

Report testing

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Report Lab-scale Soil Washing Feasibility Trials PFAS Contaminated Soils Stavanger Airport



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Introduction

DEME Environmental (DE) were contacted by Annelene Pengerud of Norconsult to evaluate the treatability of PFAS contaminated soils from Stavanger Airport by means of soil washing.

In order to be reusable after treatment, the soil fractions after treatment should comply with the reuse targets of 30 µg/kg DM ΣPFAS(30).

DEME Environmental has more than 30 years of experience in the treatment of contaminated soils by means of soil washing and has developed the so-called hybrid soil washing process for treating PFAS contaminated soils. This process ensures that almost all the PFAS are removed from the soil, captured on granular activated carbon, and the PFAS are destroyed during the carbon regeneration. Based on this technology various PFAS projects have been successfully executed at full scale.

Specifically for PFAS contaminated soils DEME Environmental has developed a lab testing protocol that allows to gather sufficient information for the design and dimensioning of a full scale process. This lab-scale testing is performed at the DEME Research Centre in Belgium. The PFAS analyses are executed by the accredited lab Normec-Servaco in Belgium (www.normecservaco.com).

Norconsult has provided 8 soil samples from the Stavanger Airport site to DEME Environmental for testing. These samples were characterised and tested according to the lab protocol. Based on the intermediate findings and testing results the lab protocol was adjusted where necessary. The report below outlines all work that was done during the lab trials.

Objectives

The objectives of the lab scale testing were:

- Assess the feasibility of (on-site) soil washing for the soils on this project, based on the representative samples, i.e. can the majority of gravel and sand fraction be washed to below the target of $\Sigma\text{PFAS}_{30} < 30 \mu\text{g/kg}$.
- Determine the necessary steps to be involved in the soil washing process.
- Determine the amount of fractions that can be considered clean and reusable after washing.
- Determine the amount of fractions to be disposed (fines, organic material) or regenerated (activated carbon).

Lab testing programme

1.1. Sample characterisation

8 samples coded SW01 to SW08 were sent to DEME. Of each sample two buckets were foreseen. The two buckets of each sample were homogenized and characterised for the following parameters:

- Visual assessment of the samples.
- Particle size distribution (sieving and laser diffraction).
- Organic matter content (loss on ignition).
- PFAS analysis
- PFAS leaching

1.1.1. Visual assessment.

The homogenized samples were visually assessed. Pictures of the samples are shown in Figure 1.

All samples look very similar with respect to texture: a brown sand matrix with hardly any stones.

The only differences are the dark brown staining that occurs for samples SW02, SW03, SW06 and in particular SW08. This could be explained by differences in the presence of organic matter.





Figure 1. Pictures of the 8 soil samples.

1.1.2. Particle size distribution

The particle size distribution (PSD) of the samples was determined in two ways:

- A limited PSD via wet sieving at 63 μm and 2 mm, which is actually also the first step of the soil washing protocol (wet sieving with L/S ratio of about 10).
- Via laser diffraction (on the 0 – 2 mm fraction only) which gives more insight on the actual size of the sand and the size of the fines (silt+clay).

1.1.2.1. PSD via wet sieving

A limited particle size distribution was determined by wet sieving the soil samples at a 2 mm and 63 μm sieve. The gravel and sand fractions were then dried and weighed. The fines content (= fraction < 63 μm) was determined in two ways: indirectly via calculation (mass difference between dry input and dried gravel and sand) and directly via separating the fines from the wash water. In general the directly determined fines content is lower than the indirectly determined one, but due to small errors in dry matter determination due to sampling heterogeneities this is not always the case, as further illustrated in the table below.

Note that no organic matter removal has been done so 'gravel' and 'sand' are to be read as 'fraction > 2 mm' respectively 'fraction 63 μm – 2 mm'.

The particle size fraction results obtained by wet sieving can be found in Table 1.

Table 1. Particle size distribution of the soil samples.

	gravel	sand	fines (indirect)	fines (direct)
SW01	0,23%	98,72%	1,05%	0,65%
SW02	2,94%	96,08%	0,98%	1,24%
SW03	0,05%	98,78%	1,17%	0,47%
SW04	0,06%	99,05%	0,88%	0,51%
SW05	1,33%	97,94%	0,73%	0,82%
SW06	1,37%	97,15%	1,49%	0,57%
SW07	1,13%	98,74%	0,13%	0,68%
SW08	1,00%	96,69%	2,30%	1,06%

In agreement with the visual assessment the soil samples have all a very similar texture and mainly consist of sand. The amount of gravel is very low (average 1.01 %, and maximum value for SW02 of about 3 %) and also the fines content is extremely low (average 1.09 % and maximum of 2.30 %).

The very low fines content make the soils very suitable for washing. As the main fraction is the sand content and the gravel content is almost negligible the further focus of the soil washing tests will be on the sand fraction.

Figure 2 shows an example of wet sieved gravel and sand derived from sample SW02. The gravel fraction mainly consists of granite particles with few organic matter. As can be seen on the picture the sand contains a very low amount of organic matter (black particles top right).



Figure 2. Pictures of the wet sieved fractions (gravel left, sand right).

1.1.2.2. PSD via laser diffraction

After removing gravel particles > 2 mm by dry screening to protect the laser diffraction apparatus the 8 soil samples were analysed for PSD by means of laser diffraction (Malvern Mastersizer 3000). All individual results can be found in annexe 1.

The findings confirm what was found by wet sieving: an average of 1.29 % fines (silt+clay) was found on the 0 – 2 mm fraction which corresponds well with the 1.09 % of fines in the wet sieving based on the whole sample including the small amount of gravel.

In addition the laser diffraction shows that no clay is present (particles $< 2 \mu\text{m}$).

The sand typically consists of about 75 % of medium sand (250-500 μm) and 25 % fine sand (125-250 μm).

Figure 3. PSD of SW08 as example (analysed by laser diffraction). Figure 3 shows the PSD of SW08 as typical example.

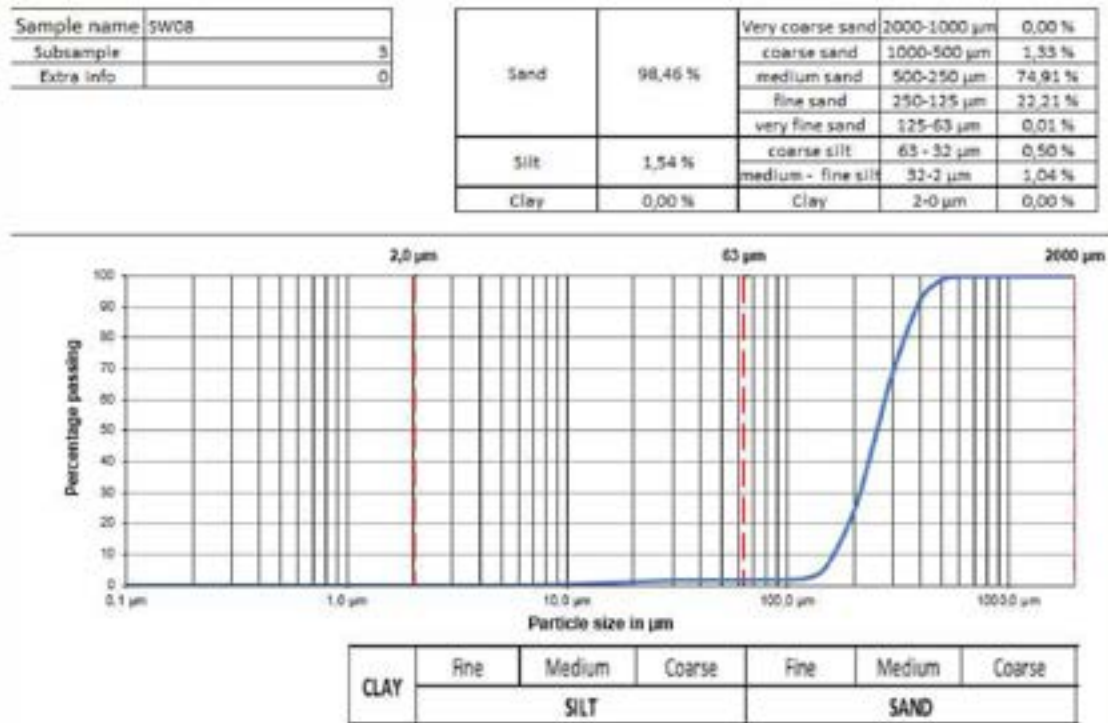


Figure 3. PSD of SW08 as example (analysed by laser diffraction).

1.1.3. Organic matter content

As a measure for organic matter content the loss on ignition (LOI) was determined. This is the fraction that burns off of a dry sample at 550 °C during 4 hours.

The LOI results together with the dry matter contents of the samples are presented in Table 2. The samples are all fairly dry (roughly 85 to 90 % DMC) and the LOI for all samples is around 0.5 % which is low. The visual differences observed in the visual assessment (section 1.1.1) are probably due to differences in moisture content (more water = darker colour).

Table 2. Results of dry matter content (DMC) and loss on ignition (LOI).

	DMC	LOI
SW01	90,18%	0,55%
SW02	92,72%	0,66%
SW03	90,68%	0,48%
SW04	84,45%	0,69%
SW05	89,84%	0,61%
SW06	89,13%	0,53%
SW07	86,98%	0,35%
SW08	84,22%	0,82%

1.1.4. PFAS analysis

Subsamples of the 8 samples were analysed by Normec-Servaco for the PFAS compounds. The samples were analysed as 'soil' which means gravel particles larger than 4 mm were sieved out by the lab. As the amount of gravel is negligible these analyses can be considered as representative of the whole soil sample.

It can be seen from Table 3 that various PFAS compounds can be found in most of the samples to some extent, although not with the same ratios. In some samples (SW01 to SW03) PFUnDA seems to be the principal compound, while in others PFOS is prevalent. Along with the sum of PFAS we highlighted the most important compounds in the table:

- PFUnDA
- PFTeDA
- PFOS
- PFNS
- PFDS
- PFDoDS
- PFOSA

Table 3. PFAS analysis of the 8 soil samples (all in µg/kg DM).

	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08
dry matter content (%)	90,4	93,4	90,7	84	90	89,4	86,9	84,3
perfluorobutanoic acid (PFBA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluoropentanoic acid (PFPeA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluorohexanoic acid (PFHxA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	0,56	< 0,47	< 0,47
perfluoroheptanoic acid (PFHpA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluorooctanoic acid (PFOA)	0,24	0,52	< 0,19	0,86	0,61	0,39	0,68	0,25
perfluorononanoic acid (PFNA)	0,68	2,5	4,5	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluorodecanoic acid (PFDA)	1,6	0,61	8,4	0,79	< 0,48	1,3	1	< 0,47
perfluoroundecanoic acid (PFUnDA)	270	750	140	96	24	34	2,4	5
perfluorododecanoic acid (PFDoDA)	< 0,47	4,5	< 0,47	3,8	1,8	2	< 0,47	< 0,47
perfluorotridecanoic acid (PFTeDA)	3,5	100	17	61	42	16	4	6,5
perfluorotetradecanoic acid (PFTeDA)	< 0,47	1,8	< 0,47	1,2	1	< 0,47	< 0,47	< 0,47
perfluorohexadecanoic acid (PFHxDA)	< 0,47	0,8	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluoro-1-butane sulfonate (PFBS)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluoropentane sulfonate (PFPeS)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluorohexane sulfonate (PFHxS)	0,9	0,66	< 0,47	1,2	0,49	1,3	< 0,47	0,78
perfluoroheptane sulfonate (PFHpS)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluorooctane sulfonate (PFOS)	70	31	82	32	4,8	440	100	20
perfluorononane sulfonate (PFNS)	17	13	2	10	1,4	25	20	4,8

perfluorodecane sulfonate (PFDS)	58	34	0,5	27	23	100	14	14
perfluorooctanesulfonamide (PFOSA)	1,9	57	0,58	150	43	17	110	19
N-methyl perfluorooctanesulfonamide (MePFOSA)	< 0,47	0,74	< 0,47	4,6	1,3	< 0,47	1	< 0,47
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
N-methylperfluorooctanesulfonamide acetic acid (MePFOSAA)	< 0,47	1,2	< 0,47	1,1	< 0,48	0,8	0,74	< 0,47
N-ethylperfluorooctanesulfonamide acetic acid (EtPFOSAA)	< 0,47	0,82	< 0,47	0,9	< 0,48	1	< 0,47	< 0,47
4:2 fluorotelomer sulfonic acid (4:2 FTS)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
6:2 fluorotelomer sulfonic acid (6:2 FTS)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	0,61	< 0,47	< 0,47
8:2 fluorotelomer sulfonic acid (8:2 FTS)	< 0,47	4,3	< 0,47	4,9	0,6	12	17	< 0,47
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
hexafluoropropylene dimer acid (HFPO-DA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
perfluoro-4-ethylcyclohexane sulfonic acid (PFECHS)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
Sum PFAS quantitative	420	1000	250	400	140	650	270	71
perfluorooctadecanoic acid (PFODA)	< 2,80	< 2,90	< 2,80	< 2,90	< 2,90	< 2,80	< 2,80	< 2,80
perfluorododecane sulfonate (PFDoDS)	3,2	47	< 0,94	54	140	82	37	2,1
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	< 1,90	< 1,90	< 1,90	< 1,90	< 1,90	< 1,90	< 1,90	< 1,90
10:2 fluorotelomer sulfonic acid (10:2 FTS)	< 0,47	4,7	< 0,47	2	3,7	1,8	2,9	< 0,47
Perfluorobutane sulfonamide (PFBSA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
N-methylperfluorobutane sulfonamide (MePFBSA)	< 0,95	< 0,95	< 0,94	< 0,95	< 0,96	< 0,95	< 0,94	< 0,94
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	< 0,47	< 0,48	< 0,47	< 0,48	< 0,48	< 0,47	< 0,47	< 0,47
Perfluorohexanesulfonic acid (PFHxSA)	24	15	7,3	11	4,1	16	2,1	17

The 8 soil samples have also been analysed by Eurofins via Norconsult. Although the analyses show the same trends (the various PFAS compounds that were found) some differences can be observed. Normec finds in general lower total PFAS compared to Eurofins. The difference is in general larger for the higher concentrations. Part of this can probably be explained by heterogeneity and differences in the subsamples taken for analysis, but when looking at individual compounds it can be seen that some parameters (the acids PFUnDA and PFTrDA) are generally found in higher concentrations by Normec, while others (sulfonates PFDS and PFDoDS) show the opposite. For PFOS then again the differences are acceptable.

