

RelyOn Nutec Denmark A/S
Uglviggårdsvej 3
6705 Esbjerg Ø
Att.: Tonny Christiansen
Report code: AR-20-CA-00922007-01
Batch code: EUDKVE-00922007
Client code: CA0000723
Received on: 04.02.2020

Analytical Report

Sample type: Waste water
Sampling Point: RelyOn Nutec, spildevand - / 20001561
Sampler: Eurofins Miljø Vand A/S SVT
Sampling: 04.02.2020 . 12:45
Test period: 04.02.2020 - 13.02.2020

Sample description:

Lab sample No.:	80309010	Unit	LOQ	Method	²⁾ Urel (%)
Inhibition of nitrification					
Dilution	200	ml/l		Preparation	
Inhibition of nitrification 1 conc/std sludge	< 20	%	20	EN ISO 9509:2006 mod.	30
Sludge used for Inhibition of nitrification					
Sludge from a specific treatment plan				*	
Organic Assembly Parameters					
Oil	0.36	mg/l	0.1	DS/R 209 mod. Spectrophotometry (IR)	15
Aromatic hydrocarbons					
Benzene	0.090	µg/l	0.02	ISO 11423-2:1997 mod. GC-MS	20
Toluene	0.18	µg/l	0.02	ISO 11423-2:1997 mod. GC-MS	15
Ethylbenzene	< 0.02	µg/l	0.02	ISO 11423-2:1997 mod. GC-MS	20
Xylene (ortho-)	< 0.02	µg/l	0.02	ISO 11423-2:1997 mod. GC-MS	15
Xylene (meta-, para-)	< 0.02	µg/l	0.02	ISO 11423-2:1997 mod. GC-MS	15
Sum of xylenes	#	µg/l		ISO 11423-2:1997 mod. GC-MS	20
BTEX (sum)	0.27	µg/l		ISO 11423-2:1997 mod. GC-MS	20
PAH-compounds					
Acenaphthene	0.011	µg/l	0.01	M 0250 GC-MS	30
Fluorene	0.036	µg/l	0.01	M 0250 GC-MS	30
Phenanthrene	0.030	µg/l	0.01	M 0250 GC-MS	30
Fluoranthene	0.076	µg/l	0.01	M 0250 GC-MS	30
Pyrene	0.22	µg/l	0.01	M 0250 GC-MS	30
Benzo[b+j+k]fluoranthene	0.026	µg/l	0.01	M 0250 GC-MS	30
Benzo(a)pyrene	0.014	µg/l	0.01	M 0250 GC-MS	30
Indeno(1,2,3-cd)pyrene	0.018	µg/l	0.01	M 0250 GC-MS	30
Benzo(g,h,i)perylene	0.036	µg/l	0.01	M 0250 GC-MS	30
PAH, all	0.47	µg/l		M 0250 GC-MS	
Dioxins					
2,3,7,8-TetraCDD	< 0.655	pg/l	0.72	Internal GC-HRMS	A
1,2,3,7,8-PentaCDD	< 0.873	pg/l	0.96	Internal GC-HRMS	A
1,2,3,4,7,8-HexaCDD	< 1.75	pg/l	1.9	Internal GC-HRMS	A
1,2,3,6,7,8-HexaCDD	< 1.75	pg/l	1.9	Internal GC-HRMS	A
1,2,3,7,8,9-HexaCDD	< 1.75	pg/l	1.9	Internal GC-HRMS	A

Legend:

<: less than
 >: greater than
 #: none of the parameters are detected
 LOQ Limit of quantification

*) Not included in the accreditation
 n.d: not detected
 NM: non-measurable
 2): subcontractors

Urel (%): The expanded relative measurement uncertainty, with a coverage factor 2. For results at the level of detection limit the uncertainty might be higher than reported.

2): Uncertainties of microbiological parameters are given as a logarithmical standard deviation

The test results relate only to the items tested.

