit

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The result is always expressed as a numerical value by considering that:

- CFU values included between 1 or 2 (corresponding to 50 and 100 CFU/L in the case of Legionella) are equivalent to "microorganisms present in the volume analysed" because they are below the detection limit of 3 colonies;
- CFU values included between 3 or 9 (corresponding to 150 and 450 CFU/L in the case of Legionella) are expressed as "estimated number of microorganisms" because they are below the limit of quantification of 10 colonies.

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Determination of residue/traces: not applicable to microbiology.

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Laboratory Production Unit

The Director

(Dr. Ivan Fagiolino)