A comparison of the analytical results of both labs can be found in annexe 3.

1.1.5. PFAS leaching

The soil samples were also analysed for leaching by means of a standard shaking test EN12457-4 (L/S = 10, 24 h shaking). Such test reveals how much of the various PFAS compounds are soluble to water and how much are well attached to soil particles (such as organic matter, clay,...). It gives a first indication in how far the PFAS can be removed by washing.

The results of the leaching can be found in Table 4. Again we highlighted the most important PFAS compounds.

When comparing this table to the PFAS analyses of Table 3 the leachable fractions can be calculated. These are summarized for the most relevant parameters in Table 5. The other parameters are excluded as many of them are found below detection limit for concentration or leaching. From Table 5 it can be concluded that depending on the compound a substantial fraction is leachable ranging between about 20 % to even 100 %. Despite the large difference in water solubilities all most relevant compounds seem to leach quite well. This means a fairly good removal washing efficiency of the soils can be expected provided the well adsorbed (= non leachable) fraction can be removed by removing the relevant soil phases at which the PFAS are well attached.

Table 4. Leaching of PFAS of the various samples. Expressed in µg/kg DM.

	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08
perfluorobutanoic acid (PFBA)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluoropentanoic acid (PFPeA)	0,21	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluorohexanoic acid (PFHxA)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	0,55	< 0,190	< 0,190
perfluoroheptanoic acid (PFHpA)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluorooctanoic acid (PFOA)	0,23	0,45	< 0,190	0,73	0,34	0,4	0,61	0,35
perfluorononanoic acid (PFNA)	0,3	0,61	4,6	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluorodecanoic acid (PFDA)	1,4	0,43	8,3	0,58	< 0,200	1,1	0,71	0,25
perfluoroundecanoic acid (PFUnDA)	190	550	110	46	17	26	1,1	3,3
perfluorododecanoic acid (PFDDA)	< 0,200	2	0,26	1,1	0,78	0,99	< 0,190	< 0,190
perfluorotridecanoic acid (PFTrDA)	1,1	35	7,8	15	16	5,1	0,94	1,5
perfluorotetradecanoic acid (PFTeDA)	< 0,200	0,61	< 0,190	0,42	0,58	< 0,200	< 0,190	< 0,190
perfluorohexadecanoic acid (PFHxDA)	< 0,200	0,46	< 0,190	0,23	0,21	< 0,200	< 0,190	< 0,190
perfluoro-1-butane sulfonate (PFBS)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluoropentane sulfonate (PFPeS)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluorohexane sulfonate (PFHxS)	0,55	0,37	0,29	0,64	0,24	0,94	0,22	0,56
perfluoroheptane sulfonate (PFHpS)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluorooctane sulfonate (PFOS)	43	19	74	17	2,8	420	73	18
perfluorononane sulfonate (PFNS)	10	9,8	1,4	4,5	1	30	7,8	3,6

perfluorodecane sulfonate (PFDS)	36	23	0,33	8,8	13	92	3,8	7,9
perfluorooctanesulfonamide (PFOSA)	1,1	43	0,36	75	33	9,9	68	9,7
N-methyl perfluorooctanesulfonamide (MePFOSA)	< 0,200	0,31	< 0,190	0,85	0,51	< 0,200	0,38	< 0,190
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	< 0,200	< 0,200	0,23	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
N-methylperfluorooctanesulfonamide acetic acid (MePFOSAA)	< 0,200	0,95	< 0,190	0,76	0,29	0,52	0,46	< 0,190
N-ethylperfluorooctanesulfonamide acetic acid (EtPFOSAA)	< 0,200	0,72	< 0,190	0,7	0,36	0,93	0,48	< 0,190
4:2 fluorotelomer sulfonic acid (4:2 FTS)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
6:2 fluorotelomer sulfonic acid (6:2 FTS)	< 0,490	< 0,490	< 0,480	< 0,500	< 0,490	0,76	< 0,480	< 0,490
8:2 fluorotelomer sulfonic acid (8:2 FTS)	< 0,200	4,1	< 0,190	3,7	0,46	12	12	< 0,190
8:2 fluorotelomer phosphate diester (8:2 diPAP)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
hexafluoropropylene dimer acid (HFPO-DA)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
perfluoro-4-ethylcyclohexane sulfonic acid (PFECIS)	< 0,200	< 0,200	< 0,190	< 0,200	< 0,200	< 0,200	< 0,190	< 0,190
Sum PFAS quantitative	280	660	200	160	70	590	170	44
perfluorodecanoic acid (PFDDA)	< 0,490	< 0,490	< 0,480	< 0,500	< 0,490	< 0,490	< 0,480	< 0,490
perfluorododecane sulfonate (PFDoDS)	0,98	11	< 0,480	9,5	49	44	6,1	0,62
6:2 fluorotelomer phosphate diester (6:2 diPAP)	< 0,490	< 0,490	< 0,480	< 0,500	< 0,490	< 0,490	< 0,480	< 0,490
6:2/8:2 fluorotelomer phosphate diester (6:2/8:2 diPAP)	< 0,490	< 0,490	< 0,480	< 0,500	< 0,490	< 0,490	< 0,480	< 0,490
10:2 fluorotelomer sulfonic acid (10:2 FTS)	< 0,490	1,5	< 0,480	0,54	1,3	0,88	0,61	< 0,490
Perfluorobutane sulfonamide (PFBSA)	< 0,490	< 0,490	< 0,480	< 0,500	< 0,490	< 0,490	< 0,480	< 0,490
N-methylperfluorobutane sulfonamide (MePFBSA)	< 1,500	< 1,500	< 1,500	< 1,500	< 1,500	< 1,500	< 1,500	< 1,500
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	< 0,490	< 0,490	< 0,480	< 0,500	< 0,490	< 0,490	< 0,480	< 0,490
Perfluorohexanesulfonic acid (PFHxSA)	19	9,6	7,4	6,3	1,9	11	1,5	18

Table 5. Fraction of leachable PFAS compounds (most relevant compounds) of the various samples. Expressed in % of concentration.

	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08
perfluoroundecanoic acid (PFUnDA)	70%	73%	79%	48%	71%	76%	46%	66%
perfluorotridecanoic acid (PFTrDA)	31%	35%	46%	25%	38%	32%	24%	23%
perfluorooctane sulfonate (PFOS)	61%	61%	90%	53%	58%	95%	73%	90%
perfluorononane sulfonate (PFNS)	59%	75%	70%	45%	71%	120%	39%	75%
perfluorodecane sulfonate (PFDS)	62%	68%	66%	33%	57%	92%	27%	56%
perfluorooctanesulfonamide (PFOSA)	58%	75%	62%	50%	77%	58%	62%	51%
Sum PFAS quantitative	67%	66%	80%	40%	50%	91%	63%	62%
perfluorododecane sulfonate (PFDoDS)	31%	23%	51%	18%	35%	54%	16%	30%
Perfluorohexanesulfonic acid (PFHxSA)	79%	64%	101%	57%	46%	69%	71%	106%

1.2. Soil washing tests.

1.2.1. Soil washing test protocol

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DEME Environmental has developed a standard soil washing lab protocol for PFAS contaminated soils which is the basis for design of the hybrid soil washing process. This approach is summarized in Figure 4.

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Figure 4: Schematic overview of the PFAS soil washing protocol.

1.2.2. Step 1: wet sieving

As a first step according to our protocol wet sieving with a known L/S (liquid/solid) ratio (about 10) was applied to the soil samples. This wet sieving was also the basic step for determining the limited PSD as was shown in Table 1. The amounts of all these fractions were carefully weighed in order to establish a full mass balance of the PFAS.

As mentioned previously the gravel fraction of most soil samples was too small that it was not possible neither not worth further testing for treatment. Further in the mass balances the wet sieved gravel will be referred to as 'washed gravel'.

The fines were separated from the wash water ('process water sieve') by decantation and centrifugation in order to get them analysed for PFAS.

The obtained 'solid' fractions 'sand 1', 'gravel' and 'fines residue' were analysed for PFAS, as well as the water used during the sieving process ('process water sieve').

1.2.2.1. Sand 1

The analytical results of 'sand 1' are summarized in Table 6 for the most relevant compounds as most others were below detection limit.

When comparing Table 6 to Table 3 it can be seen that already by wet sieving with clean water a serious reduction of PFAS can already be obtained. For the sum of PFAS the reduction is between 93 and 96 %. Except for sample SW02 which had the highest initial PFAS concentrations the sum of PFAS is already reduced to below the target of 30 µg/kg DM.

The reduction of 93 to 96 % is much higher than the leachability which ranged between 50 and 91 % for sum PFAS (see Table 5). This indicates that a significant part of the PFAS is removed via the limited fraction of fines that is removed by sieving.

Table 6. Concentration of PFAS (most relevant compounds) of 'sand 1' of the various samples. In µg/kg DM.

	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08
perfluoroundecanoic acid (PFUnDA)	14	49	9,9	3,5	0,83	2,1	< 0,47	< 0,48
perfluorotridecanoic acid (PFTrDA)	1,8	8,1	2	1,9	2,7	1,1	< 0,47	0,63
perfluorooctane sulfonate (PFOS)	1,7	2,1	1,9	3,1	0,47	14	1	1,5
perfluorononane sulfonate (PFNS)	< 0,48	< 0,49	< 0,48	< 0,48	< 0,47	0,87	< 0,47	< 0,48
perfluorodecane sulfonate (PFDS)	2,3	1,9	< 0,48	0,89	0,99	6	< 0,47	0,9
perfluorooctanesulfonamide (PFOSA)	< 0,48	2,4	< 0,48	8,3	1,3	1,2	2	1,3
Sum PFAS quantitative	20	64	14	18	6,3	26	3	4,3
perfluorododecane sulfonate (PFDoDS)	1,2	1,8	< 0,96	1,3	6,9	5,1	< 0,95	< 0,95
Perfluorohexanesulfonic acid (PFHxSA)	< 0,48	0,57	< 0,48	< 0,48	< 0,47	0,51	< 0,47	1

1.2.2.2. Fines

The significant removal of PFAS from the sand is confirmed by the high concentrations in the fines summarized in Table 7. All the compounds are shown. The presence of detectable compounds which were below detection limits in the initial soils illustrates the expected upconcentration of PFAS in the fines.

It is remarkable that the PFAS concentrations in the fines go up to 20000 µg/kg DM.

Table 7. PFAS analysis of the fines obtained by wet sieving (in µg/kg DM). 'N/A' indicates compounds that could not be recovered sufficiently in comparison to their standards.

	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08
dry matter content (%)	15,1	29,1	15,9	14,5	24,1	19,5	26,3	25,8
perfluorobutanoic acid (PFBA)	< 0,47	2,7	< 0,45	0,81	7,8	1,2	< 0,47	< 0,48
perfluoropentanoic acid (PFPeA)	0,64	3,1	0,47	1,2	7,1	2,5	1,3	1,1
perfluorohexanoic acid (PFHxA)	1,1	8,2	0,62	4,9	35	9,3	8,4	4,1
perfluoroheptanoic acid (PFHpA)	0,52	4,3	< 0,45	2,2	7,2	1,9	1,9	2