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1,2,3,4,6,7,8-HeptaCDD	< 1.49	pg/l	1.6	Internal GC-HRMS	A
OctaCDD	< 10.5	pg/l	12	Internal GC-HRMS	A
2,3,7,8-TetraCDF	< 1.16	pg/l	1.3	Internal GC-HRMS	A
1,2,3,7,8-PentaCDF	< 1.56	pg/l	1.7	Internal GC-HRMS	A
2,3,4,7,8-PentaCDF	< 1.56	pg/l	1.7	Internal GC-HRMS	A
1,2,3,4,7,8-HexaCDF	< 1.45	pg/l	1.6	Internal GC-HRMS	A
1,2,3,6,7,8-HexaCDF	< 1.45	pg/l	1.6	Internal GC-HRMS	A
1,2,3,7,8,9-HexaCDF	< 1.45	pg/l	1.6	Internal GC-HRMS	A
2,3,4,6,7,8-HexaCDF	< 1.45	pg/l	1.6	Internal GC-HRMS	A
1,2,3,4,6,7,8-HeptaCDF	< 1.38	pg/l	1.5	Internal GC-HRMS	A
1,2,3,4,7,8,9-HeptaCDF	< 1.38	pg/l	1.5	Internal GC-HRMS	A
OctaCDF	< 2.91	pg/l	3.2	Internal GC-HRMS	A
WHO(2005)-PCDD/F TEQ (lower-bound)	ND	pg/l		Internal GC-HRMS	A
WHO(2005)-PCDD/F TEQ (upper-bound)	3.31	pg/l	3.6	Internal GC-HRMS	A
I-TEQ (NATO/CCMS) (lower-bound)	ND	pg/l		Internal GC-HRMS	A
I-TEQ (NATO/CCMS) (upper-bound)	3.23	pg/l		Internal GC-HRMS	A
PFAS-compounds					
PFBA (Perfluorobutanoic acid)	0.28	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFBS (Perfluorobutanesulfonic acid)	0.014	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFPeA (Perfluoropentanoic acid)	1.1	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFHxA (Perfluorohexanoic acid)	1.6	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFHxS (Perfluorohexanesulfonic acid)	0.27	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFHpA (Perfluoroheptanoic acid)	0.62	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFOA (Perfluorooctanoic acid)	0.13	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFOS (Perfluorooctanesulfonic acid)	0.65	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40

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6:2 FTS (Fluorotelomer sulfonate)	13	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFOSA (Perfluorooctanesulfonamide)	<0.001	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFNA (Perfluorononanoic acid)	0.016	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
PFDA (Perfluorodecanoic acid)	<0.001	µg/l	0.001	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B 40
Sum of PFAS	18	µg/l	0	* DIN38407-42, UNEP Chemicals Branch 2015 mod. LC-MS/MS	B

Information from sampler

Sampling method	Spot test		ISO 5667-10:1992:2007	C
Water temperature	7.9	°C	ISO 5667-10:1992:2007	C
pH	7.7	pH	ISO 10523	C

Subcontractors:

 A: Eurofins GfA Lab Service GmbH (Hamburg) (DIN EN ISO/IEC 17025:2005 D-PL-14629-01-00)
 B: Eurofins Food & Feed Testing Sweden (Lidköping)
 C: Eurofins Environment Water A/S (DS EN ISO/IEC 17025 DANAK 555)

80309010 Sample comment:


 Som standardrutine bliver alle prøver til totalkulbrinter på FID og/eller kulbrinter på GC-MS dekanteret inden analyse.
 Sum af xylener er summen af resultaterne for Ethylbenzen, m+p-Xylen og o-Xylen.
 Detektionsgrænsen for PFAS-forbindelser er hævet pga. højt indhold.

Batch comments:

Flowmåler: 8370 m3

13.02.2020

 Customer center
 Tel 70224266


 Birgit Neess Fredslund
 Customer Adviser

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