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perfluorooctanoic acid (PFOA)	1,3	20	0,8	12	56	6,5	11	3,8
perfluorononanoic acid (PFNA)	8,3	170	28	15	2,9	N/A	0,69	6
perfluorodecanoic acid (PFDA)	10	12	58	10	2,1	16	8,5	2,8
perfluoroundecanoic acid (PFUnDA)	5700	11000	3900	3100	630	1600	130	130
perfluorododecanoic acid (PFDoDA)	16	220	21	430	120	250	38	20
perfluorotridecanoic acid (PFTrDA)	260	3500	730	2800	2100	1500	410	240
perfluorotetradecanoic acid (PFTeDA)	4,4	130	6,4	170	96	32	20	5,3
perfluorohexadecanoic acid (PFHxDA)	0,87	52	1,2	15	21	3,1	2,5	1,3
perfluoro-1-butane sulfonate (PFBS)	< 0,47	1,2	< 0,45	2	1,1	1,1	0,89	1,4
perfluoropentane sulfonate (PFPeS)	< 0,47	1,8	< 0,45	3,6	1,8	1,6	0,99	2
perfluorohexane sulfonate (PFHxS)	6,4	29	2,7	41	29	56	11	21
perfluoroheptane sulfonate (PFHpS)	0,56	4,2	< 0,45	4,1	2,3	1,5	1,4	2,1
perfluorooctane sulfonate (PFOS)	290	880	430	1300	250	6900	570	360
perfluorononane sulfonate (PFNS)	160	250	25	270	46	770	230	97
perfluorodecane sulfonate (PFDS)	1700	770	39	1800	770	7800	380	320
perfluorooctanesulfonamide (PFOSA)	140	1200	20	2700	860	810	1200	410
N-methyl perfluorooctanesulfonamide (MePFOSA)	N/A	63	N/A	320	68	14	88	16
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	N/A	3,1	N/A	6,2	5,3	N/A	3,6	0,89
N-methylperfluorooctanesulfonamide acetic acid (MePFOSAA)	1,3	30	< 0,45	44	26	54	30	3,7
N-ethylperfluorooctanesulfonamide acetic acid (EtPFOSAA)	N/A	N/A	N/A	150	49	120	40	10
4:2 fluorotelomer sulfonic acid (4:2 FTS)	< 0,47	< 0,47	< 0,45	< 0,47	< 0,47	< 0,46	< 0,47	< 0,48
6:2 fluorotelomer sulfonic acid (6:2 FTS)	1,5	18	0,69	7	4,8	16	3,6	0,56
8:2 fluorotelomer sulfonic acid (8:2 FTS)	1,3	26	1,1	54	13	130	210	2,6
8:2 fluorotelomer phosphate diester (8:2 dPAP)	< 0,47	< 0,47	< 0,45	< 0,47	< 0,47	< 0,46	< 0,47	< 0,48
hexafluoropropylene dimer acid (HFPO-DA)	< 0,47	< 0,47	< 0,45	< 0,47	< 0,47	< 0,46	< 0,47	< 0,48
4,8-dioxa-3 β -perfluorononanoic acid (ADONA)	< 0,47	< 0,47	< 0,45	< 0,47	< 0,47	< 0,46	< 0,47	< 0,48
perfluoro-4-ethylcyclohexane sulfonic acid (PFECtS)	< 0,47	< 0,47	< 0,45	< 0,47	< 0,47	< 0,46	< 0,47	< 0,48
Sum PFAS quantitative	8300	18000	5200	13000	5200	20000	3400	1700
perfluorooctadecanoic acid (PFODA)	< 2,80	18	< 2,70	< 2,80	1,8	< 2,80	< 2,80	< 2,90
perfluorododecane sulfonate (PFDoDS)	540	3200	53	4300	6500	6900	2200	170
6:2 fluorotelomer phosphate diester (6:2 dPAP)	< 0,47	< 0,47	< 0,45	< 0,47	0,78	< 0,46	< 0,47	< 0,48
6:2/8:2 fluorotelomer phosphate diester (6:2/8:2 dPAP)	< 1,90	< 1,90	< 1,80	< 1,90	< 1,90	< 1,90	< 1,90	< 1,90
10:2 fluorotelomer sulfonic acid (10:2 FTS)	5,9	32	5,5	270	14	38	38	2,6
perfluorobutane sulfonamide (PFBSA)	N/A	13	< 0,45	7,3	4,6	3,8	1,2	2,9
N-methylperfluorobutane sulfonamide (MeFBSA)	N/A	< 0,93	< 0,90	N/A	< 0,93	N/A	< 0,95	< 0,96
N-methylperfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	N/A	< 0,47	< 0,45	N/A	< 0,47	N/A	< 0,47	< 0,48
perfluorohexanesulfonic acid (PFHxSA)	440	560	15	410	260	370	53	320

1.2.2.3. Process water

The sieve water (after decantation to remove suspended solids) was also analysed for PFAS. The results can be found in Table 8. These results mainly show that the most relevant compounds can be found in the order of 1 to 10 µg/l. This will be the order of magnitude the process water in the soil washing process will reach.

The process water analyses as such are not so important but will be more relevant in the mass balances.

Table 8. Analyses of the sieve water (process water 1) in µg/l.

	SW01- PW1	SW02- PW1	SW03- PW1	SW04- PW1	SW05- PW1	SW06- PW1	SW07- PW1	SW08- PW1
perfluorobutanoic acid (PFBA)	0,025	<0,020	<0,020	<0,020	<0,019	0,027	<0,020	<0,020
perfluoropentanoic acid (PFPeA)	0,026	<0,020	<0,020	<0,020	<0,019	0,026	<0,020	<0,020
perfluorohexanoic acid (PFHxA)	0,061	0,057	0,053	0,057	0,047	0,087	0,039	0,037
perfluoroheptanoic acid (PFHpA)	<0,020	<0,020	<0,020	<0,020	<0,019	0,022	<0,020	<0,020
perfluorooctanoic acid (PFOA)	0,031	0,051	0,027	0,072	0,041	0,055	0,067	0,027
perfluorononanoic acid (PFNA)	0,026	0,027	0,49	<0,020	<0,019	<0,020	<0,020	<0,020
perfluorodecanoic acid (PFDA)	0,13	0,039	0,8	0,052	<0,019	0,091	0,073	0,02
perfluoroundecanoic acid (PFUnDA)	16	37	10	3,9	2,1	2,8	0,15	0,19
perfluorododecanoic acid (PFDoDA)	<0,020	0,045	<0,020	0,037	0,026	0,037	<0,020	<0,020
perfluorotetradecanoic acid (PFTxDA)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
perfluorohexadecanoic acid (PFHxDA)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
perfluoro-1-butane sulfonate (PFBS)	0,049	0,046	0,044	0,048	0,041	0,043	0,033	0,032
perfluoropentane sulfonate (PFPeS)	0,024	0,021	0,023	0,021	0,02	0,023	<0,020	<0,020
perfluorohexane sulfonate (PFHxS)	0,092	0,063	0,06	0,075	0,05	0,11	0,044	0,059
perfluoroheptane sulfonate (PFHpS)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
perfluorooctane sulfonate (PFOS)	4	1,7	8	1,5	0,36	36	8,3	1,2
perfluorononane sulfonate (PFNS)	0,77	0,75	0,14	0,46	0,1	1,7	0,92	0,23
perfluorodecane sulfonate (PFDS)	2,3	1,4	0,055	0,93	0,71	3,4	0,43	0,46
4:2 fluorotelomer sulfonic acid (4:2 FTS)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
8:2 fluorotelomer sulfonic acid (8:2 FTS)	<0,020	0,32	<0,020	0,28	0,046	0,97	1,2	0,02
perfluorooctanesulfonamide (PFOSA)	0,18	3,4	0,069	6,6	2,8	1,2	7,3	0,98
N-methyl perfluorooctanesulfonamide (MePFOSA)	<0,020	N/A	N/A	<0,020	<0,019	<0,020	N/A	<0,020
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	<0,020	N/A	N/A	<0,020	<0,019	<0,020	N/A	<0,020
N-methylperfluorooctanesulfonamide acetic acid (MePFOSAA)	<0,020	0,065	<0,020	0,052	0,024	0,033	0,055	<0,020
N-ethylperfluorooctanesulfonamide acetic acid (EtPFOSAA)	<0,020	0,048	<0,020	0,06	0,033	0,044	0,056	<0,020

8:2 Fluorotelomer phosphate diester (8:2 diPAP)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
hexafluoropropylene dimer acid (HFPO-DA)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
perfluoro-4-ethylcyclohexane sulfonic acid (PFECBS)	<0,020	<0,020	<0,020	<0,020	<0,019	<0,020	<0,020	<0,020
Sum PFAS quantitative	23	45	20	14	6,4	47	19	3,3
perfluorotridecanoic acid (PFTrDA)	<0,050	0,068	0,069	0,062	0,068	<0,049	<0,050	<0,049
perfluoropentadecanoic acid (PFPeDA)	<0,200	<0,200	<0,200	<0,200	<0,190	<0,200	<0,200	<0,200
perfluorooctadecanoic acid (PFODA)	<0,050	<0,050	<0,050	<0,050	<0,049	<0,049	<0,050	<0,049
perfluorododecane sulfonate (PFDoDS)	<0,050	0,078	<0,050	0,15	0,43	0,4	0,13	<0,049
perfluoroundecane sulfonate (PFUnDS)	0,21	0,48	<0,050	0,56	0,63	2,2	0,23	0,2
perfluorotridecane sulfonate (PFTrDS)	<0,050	<0,050	<0,050	<0,050	0,1	<0,049	<0,050	<0,049
10:2 fluorotelomer sulfonic acid (10:2 FTS)	<0,050	<0,050	<0,050	<0,050	<0,049	<0,049	0,054	<0,049
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	<0,050	<0,050	<0,050	<0,050	<0,049	<0,049	<0,050	<0,049
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	<0,050	<0,050	<0,050	<0,050	<0,049	<0,049	<0,050	<0,049
6:2 fluorotelomer sulfonic acid (6:2 FTS)	<0,050	<0,050	<0,050	<0,050	<0,049	0,06	<0,050	<0,049
Perfluorobutane sulfonamide (PFBSA)	0,051	<0,050	<0,050	<0,050	<0,049	<0,049	<0,050	<0,049
N-methyl perfluorobutane sulfonamide (MePFBSA)	<0,150	<0,150	<0,150	<0,150	<0,150	<0,150	<0,150	<0,150
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	<0,050	<0,050	<0,050	<0,050	<0,049	<0,049	<0,050	<0,049
Perfluorohexanesulfonic acid (PFHxSA)	1,5	0,57	0,68	0,36	0,18	1,1	0,14	0,98

1.2.2.4. Washed gravel

For the sake of completeness the washed gravel fractions were also analysed. This was not possible for the samples SW01, SW03 and SW04 as the amount of gravel was not sufficient.

The results can be found in Table 9.

It can be observed that the remaining PFAS concentrations are similar or somewhat lower than the concentrations in Sand 1. They all comply to 30 µg/kg DM.

Table 9. Concentration of PFAS (most relevant compounds) of washed gravels. In µg/kg DM.

	SW02	SW05	SW06	SW07	SW08
perfluoroundecanoic acid (PFUnDA)	6,5	0,49	< 0,47	< 0,47	< 0,47
perfluorotridecanoic acid (PFTrDA)	3,2	< 0,47	0,63	< 0,47	< 0,47
perfluorooctane sulfonate (PFOS)	1	0,79	11	2,2	2,6
perfluorooctanesulfonamide (PFOSA)	1,2	1,7	1	2,9	1,4
Sum PFAS quantitative	12	3,6	14	5,1	4

1.2.3. Step 3: organic matter removal.

As the first step of our PFAS soil washing protocol (Step 1: Wet Sieving) already showed very high efficiencies we decided not to foresee an extra rinsing step (Step 2 of our protocol) but go directly to step 3.

Step 3 involves the removal of organic matter from the sand by means of a density separation based on upstream classification.

One kilogram of each of the wet sieved sands obtained from all 8 samples have been subjected to upstream classification. In the upstream column an upward water flow suspends the soil particles into a fluidised bed with a density of 1.6 kg/L. Light organic particles segregate to the top of the suspension and are removed by overflowing the top of the column. This process takes about 20 minutes.

After the test part of the sand that remained in the column (here called 'sand upstreamed (sand 2)') was sent for analysis of PFAS. The results can be found in Table 10. Only the most relevant compounds are shown as the others are below detection limit.

Since the amount of upstream residue was very low (order of 0.1 % of the upstreamed sand) too little material was obtained for analysis.

It can be observed that the removal of organic matter by upstream classification gives a significant improvement of the sand quality and brings the total PFAS concentrations around 1 µg/kg DM except for sample SW02.

Since the PFAS concentrations after upstreaming are far below the envisaged standard of 30 µg/kg DM we concluded it was not useful to foresee extra washing steps on the sand.

The analyses of the process water used for the upstreaming can be found in Table 11. The levels of PFAS are quite low (order 0.1 to 1 µg/l) but still significant enough to remove part of the PFAS mass as will be further explained in the mass balances.

Table 10. PFAS analysis (most relevant compounds) of the sand after upstreaming (sand 2) (in µg/kg DM).

	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08
dry matter content (%)	81,4	76,6	78,4	78,3	79,1	79,6	78,3	80
perfluoroundecanoic acid (PFUnDA)	1,4	5,6	0,93	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48
perfluorotridecanoic acid (PFTrDA)	< 0,48	3	< 0,48	< 0,48	1	< 0,48	< 0,48	< 0,48
perfluorooctane sulfonate (PFOS)	0,45	0,94	0,36	0,42	0,25	1,1	0,55	0,43
perfluorononane sulfonate (PFNS)	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48
perfluorodecane sulfonate (PFDS)	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48

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perfluorooctanesulfonamide (PFOSA)	< 0,48	< 0,48	< 0,48	0,48	< 0,48	< 0,48	0,5	< 0,48
Sum PFAS quantitative	1,9	9,5	1,3	0,9	1,3	1,1	1,1	0,43
perfluorododecane sulfonate (PFDoDS)	< 0,96	< 0,95	< 0,96	< 0,96	2,2	< 0,95	< 0,97	< 0,97
perfluorohexanesulfonic acid (PFHxSA)	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48	< 0,48

Table 11. Analyses of the upstream water (process water 2) in µg/l.

	SW01- PW2	SW02- PW2	SW03- PW2	SW04- PW2	SW05- PW2	SW06- PW2	SW07- PW2	SW08- PW2
perfluorobutanoic acid (PFBA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluoropentanoic acid (PFPeA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluorohexanoic acid (PFHxA)	0,048	0,044	0,042	0,043	0,041	0,039	0,034	0,033
perfluoroheptanoic acid (PFHpA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluorooctanoic acid (PFOA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluorononanoic acid (PFNA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluorodecanoic acid (PFDA)	< 0,020	< 0,020	0,025	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluoroundecanoic acid (PFUnDA)	1,4	2,8	1,1	0,27	0,12	0,17	< 0,019	< 0,019
perfluorododecanoic acid (PFDoDA)	< 0,020	0,023	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluorotetradecanoic acid (PFTeDA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluorohexadecanoic acid (PFHxDA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluoro-1-butane sulfonate (PFBS)	0,043	0,041	0,041	0,04	0,039	0,037	0,031	0,032
perfluoropentane sulfonate (PFPeS)	0,021	< 0,020	< 0,020	< 0,020	0,021	< 0,020	< 0,019	< 0,019
perfluorohexane sulfonate (PFHxS)	0,029	0,032	0,032	0,032	0,032	0,031	0,027	0,023
perfluoroheptane sulfonate (PFHpS)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluorooctane sulfonate (PFOS)	0,094	0,041	0,18	0,048	0,029	1,2	0,053	0,034
perfluorononane sulfonate (PFNS)	0,033	0,028	0,021	< 0,020	< 0,020	0,072	< 0,019	< 0,019
perfluorodecane sulfonate (PFDS)	0,18	0,12	0,098	0,035	0,15	0,39	0,024	0,029
4:2 fluorotelomer sulfonic acid (4:2 FTS)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
6:2 fluorotelomer sulfonic acid (6:2 FTS)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	0,022	< 0,019	< 0,019
perfluorooctanesulfonamide (PFOSA)	0,059	0,15	0,022	0,25	0,14	0,092	0,12	0,051
N-methyl perfluorooctanesulfonamide (MePFOSA)	opm	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	opm	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
8:2 fluorotelomer phosphate diester (8:2 dPAP)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
hexafluoropropylene dimer acid (HFPO-DA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
perfluoro-4-ethylcyclohexane sulfonic acid (PFECrS)	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,020	< 0,019	< 0,019
Sum PFAS quantitative	1,9	3,3	1,5	0,72	0,57	2	0,29	0,2
perfluorotridecanoic acid (PFTrDA)	0,062	0,25	< 0,050	0,089	0,19	0,08	0,057	< 0,048

perfluoropentadecanoic acid (PFPeDA)	< 0,200	0,29	< 0,200	0,23	< 0,200	< 0,200	< 0,190	< 0,190
perfluorooctadecanoic acid (PFODA)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048
perfluorododecane sulfonate (PFDoDS)	< 0,050	0,058	< 0,050	< 0,049	0,3	0,23	0,054	< 0,048
perfluoroundecane sulfonate (PFUnDS)	0,057	0,1	< 0,050	< 0,049	0,24	0,4	< 0,048	< 0,048
perfluorotridecane sulfonate (PFTrDS)	< 0,050	< 0,050	< 0,050	< 0,049	0,093	0,071	< 0,048	< 0,048
10:2 fluorotelomer sulfonic acid (10:2 FTS)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048
6:2 fluorotelomer phosphate diester (6:2 diPAP)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048
6:2/8:2 fluorotelomer phosphate diester (6:2/8:2 diPAP)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048
6:2 fluorotelomer sulfonic acid (6:2 FTS)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048
Perfluorobutane sulfonamide (PFBSA)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048
N-methylperfluorobutane sulfonamide (MeFBSA)	< 0,150	< 0,150	< 0,150	< 0,150	< 0,150	< 0,150	< 0,140	< 0,140
N-methylperfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048
Perfluorohexanesulfonic acid (PFHxSA)	< 0,050	< 0,050	< 0,050	< 0,049	< 0,049	< 0,049	< 0,048	< 0,048

1.2.4. Visual and microscopic assessment of washed fractions.

Some of the fractions from the washing trials were visually assessed. As all soil samples and the resulting washed fractions were very similar only a few pictures are shown as typical example.

Figure 5 shows the gravel fraction. It contains mainly mineral fraction (granite), some fragments of organic matter, and some black charcoal particles.



Figure 5. View on the washed gravel (from SW06).

The washed and upstreameed sand ('sand 2') typically consists of fine+medium quartz particles with very few black organic particles, as can be seen in Figure 6.



Figure 6. Microscopic picture of the washed and upstreameed sand ('sand 2')

The upstream residue consists of organic fibres and very fine sand particles (< 125 μm) as can be seen in Figure 7.



Figure 7. Upstream residue.

1.3. Overall mass balances

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These show the distribution of the various obtained fractions compared to the input soil and the distribution of total PFAS over these fractions. Mass balances for every individual PFAS compound were not made as this would make the report too complex.

Except for sample SW05 the mass balances close fairly well (percentage PFAS output fractions versus 100 % input). It can be seen that during the first washing step (wet sieving) roughly 75 % of the removed PFAS are found back in the process water, while 25 % is adsorbed on the fines fraction. The second washing step (upstreaming) further reduces the PFAS concentration mainly via dissolution in the water phase.

In the mass balances we made some assumptions by lack of analyses of some fractions:

- The small amount of washed gravel contains the same PFAS concentration as the wet sieved sand (sand 1). This is a conservative assumption.
- No concentration of PFAS is attributed to the upstream residue. It is expected that this residue might contain in the order of a few 1000 µg/kg but as the amount of residue is very low this will only have a limited contribution to the removal of PFAS.

All mass balances are fairly comparable and similar conclusions can be drawn:

- Between 95 and 99 % (based on dry matter content) of the soil can be recovered for reuse in the form of sand and some gravel.
- Based on the sand analyses (sand 2) more than 99 % of the PFAS has been removed in two washing steps.
- On average about 25 % of the PFAS is removed via the fines residue, which entails (in dry mass) less than 5 % of the input material. The rest of PFAS dissolves in the process water and has to be removed via the water treatment plant (activated carbon adsorption).

A minimum removal efficiency of 99 % should be feasible, which means that Stavanger soils up to 3000 µg/kg DM ΣPFAS can be treated to below 30 µg/kg DM.

Full scale implementation.

Based on the 8 samples it can be concluded that the Stavanger soils are very suitable for soil washing in order to remove the PFAS.

The trials show that the plant should fulfil the following requirements:

- Efficient removal of fines from the sand via hydrocyclones and organic matter by means of upstream classification.
- Continuous process water treatment based on activated carbon to remove the dissolved PFAS.

It is believed that activated carbon is the most cost efficient solution for the process water treatment. First of all the relevant PFAS are fairly long chain and well adsorbing on GAC and secondly the adsorption capacity is estimated to be at least 0.1 % (1 kg PFAS per ton GAC) which corresponds to a GAC consumption of less than 1 kg per ton of soil with an initial concentration of 1000 µg/kg DM.

The GAC consumption is proportional to the initial PFAS concentration and the size of the project (tons to be treated). As example: a 10000 ton project with average 1000 µg/kg DM requires only 10 tons of GAC being the size of a large filter.

The spent GAC is retrieved by the supplier and thermally reactivated or destroyed by incineration, both processes in which the PFAS are completely destroyed.

The water analyses show roughly the same relative composition of the various PFAS compounds.

Conclusions and recommendations

It has been shown that the soil samples received from Stavanger airport can be well treated by soil washing provided the necessary attention is given to high efficiency removal of fines and organics and a well-designed process water treatment plant of sufficient capacity.

For the Stavanger airport soils it can be estimated that soils with a Σ PFAS concentration up to about 3000 $\mu\text{g/kg DM}$ can be treated by soil washing to generate a reusable sand below 30 $\mu\text{g/kg DM}$.

The soil consists mainly out of sand which can be fully reused. The amount of residue is limited to a few percent. Nevertheless this residue is highly contaminated with PFAS (order 1000 to 10000 $\mu\text{g/kg DM}$) and the right disposal routes should be found (landfilling, incineration,...). The latter depends on the local acceptance criteria, if existing yet for PFAS.

Annexe 1. Particle size distribution laser diffraction.

Results

Sample Name Average of 'SW01'

Dv (10) 157 µm

Dv (50) 233 µm

Dv (90) 343 µm

Stirrer Speed Achieved 3000 rpm

Inclusive Soil Statistics

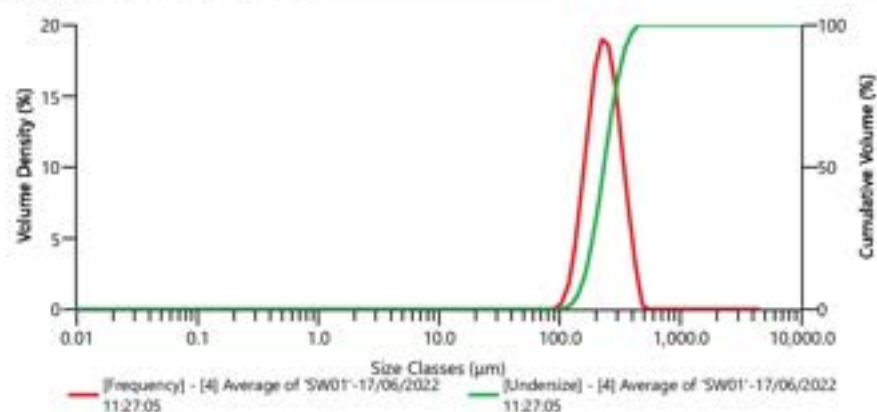
Inclusive Kurtosis: .95 Mesokurtic

Inclusive Skewness: .01 Near Symmetrical

Inclusive SD: .44 Well Sorted

Inclusive Mean: 2.1 Fine Grained

Frequency (compatible) and Undersize



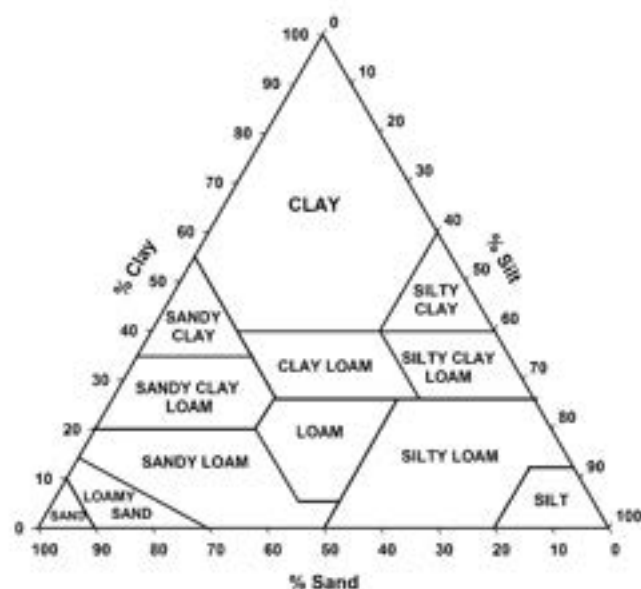
Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	0,00	250	58,60
1,00	0,00	30,0	0,00	300	79,07
2,00	0,00	32,0	0,00	400	97,42
3,00	0,00	40,0	0,00	425	98,65
4,00	0,00	50,0	0,00	500	100,00
5,00	0,00	60,0	0,00	600	100,00
6,00	0,00	63,0	0,00	630	100,00
6,20	0,00	75,0	0,00	700	100,00
7,00	0,00	80,0	0,00	800	100,00
8,00	0,00	100	0,06	900	100,00
9,00	0,00	125	1,55	1000	100,00
10,0	0,00	150	7,58	1500	100,00
16,0	0,00	200	31,44	2000	100,00

Soil classification (EU)

Fraction	% in
Clay (<2µm)	0
Silt (2 - 63µm)	0
Fine sand (63-200µm)	31.44
Medium sand (200-630µm)	68.56
Coarse sand (630-2000µm)	0
Total sand (63-2000µm)	100

Soil texture triangle (USDA)



Soil Texture

Soil Texture: sand

Results

Sample Name Average of 'SW02'

Dv (10) 160 µm

Dv (50) 244 µm

Dv (90) 364 µm

Stirrer Speed Achieved 3000 rpm

Inclusive Soil Statistics

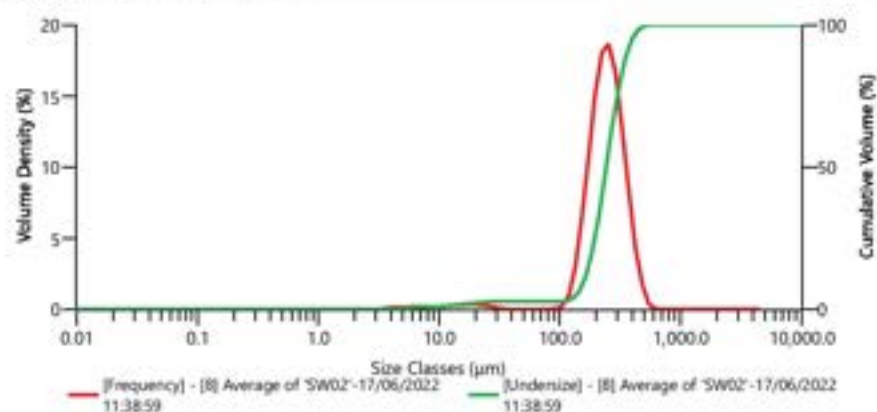
Inclusive Kurtosis: 1 Mesokurtic

Inclusive Skewness: .05 Near Symmetrical

Inclusive SD: .46 Well Sorted

Inclusive Mean: 2.04 Fine Grained

Frequency (compatible) and Undersize



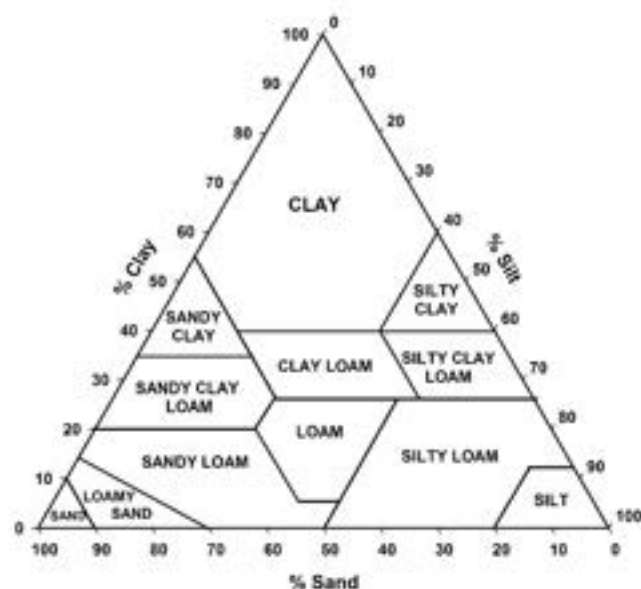
Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	2,00	250	52,86
1,00	0,00	30,0	2,60	300	74,03
2,00	0,00	32,0	2,63	400	95,00
3,00	0,00	40,0	2,63	425	96,66
4,00	0,05	50,0	2,63	500	99,46
5,00	0,21	60,0	2,63	600	99,99
6,00	0,37	63,0	2,63	630	99,99
6,20	0,41	75,0	2,63	700	100,00
7,00	0,52	80,0	2,63	800	100,00
8,00	0,65	100	2,65	900	100,00
9,00	0,77	125	3,36	1000	100,00
10,0	0,88	150	7,43	1500	100,00
16,0	1,57	200	27,18	2000	100,00

Soil classification (EU)

Fraction	% in
Clay (< 2µm)	0
Silt (2 - 63µm)	2.63
Fine sand (63-200µm)	24.54
Medium sand (200-630µm)	72.82
Coarse sand (630-2000µm)	0.01
Total sand (63-2000µm)	97.37

Soil texture triangle (USDA)



Soil Texture

Soil Texture: sand

Results

Sample Name Average of 'SW03'

Dv (10) 163 µm

Dv (50) 242 µm

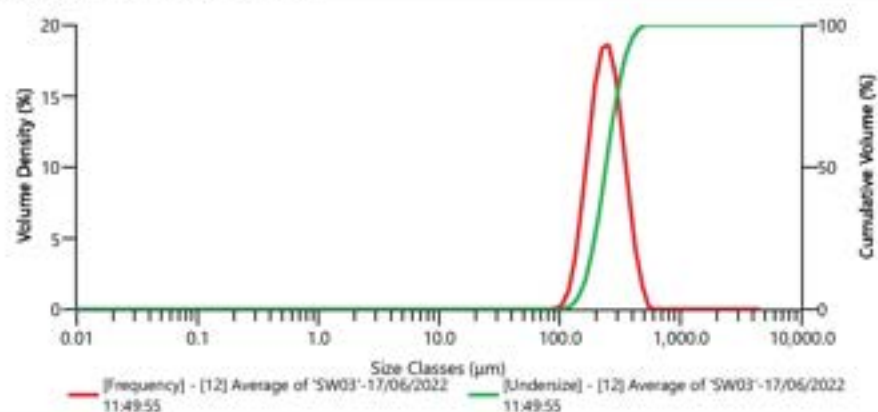
Dv (90) 361 µm

Stirrer Speed Achieved 3000 rpm

Inclusive Soil Statistics

Inclusive Kurtosis: .94 Mesokurtic
 Inclusive Skewness: 0 Near Symmetrical
 Inclusive SD: .45 Well Sorted
 Inclusive Mean: 2.04 Fine Grained

Frequency (compatible) and Undersize



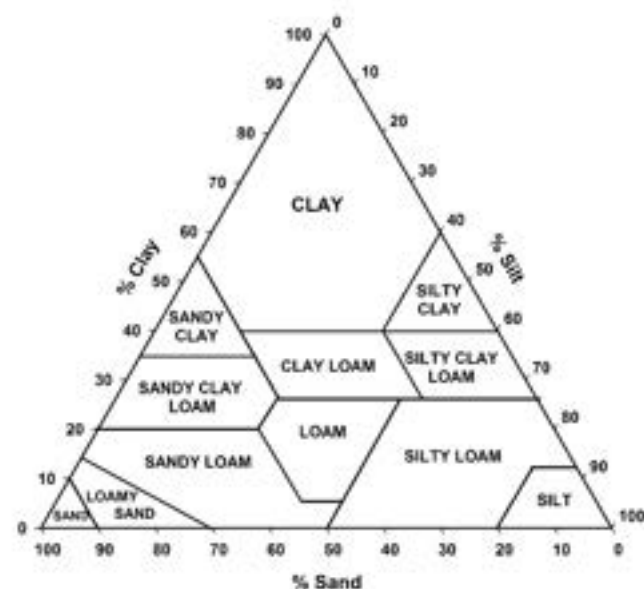
Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	0,00	250	53,76
1,00	0,00	30,0	0,00	300	74,75
2,00	0,00	32,0	0,00	400	95,31
3,00	0,00	40,0	0,00	425	96,94
4,00	0,00	50,0	0,00	500	99,68
5,00	0,00	60,0	0,00	600	100,00
6,00	0,00	63,0	0,00	630	100,00
6,20	0,00	75,0	0,00	700	100,00
7,00	0,00	80,0	0,00	800	100,00
8,00	0,00	100	0,03	900	100,00
9,00	0,00	125	1,07	1000	100,00
10,0	0,00	150	6,04	1500	100,00
16,0	0,00	200	27,55	2000	100,00

Soil classification (EU)

Fraction	% in
Clay (< 2µm)	0
Silt (2 - 63µm)	0
Fine sand (63-200µm)	27.55
Medium sand (200-630µm)	72.45
Coarse sand (630-2000µm)	0
Total sand (63-2000µm)	100

Soil texture triangle (USDA)



Soil Texture

Soil Texture: sand

Results

Sample Name Average of 'SW04'

Dv (10) 153 µm

Dv (50) 240 µm

Dv (90) 365 µm

Stirrer Speed Achieved 3000 rpm

Inclusive Soil Statistics

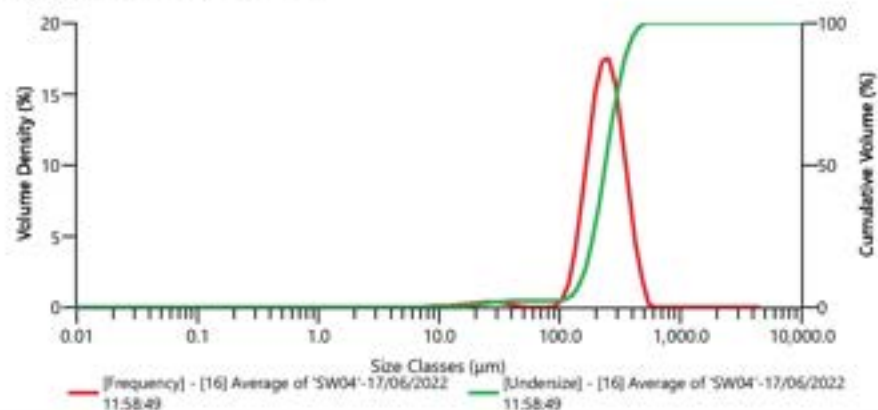
Inclusive Kurtosis: .99 Mesokurtic

Inclusive Skewness: .05 Near Symmetrical

Inclusive SD: .49 Well Sorted

Inclusive Mean: 2.07 Fine Grained

Frequency (compatible) and Undersize



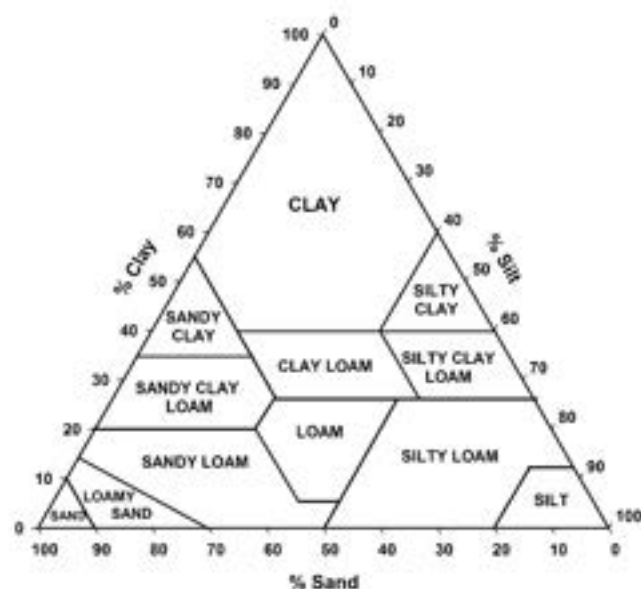
Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	0,75	250	54,81
1,00	0,00	30,0	1,60	300	74,65
2,00	0,00	32,0	1,73	400	94,83
3,00	0,00	40,0	2,10	425	96,58
4,00	0,00	50,0	2,21	500	99,62
5,00	0,00	60,0	2,21	600	100,00
6,00	0,00	63,0	2,21	630	100,00
6,20	0,00	75,0	2,21	700	100,00
7,00	0,00	80,0	2,21	800	100,00
8,00	0,01	100	2,29	900	100,00
9,00	0,05	125	3,74	1000	100,00
10,0	0,10	150	9,11	1500	100,00
16,0	0,43	200	30,10	2000	100,00

Soil classification (EU)

Fraction	% in
Clay (<2µm)	0
Silt (2 - 63µm)	2.21
Fine sand (63-200µm)	27.89
Medium sand (200-630µm)	69.9
Coarse sand (630-2000µm)	0
Total sand (63-2000µm)	97.79

Soil texture triangle (USDA)



Soil Texture

Soil Texture: sand

Results

Sample Name Average of 'SW05'

Dv (10) 153 µm

Dv (50) 236 µm

Dv (90) 354 µm

Stirrer Speed Achieved 3000 rpm

Inclusive Soil Statistics

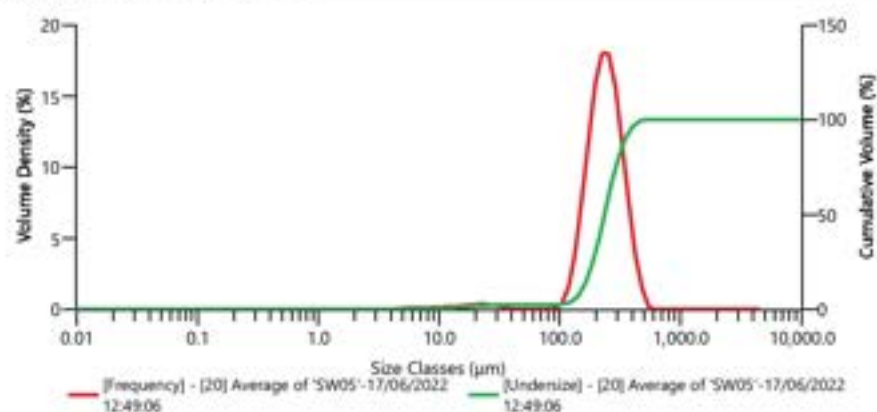
Inclusive Kurtosis: 1 Mesokurtic

Inclusive Skewness: .04 Near Symmetrical

Inclusive SD: .47 Well Sorted

Inclusive Mean: 2.09 Fine Grained

Frequency (compatible) and Undersize



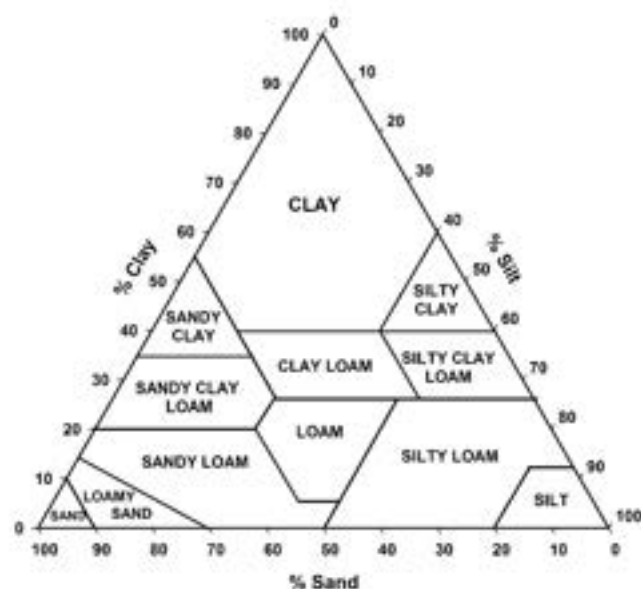
Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	1,30	250	56,66
1,00	0,00	30,0	2,11	300	76,76
2,00	0,00	32,0	2,20	400	95,88
3,00	0,00	40,0	2,31	425	97,33
4,00	0,00	50,0	2,31	500	99,73
5,00	0,02	60,0	2,31	600	100,00
6,00	0,09	63,0	2,31	630	100,00
6,20	0,11	75,0	2,31	700	100,00
7,00	0,17	80,0	2,31	800	100,00
8,00	0,25	100	2,37	900	100,00
9,00	0,32	125	3,70	1000	100,00
10,0	0,39	150	9,10	1500	100,00
16,0	0,89	200	30,96	2000	100,00

Soil classification (EU)

Fraction	% in
Clay (<2µm)	0
Silt (2 - 63µm)	2.31
Fine sand (63-200µm)	28.65
Medium sand (200-630µm)	69.04
Coarse sand (630-2000µm)	0
Total sand (63-2000µm)	97.69

Soil texture triangle (USDA)



Soil Texture

Soil Texture: sand

Results

Sample Name Average of 'SW06'

Dv (10) 166 µm

Dv (50) 255 µm

Dv (90) 386 µm

Stirrer Speed Achieved 3500 rpm

Inclusive Soil Statistics

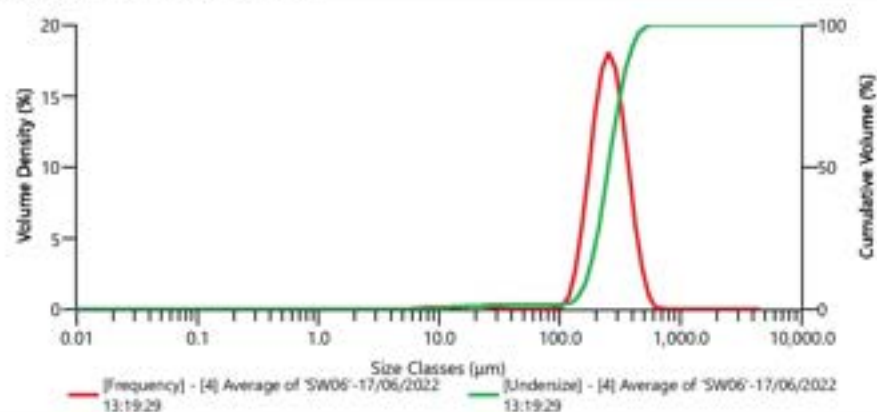
Inclusive Kurtosis: .98 Mesokurtic

Inclusive Skewness: .02 Near Symmetrical

Inclusive SD: .47 Well Sorted

Inclusive Mean: 1.98 Medium Grained

Frequency (compatible) and Undersize



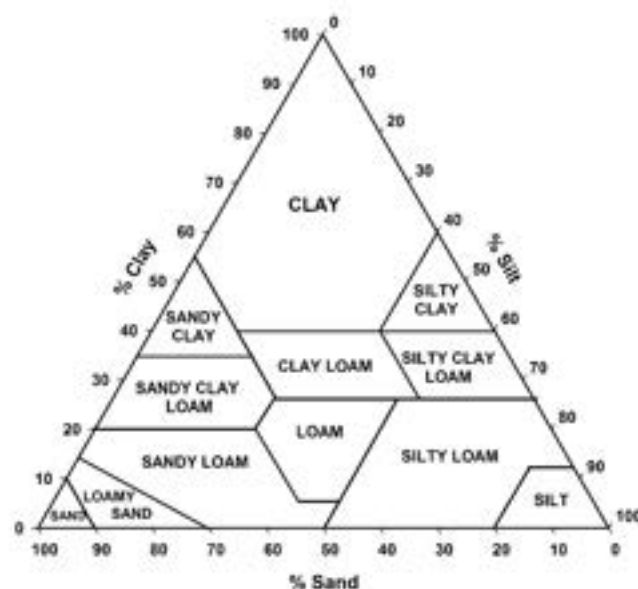
Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	1,04	250	47,83
1,00	0,00	30,0	1,51	300	68,85
2,00	0,00	32,0	1,54	400	92,22
3,00	0,00	40,0	1,54	425	94,50
4,00	0,00	50,0	1,54	500	98,67
5,00	0,00	60,0	1,54	600	99,94
6,00	0,01	63,0	1,54	630	99,97
6,20	0,02	75,0	1,54	700	100,00
7,00	0,07	80,0	1,54	800	100,00
8,00	0,15	100	1,55	900	100,00
9,00	0,23	125	2,21	1000	100,00
10,0	0,30	150	5,88	1500	100,00
16,0	0,74	200	23,76	2000	100,00

Soil classification (EU)

Fraction	% in
Clay (<2µm)	0
Silt (2 - 63µm)	1.54
Fine sand (63-200µm)	22.22
Medium sand (200-630µm)	76.21
Coarse sand (630-2000µm)	0.03
Total sand (63-2000µm)	98.46

Soil texture triangle (USDA)



Soil Texture

Soil Texture: sand

Results

Sample Name Average of 'SW07'

Dv (10) 170 µm

Dv (50) 255 µm

Dv (90) 383 µm

Stirrer Speed Achieved 3500 rpm

Inclusive Soil Statistics

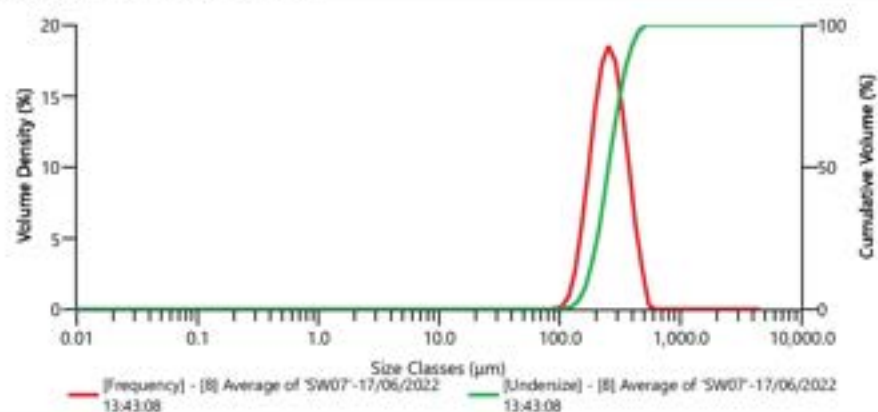
Inclusive Kurtosis: .95 Mesokurtic

Inclusive Skewness: .01 Near Symmetrical

Inclusive SD: .45 Well Sorted

Inclusive Mean: 1.97 Medium Grained

Frequency (compatible) and Undersize



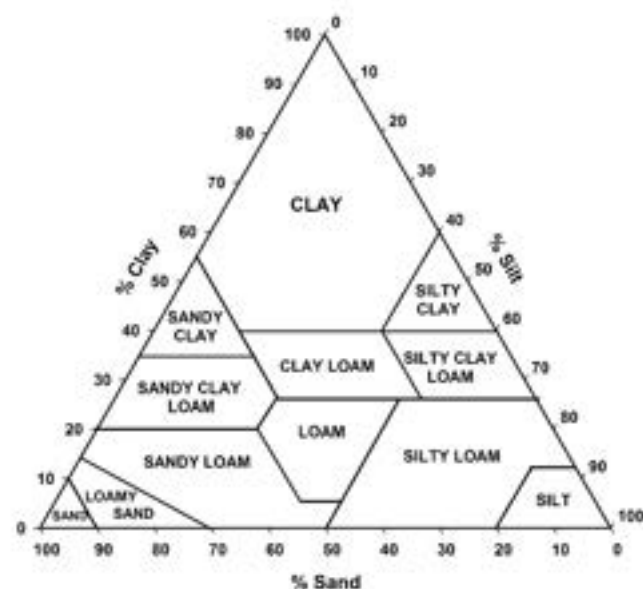
Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	0,00	250	47,38
1,00	0,00	30,0	0,00	300	68,90
2,00	0,00	32,0	0,00	400	92,87
3,00	0,00	40,0	0,00	425	95,20
4,00	0,00	50,0	0,00	500	99,44
5,00	0,00	60,0	0,00	600	100,00
6,00	0,00	63,0	0,00	630	100,00
6,20	0,00	75,0	0,00	700	100,00
7,00	0,00	80,0	0,00	800	100,00
8,00	0,00	100	0,01	900	100,00
9,00	0,00	125	0,67	1000	100,00
10,0	0,00	150	4,43	1500	100,00
16,0	0,00	200	22,75	2000	100,00

Soil classification (EU)

Fraction	% in
Clay (<2µm)	0
Silt (2 - 63µm)	0
Fine sand (63-200µm)	22.75
Medium sand (200-630µm)	77.25
Coarse sand (630-2000µm)	0
Total sand (63-2000µm)	100

Soil texture triangle (USDA)



Soil Texture

Soil Texture: sand

Results

Sample Name Average of 'SW08'

Dv (10) 146 µm

Dv (50) 239 µm

Dv (90) 369 µm

Stirrer Speed Achieved 3500 rpm

Inclusive Soil Statistics

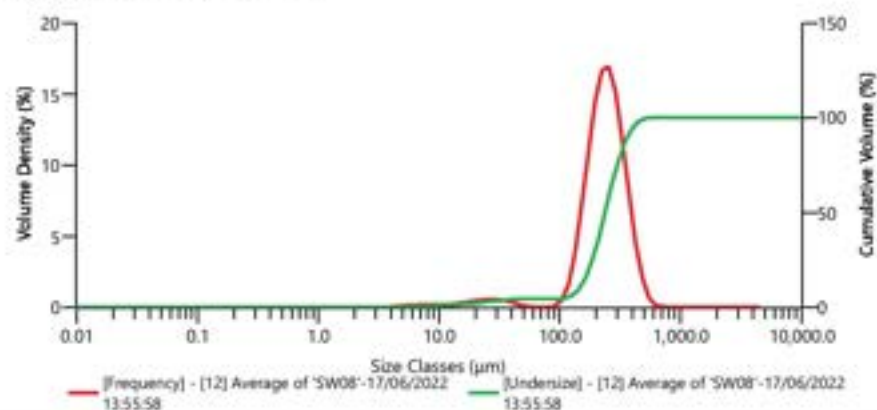
Inclusive Kurtosis: 1.1 Mesokurtic

Inclusive Skewness: .09 Near Symmetrical

Inclusive SD: .54 Moderately Well Sorted

Inclusive Mean: 2.08 Fine Grained

Frequency (compatible) and Undersize



Result

Size (µm)	% Volume Under	Size (µm)	% Volume Under	Size (µm)	% Volume Under
0,100	0,00	20,0	1,88	250	55,12
1,00	0,00	30,0	3,22	300	74,33
2,00	0,00	32,0	3,43	400	94,14
3,00	0,00	40,0	4,07	425	95,91
4,00	0,00	50,0	4,36	500	99,07
5,00	0,09	60,0	4,39	600	99,95
6,00	0,23	63,0	4,39	630	99,97
6,20	0,26	75,0	4,39	700	100,00
7,00	0,37	80,0	4,39	800	100,00
8,00	0,49	100	4,48	900	100,00
9,00	0,61	125	5,90	1000	100,00
10,0	0,72	150	11,10	1500	100,00
16,0	1,36	200	31,31	2000	100,00

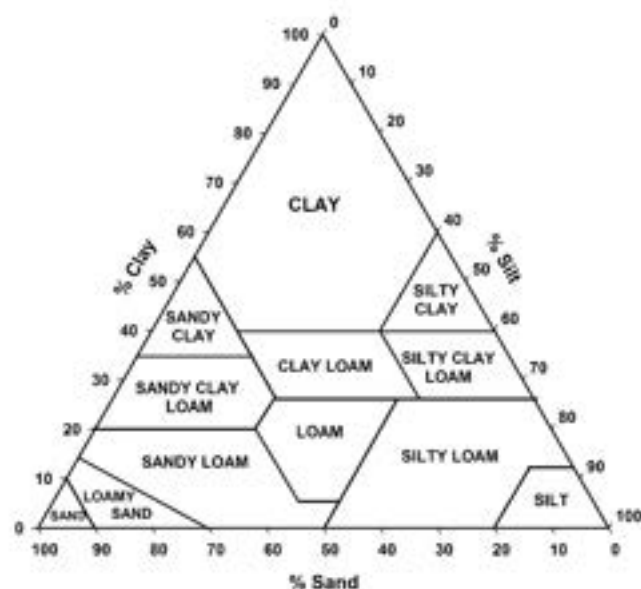
Soil classification (EU)

Fraction	% in
Clay (<2µm)	0
Silt (2 - 63µm)	4.39
Fine sand (63-200µm)	26.92
Medium sand (200-630µm)	68.66
Coarse sand (630-2000µm)	0.03
Total sand (63-2000µm)	95.61

Soil Texture

Soil Texture: sand

Soil texture triangle (USDA)



Annexe 2. Chemical analysis reports.



Normec
Servaco

Servaco NV
Vlamingstraat 19
8560 Wevelgem
Tel. 056 43 27 30
Fax 056 40 41 85
e-mail:sales-servaco@normecgroup.com

Pulliaar 207
2870 Puurs
Tel. 03 860 04 1
Fax 03 860 04

REPORT OF ANALYSIS

Reportnumber 2230505
Page 1 of 17



052-TEST

VLAREL

Order description : Stavanger

Project :

Project description :

Deme Environmental NV
Haven 1025
Stany Pensaert
Scheldedijk 30
2070 Zwijndrecht

Ref. sampling/collection : Not present

Wevelgem, 08-07-2022

Dear Sir, Dear Madam,

Please find enclosed the report for the analyses mentioned above.
This report contains 17 page(s) and possible attachments

Jan Goossens
General manager

REPORT OF ANALYSIS

Reportnumber 2230505

Page 2 of 17

Description of the sample

2230505-01	soil	SW01		
	Packaging Agl		sample obtained by	collection
2230505-02	soil	SW02		
	Packaging Agl		sample obtained by	collection
2230505-03	soil	SW03		
	Packaging Agl		sample obtained by	collection
2230505-04	soil	SW04		
	Packaging Agl		sample obtained by	collection
2230505-05	soil	SW05		
	Packaging Agl		sample obtained by	collection
2230505-06	soil	SW06		
	Packaging Agl		sample obtained by	collection
2230505-07	soil	SW07		
	Packaging Agl		sample obtained by	collection
2230505-08	soil	SW08		
	Packaging Agl		sample obtained by	collection
2230505-09	eluate	SW01 (LS10 van 2230505-01)		
	Packaging Ab		sample obtained by	collection
2230505-10	eluate	SW02 (LS10 van 2230505-02)		
	Packaging Ab		sample obtained by	collection
2230505-11	eluate	SW03 (LS10 van 2230505-03)		
	Packaging Ab		sample obtained by	collection
2230505-12	eluate	SW04 (LS10 van 2230505-04)		
	Packaging Ab		sample obtained by	collection
2230505-13	eluate	SW05 (LS10 van 2230505-05)		
	Packaging Ab		sample obtained by	collection
2230505-14	eluate	SW06 (LS10 van 2230505-06)		
	Packaging Ab		sample obtained by	collection
2230505-15	eluate	SW07 (LS10 van 2230505-07)		
	Packaging Ab		sample obtained by	collection
2230505-16	eluate	SW08 (LS10 van 2230505-08)		
	Packaging Ab		sample obtained by	collection

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Code Servaco		2230505-01	2230505-02	2230505-03	2230505-04
Sampling date		15-06-2022	15-06-2022	15-06-2022	15-06-2022
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
dry matter	% (g/100g)	90.4	93.4	90.7	84.0
bids : IE	Analysis startdate	21-06-2022	21-06-2022	21-06-2022	21-06-2022
perfluorobutanoic acid (PFBA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoropentanoic acid (PFPeA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorohexanoic acid (PFHxA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoroheptanoic acid (PFHpA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctanoic acid (PFOA)	µg/kg DS	0.24	0.52	< 0.19	0.86
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorononanoic acid (PFNA)	µg/kg DS	0.68	2.5	4.5	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorodecanoic acid (PFDA)	µg/kg DS	1.6	0.61	8.4	0.79
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/kg DS	270	750	140	96
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorododecanoic acid (PFDoDA)	µg/kg DS	< 0.47	4.5	< 0.47	3.8
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorotridecanoic acid (PFTrDA)	µg/kg DS	3.5	100	17	61
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/kg DS	< 0.47	1.8	< 0.47	1.2
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/kg DS	< 0.47	0.80	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoropentane sulfonate (PFPeS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorohexane sulfonate (PFHxS)	µg/kg DS	0.90	0.66	< 0.47	1.2
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctane sulfonate (PFOS)	µg/kg DS	70	31	82	32
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorononane sulfonate (PFNS)	µg/kg DS	17	13	2.0	10
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorodecane sulfonate (PFDS)	µg/kg DS	58	34	0.50	27
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/kg DS	1.9	57	0.58	150
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/kg DS	< 0.47	0.74	< 0.47	4.6
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *

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Code Servaco		2230505-01	2230505-02	2230505-03	2230505-04
Sampling date		15-06-2022	15-06-2022	15-06-2022	15-06-2022
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/kg DS	< 0.47	1.2	< 0.47	1.1
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/kg DS	< 0.47	0.82	< 0.47	0.90
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/kg DS	< 0.47	4.3	< 0.47	4.9
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECBS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Sum PFAS quantitative	µg/kg DS	420	1000	250	400
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctadecanoic acid (PFODA)	µg/kg DS	< 2.8	< 2.9	< 2.8	< 2.9
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/kg DS	3.2	47	< 0.94	54
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/kg DS	< 1.9	< 1.9	< 1.9	< 1.9
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/kg DS	< 0.47	4.7	< 0.47	2.0
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-methyl perfluorobutane sulfonamide (MeFBSA)	µg/kg DS	< 0.95	< 0.95	< 0.94	< 0.95
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/kg DS	24	15	7.3	11
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Sum PFAS indicative	µg/kg DS	27.3	66.9	7.28	66.1

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	Code Servaco	2230505-01	2230505-02	2230505-03	2230505-04
	Sampling date	15-06-2022	15-06-2022	15-06-2022	15-06-2022
	Reception date :	17-06-2022	17-06-2022	17-06-2022	17-06-2022
<u>Description of the component</u>					
bioperf :	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Sum PFAS EFSA-4	µg/kg DS	71.3	35.1	86.5	33.7
bioperf :	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *

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Code Servaco	2230505-05	2230505-06	2230505-07	2230505-08	
Sampling date	15-06-2022	15-06-2022	15-06-2022	15-06-2022	
Reception date :	17-06-2022	17-06-2022	17-06-2022	17-06-2022	
Description of the component					
dry matter	% (g/100g)	90.0	89.4	86.9	84.3
bids : IE	Analysis startdate	21-06-2022	21-06-2022	21-06-2022	21-06-2022
perfluorobutanoic acid (PFBA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoropentanoic acid (PFPeA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorohexanoic acid (PFHxA)	µg/kg DS	< 0.48	0.56	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoroheptanoic acid (PFHpA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctanoic acid (PFOA)	µg/kg DS	0.61	0.39	0.68	0.25
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorononanoic acid (PFNA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorodecanoic acid (PFDA)	µg/kg DS	< 0.48	1.3	1.0	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/kg DS	24	34	2.4	5.0
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorododecanoic acid (PFDoDA)	µg/kg DS	1.8	2.0	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorotridecanoic acid (PFTTrDA)	µg/kg DS	42	16	4.0	6.5
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/kg DS	1.0	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoropentane sulfonate (PFPeS)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorohexane sulfonate (PFHxS)	µg/kg DS	0.49	1.3	< 0.47	0.78
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctane sulfonate (PFOS)	µg/kg DS	4.8	440	100	20
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorononane sulfonate (PFNS)	µg/kg DS	1.4	25	20	4.8
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorodecane sulfonate (PFDS)	µg/kg DS	23	100	14	14
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/kg DS	43	17	110	19
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/kg DS	1.3	< 0.47	1.0	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bidsperfl	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *

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Code Servaco		2230505-05	2230505-06	2230505-07	2230505-08
Sampling date		15-06-2022	15-06-2022	15-06-2022	15-06-2022
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/kg DS	< 0.48	0.80	0.74	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/kg DS	< 0.48	1.0	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/kg DS	< 0.48	0.61	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/kg DS	0.60	12	17	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECBS)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Sum PFAS quantitative	µg/kg DS	140	650	270	71
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorooctadecanoic acid (PFODA)	µg/kg DS	< 2.9	< 2.8	< 2.8	< 2.8
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/kg DS	140	82	37	2.1
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/kg DS	< 1.9	< 1.9	< 1.9	< 1.9
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/kg DS	3.7	1.8	2.9	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-methyl perfluorobutane sulfonamide (MeFBBSA)	µg/kg DS	< 0.96	< 0.95	< 0.94	< 0.94
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/kg DS	< 0.48	< 0.47	< 0.47	< 0.47
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/kg DS	4.1	16	2.1	17
bioperf	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Sum PFAS indicative	µg/kg DS	143	100	41.6	19.2

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Sampling date	15-06-2022	15-06-2022	15-06-2022	15-06-2022
Reception date :	17-06-2022	17-06-2022	17-06-2022	17-06-2022

Description of the component

bioperf :	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *
Sum PFAS EFSA-4	µg/kg DS	5.86	444	101	21.5
bioperf :	Analysis startdate	22-06-2022 *	22-06-2022 *	22-06-2022 *	22-06-2022 *

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Code Servaco		2230505-09	2230505-10	2230505-11	2230505-12
Sampling date		<i>unknown</i>	<i>unknown</i>	<i>unknown</i>	<i>unknown</i>
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
perfluorobutanoic acid (PFBA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoropentanoic acid (PFPeA)	µg/l	0.021	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorohexanoic acid (PFHxA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroheptanoic acid (PFHpA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctanoic acid (PFOA)	µg/l	0.023	0.045	< 0.019	0.073
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorononanoic acid (PFNA)	µg/l	0.030	0.061	0.46	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorodecanoic acid (PFDA)	µg/l	0.14	0.043	0.83	0.058
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/l	19	55	11	4.6
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorododecanoic acid (PFDoDA)	µg/l	< 0.020	0.20	0.026	0.11
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/l	< 0.020	0.061	< 0.019	0.042
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/l	< 0.020	0.046	< 0.019	0.023
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoropentane sulfonate (PFPeS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorohexane sulfonate (PFHxS)	µg/l	0.055	0.037	0.029	0.064
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctane sulfonate (PFOS)	µg/l	4.3	1.9	7.4	1.7
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorononane sulfonate (PFNS)	µg/l	1.0	0.98	0.14	0.45
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorodecane sulfonate (PFDS)	µg/l	3.6	2.3	0.033	0.88
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/l	< 0.020	0.41	< 0.019	0.37
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/l	0.11	4.3	0.036	7.5
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/l	< 0.020	0.031	< 0.019	0.085
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/l	< 0.020	< 0.020	0.023 *	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *

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Sampling date		<i>unknown</i>	<i>unknown</i>	<i>unknown</i>	<i>unknown</i>
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/l	< 0.020	0.095	< 0.019	0.076
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/l	< 0.020	0.072	< 0.019	0.070
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECHS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.020
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS quantitative	µg/l	28	66	20	16
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorotridecanoic acid (PFTrDA)	µg/l	0.11	3.5	0.78	1.5
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoropentadecanoic acid (PFPeDA)	µg/l	0.82	22	3.5	12
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctadecanoic acid (PFODA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.050
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/l	0.098	1.1	< 0.048	0.95
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroundecane sulfonate (PFUnDS)	µg/l	0.30	1.4	< 0.048	0.74
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorotridecane sulfonate (PFTTrDS)	µg/l	0.051	0.54	< 0.048	0.60
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/l	< 0.049	0.15	< 0.048	0.054
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.048	< 0.050
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.048	< 0.050
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/l	< 0.049	< 0.049	< 0.048	< 0.050
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.050
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-methyl perfluorobutane sulfonamide (MeFBSA)	µg/l	< 0.15	< 0.15	< 0.15	< 0.15
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.050

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Code Servaco		2230505-09	2230505-10	2230505-11	2230505-12
Sampling date		<i>unknown</i>	<i>unknown</i>	<i>unknown</i>	<i>unknown</i>
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
wlcpertf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/l	1.9	0.96	0.74	0.63
wlcpertf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS indicative	µg/l	3.3	30	5.0	17
wlcpertf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS EFSA-4	µg/l	4.4	2.0	7.9	1.8
wlcpertf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS VMM-20	µg/l	29	67	20	12
wlcpertf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *

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Results

Code Servaco		2230505-13	2230505-14	2230505-15	2230505-16
Sampling date		<i>unknown</i>	<i>unknown</i>	<i>unknown</i>	<i>unknown</i>
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
perfluorobutanoic acid (PFBA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoropentanoic acid (PFPeA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorohexanoic acid (PFHxA)	µg/l	< 0.020	0.055	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroheptanoic acid (PFHpA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctanoic acid (PFOA)	µg/l	0.034	0.040	0.061	0.035
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorononanoic acid (PFNA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorodecanoic acid (PFDA)	µg/l	< 0.020	0.11	0.071	0.025
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/l	1.7	2.6	0.11	0.33
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorododecanoic acid (PFDoDA)	µg/l	0.078	0.099	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/l	0.058	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/l	0.021	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoropentane sulfonate (PFPeS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorohexane sulfonate (PFHxS)	µg/l	0.024	0.094	0.022	0.056
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctane sulfonate (PFOS)	µg/l	0.28	42	7.3	1.8
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorononane sulfonate (PFNS)	µg/l	0.10	3.0	0.78	0.36
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorodecane sulfonate (PFDS)	µg/l	1.3	9.2	0.38	0.79
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/l	0.046	1.2	1.2	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/l	3.3	0.99	6.8	0.97
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/l	0.051	< 0.020	0.038	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *

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Code Servaco		2230505-13	2230505-14	2230505-15	2230505-16
Sampling date		unknown	unknown	unknown	unknown
Reception date :		17-06-2022	17-06-2022	17-06-2022	17-06-2022
Description of the component					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/l	0.029	0.052	0.046	< 0.019
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/l	0.036	0.093	0.048	< 0.019
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECHS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS quantitative	µg/l	7.0	59	17	4.4
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorotridecanoic acid (PFTTrDA)	µg/l	1.6	0.51	0.094	0.15
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoropentadecanoic acid (PFPeDA)	µg/l	9.9	1.9	0.84	0.91
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctadecanoic acid (PFODA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.049
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/l	4.9	4.4	0.61	0.062
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroundecane sulfonate (PFUnDS)	µg/l	2.0	8.1	0.27	0.32
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorotridecane sulfonate (PFTTrDS)	µg/l	3.8	1.6	0.53	< 0.049
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/l	0.13	0.088	0.061	< 0.049
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.048	< 0.049
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.048	< 0.049
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/l	< 0.049	0.076	< 0.048	< 0.049
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.049
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-methyl perfluorobutane sulfonamide (MeFBSA)	µg/l	< 0.15	< 0.15	< 0.15	< 0.15
wlperfl : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.049

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	Sampling date	<i>unknown</i>	<i>unknown</i>	<i>unknown</i>	<i>unknown</i>
	Reception date :	17-06-2022	17-06-2022	17-06-2022	17-06-2022
<u>Description of the component</u>					
wlcpert : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/l	0.19	1.1	0.15	1.8
wlcpert : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS indicative	µg/l	23	18	2.6	3.2
wlcpert : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS EFSA-4	µg/l	0.33	42	7.4	1.9
wlcpert : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *
Sum PFAS VMM-20	µg/l	16	72	10	3.9
wlcpert : E	Analysis startdate	04-07-2022 *	04-07-2022 *	04-07-2022 *	04-07-2022 *

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Remarks

2230505-01

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-02

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-03

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-04

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-05

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-06

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-07

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-08

blcperfl : PFODA, PFD₂DS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-09

wlcperfl : PFTrDA, PFPeDA, PFODA, PFD₂DS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-10

wlcperfl : PFTrDA, PFPeDA, PFODA, PFD₂DS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-11

N-ethyl perfluorooctanesulfonamide (EtPFOSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

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wlcperfl : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-12

wlcperfl : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-13

wlcperfl : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-14

wlcperfl : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-15

wlcperfl : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2230505-16

wlcperfl : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

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Enclosures:

Method description

bads ! E	Dry matter on soil, waste, mud and waste matter - gravimetric 105°C (CMA/2/III/A.1)
bavrb7	homogenized sample
bdin7 ! E	Uitloging enkelvoudige schudtest op pasteuze en vaste afvalstoffen - CMA/2/III/A.12 (DIN-uitloging DIN 38414.4 pH7)
blcperfl	Perfluorinated compounds in soil by LC-MS/MS according CMA/3/D
wlcperfl E	Perfluorinated compounds in waste water (E) - LCMS/MS (WAC/IV/A/025)

! : method under accreditation (BELAC-certificate nr. 052-TEST) - through [this link](#) the accreditation status can be consulted for each parameter - domain.

E : recognized method (recognitions Departement Omgeving or OVAM) - through [this link](#) the recognition status can be consulted for each parameter - domain.

The results only apply to the objects being tested. This report may only be reproduced partially by written agreement of Servaco. The measurement uncertainties and the description of the methods of analyses mentioned are available on demand as are the codes of packaging that are possibly used. The laboratory activities are executed by default in Wevelgem, with the exception of in-situ measurements. If executed in Puurs, this will be explicitly stated on the report next to the method. In case of sampling by third parties, the results apply to the sample as received. Information provided by third parties may have an impact on the validity of the results. Servaco is not responsible for this information, in italic and bold, mentioned in the report.

Remarks concerning the preservability

-



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052-TEST

VLAREL

Opdrachtomschrijving : Stavanger

Project :
Projectomschrijving :

Deme Environmental NV
Haven 1025
Stany Pensaert
Scheldedijk 30
2070 Zwijndrecht

Ref. monstername/afhaling : Niet aanwezig

Wevelgem, 12-07-2022

Geachte

Gelieve hierbij het rapport van bovenvermeld onderzoek te vinden.
Dit rapport omvat 26 Pagina(s) en eventuele bijlagen

Jan Goossens
Algemeen Directeur

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Monsteromschrijving

2231599-01	bodem	SW01-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-02	bodem	SW02-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-03	bodem	SW03-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-04	bodem	SW04-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-05	bodem	SW05-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-06	bodem	SW06-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-07	bodem	SW07-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-08	bodem	SW08-sand1		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-09	bodem	SW01-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-10	bodem	SW02-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-11	bodem	SW03-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-12	bodem	SW04-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-13	bodem	SW05-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-14	bodem	SW06-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-15	bodem	SW07-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-16	bodem	SW08-sand2		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-17	bodem	SW01-fines		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-18	bodem	SW02-fines		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-19	bodem	SW03-fines		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-20	bodem	SW04-fines		
	Verpakking Agl		Staal bekomen via	ophaling

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2231599-21	bodem	SW05-fines		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-22	bodem	SW06-fines		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-23	bodem	SW07-fines		
	Verpakking Agl		Staal bekomen via	ophaling
2231599-24	bodem	SW08-fines		
	Verpakking Agl		Staal bekomen via	ophaling

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Resultaten

Code Servaco		2231599-01	2231599-02	2231599-03	2231599-04
Monsternamedatum		22-06-2022	22-06-2022	22-06-2022	22-06-2022
Ontvangstdatum :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Omschrijving component					
droge stof	% (g/100g)	79.3	82.3	80.7	80.1
bids : E	Startdatum analyse	29-06-2022	29-06-2022	29-06-2022	29-06-2022
perfluorbutaanzuur (PFBA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorpentaanzuur (PFPeA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexaanzuur (PFHxA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorheptaanzuur (PFHpA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaanzuur (PFOA)	µg/kg DS	< 0.19	< 0.20	< 0.19	< 0.19
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluormonaanzuur (PFNA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordecaanzuur (PFDA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorundecaanzuur (PFUnDA)	µg/kg DS	14	49	9.9	3.5
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordodecaanzuur (PFDoDA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluortridecaanzuur (PFTrDA)	µg/kg DS	1.8	8.1	2.0	1.9
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluortetradecaanzuur (PFTeDA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexadecaanzuur (PFHxDA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorbutaansulfonaat (PFBS)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorpentaansulfonzuur (PFPeS)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexaansulfonzuur (PFHxS)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorheptaansulfonzuur (PFHpS)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaansulfonzuur (PFOS)	µg/kg DS	1.7	2.1	1.9	3.1
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorononaansulfonzuur(PFNS)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordecaansulfonzuur (PFDS)	µg/kg DS	2.3	1.9	< 0.48	0.89
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaansulfonamide (PFOSA)	µg/kg DS	< 0.48	2.4	< 0.48	8.3
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluoroctaansulfonamide (MePFOSA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-ethylperfluoroctaansulfonamide (EtPFOSA)	µg/kg DS	< 0.48	< 0.49	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Resultaten

Code Servaco	2231599-01	2231599-02	2231599-03	2231599-04
Monsternamedatum	22-06-2022	22-06-2022	22-06-2022	22-06-2022
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
Omschrijving component				
N-methylperfluorooctaansulfonamido-azijnzuur (MePFOSAA)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-ethylperfluorooctaansulfonamido-azijnzuur (EtPFOSAA)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
4:2 fluortelomeersulfonzuur (4:2FTS)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2 fluortelomeersulfonzuur (6:2FTS)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
8:2 fluortelomeersulfonzuur (8:2FTS)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
8:2 fluortelomeerfosfaat diester (8:2diPAP)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
hexafluorpropyleenoxidedimeerzuur (HFPO-DA)(GenX)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
4,8-dioxa-3H-perfluormonaanzuur (ADONA)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-4-ethylcyclohexaansulfonzuur (PFECHS)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
Som PFAS kwantitatief	µg/kg DS	20	64	14
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorooctadecaanzuur (PFODA)	µg/kg DS	< 2.9	< 2.9	< 2.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordodecaansulfonzuur (PFDoDS)	µg/kg DS	1.2	1.8	< 0.96
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2 fluortelomeerfosfaat diester (6:2diPAP)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2/8:2 fluortelomeerfosfaat diester (6:2/8:2diPAP)	µg/kg DS	< 1.9	< 2.0	< 1.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
10:2 fluortelomeersulfonzuur (10:2FTS)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-1-butaansulfonamide (PFBSA)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluorbutaansulfonamide (MePFBSA)	µg/kg DS	< 0.96	< 0.98	< 0.96
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA)	µg/kg DS	< 0.48	< 0.49	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-1-hexaansulfonamide (PFHxSA)	µg/kg DS	< 0.48	0.57	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
Som PFAS indicatief	µg/kg DS	1.18	2.42	<2.87
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Resultaten

Code Servaco	2231599-01	2231599-02	2231599-03	2231599-04	
Monsternamedatum	22-06-2022	22-06-2022	22-06-2022	22-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
Som PFAS EFSA-4	µg/kg DS	1.66	2.07	1.92	3.06
Report :	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Resultaten

Code Servaco	2231599-05	2231599-06	2231599-07	2231599-08	
Monsternamedatum	23-06-2022	23-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
droge stof	% (g/100g)	79.5	79.5	80.8	76.9
bids : IE	Startdatum analyse	29-06-2022	29-06-2022	29-06-2022	29-06-2022
perfluorbutaanzuur (PFBA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorpentaanzuur (PFPeA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexaanzuur (PFHxA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorheptaanzuur (PFHpA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaanzuur (PFOA)	µg/kg DS	< 0.19	< 0.19	< 0.19	< 0.19
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluomonaanzuur (PFNA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordecaanzuur (PFDA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorundecaanzuur (PFUnDA)	µg/kg DS	0.83	2.1	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordodecaanzuur (PFDoDA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluortridecaanzuur (PFTTrDA)	µg/kg DS	2.7	1.1	< 0.47	0.63
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluortetradecaanzuur (PFTTeDA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexadecaanzuur (PFHxDA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorbutaansulfonaat (PFBS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorpentaansulfonzuur (PFPeS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexaansulfonzuur (PFHxS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorheptaansulfonzuur (PFHpS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaansulfonzuur (PFOS)	µg/kg DS	0.47	14	1.0	1.5
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorononaansulfonzuur(PFNS)	µg/kg DS	< 0.47	0.87	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordecaansulfonzuur (PFDS)	µg/kg DS	0.99	6.0	< 0.47	0.90
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaansulfonamide (PFOSA)	µg/kg DS	1.3	1.2	2.0	1.3
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluoroctaansulfonamide (MePFOSA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-ethylperfluoroctaansulfonamide (EtPFOSA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Monsternamedatum	23-06-2022	23-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
N-methylperfluorooctaansulfonamido-azijnzuur (MePFOSAA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-ethylperfluorooctaansulfonamido-azijnzuur (EtPFOSAA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
4:2 fluortelomeersulfonzuur (4:2FTS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2 fluortelomeersulfonzuur (6:2FTS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
8:2 fluortelomeersulfonzuur (8:2FTS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
8:2 fluortelomeerfosfaat diester (8:2diPAP)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
hexafluorpropyleenoxidedimeerzuur (HFPO-DA)(GenX)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
4,8-dioxa-3H-perfluornonaanzuur (ADONA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-4-ethylcyclohexaansulfonzuur (PFECHS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
Som PFAS kwantitatief	µg/kg DS	6.3	26	3.0	4.3
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorooctadecaanzuur (PFODA)	µg/kg DS	< 2.8	< 2.9	< 2.8	< 2.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordodecaansulfonzuur (PFDoDS)	µg/kg DS	6.9	5.1	< 0.95	< 0.95
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2 fluortelomeerfosfaat diester (6:2diPAP)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2/8:2 fluortelomeerfosfaat diester (6:2/8:2diPAP)	µg/kg DS	< 1.9	< 1.9	< 1.9	< 1.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
10:2 fluortelomeersulfonzuur (10:2FTS)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-1-butaansulfonamide (PFBSA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluorbutaansulfonamide (MePFBSA)	µg/kg DS	< 0.93	< 0.95	< 0.95	< 0.95
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA)	µg/kg DS	< 0.47	< 0.48	< 0.47	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-1-hexaansulfonamide (PFHxSA)	µg/kg DS	< 0.47	0.51	< 0.47	1.0
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
Som PFAS indicatief	µg/kg DS	6.95	5.63	<2.84	1.04
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Monsternamedatum	23-06-2022	23-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
Som PFAS EFSA-4	µg/kg DS	0.470	14.5	1.02	1.46
Report :	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Code Servaco		2231599-09	2231599-10	2231599-11	2231599-12
Monsternamedatum		23-06-2022	23-06-2022	23-06-2022	23-06-2022
Ontvangstdatum :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Omschrijving component					
droge stof	% (g/100g)	81.4	76.6	78.4	78.3
bids : E	Startdatum analyse	29-06-2022	29-06-2022	29-06-2022	29-06-2022
perfluorbutaanzuur (PFBA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorpentaanzuur (PFPeA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexaanzuur (PFHxA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorheptaanzuur (PFHpA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaanzuur (PFOA)	µg/kg DS	< 0.19	< 0.19	< 0.19	< 0.19
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluormonaanzuur (PFNA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordecaanzuur (PFDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorundecaanzuur (PFUnDA)	µg/kg DS	1.4	5.6	0.93	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordodecaanzuur (PFDoDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluortridecaanzuur (PFTTrDA)	µg/kg DS	< 0.48	3.0	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluortetradecaanzuur (PFTTeDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexadecaanzuur (PFHxDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorbutaansulfonaat (PFBS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorpentaansulfonzuur (PFPeS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorhexaansulfonzuur (PFHxS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorheptaansulfonzuur (PFHpS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaansulfonzuur (PFOS)	µg/kg DS	0.45	0.94	0.36	0.42
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorononaansulfonzuur(PFNS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordecaansulfonzuur (PFDS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluoroctaansulfonamide (PFOSA)	µg/kg DS	< 0.48	< 0.48	< 0.48	0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluoroctaansulfonamide (MePFOSA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-ethylperfluoroctaansulfonamide (EtPFOSA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Monsternamedatum	23-06-2022	23-06-2022	23-06-2022	23-06-2022
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
<u>Omschrijving component</u>				
N-methylperfluorooctaansulfonamido-azijnzuur (MePFOSAA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-ethylperfluorooctaansulfonamido-azijnzuur (EtPFOSAA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
4:2 fluortelomeersulfonzuur (4:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2 fluortelomeersulfonzuur (6:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
8:2 fluortelomeersulfonzuur (8:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
8:2 fluortelomeerfosfaat diester (8:2diPAP)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
hexafluorpropyleenoxidedimeerzuur (HFPO-DA)(GenX)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
4,8-dioxa-3H-perfluormonaanzuur (ADONA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-4-ethylcyclohexaansulfonzuur (PFECHS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
Som PFAS kwantitatief	µg/kg DS	1.9	9.5	1.3
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluorooctadecaanzuur (PFODA)	µg/kg DS	< 2.9	< 2.9	< 2.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluordodecaansulfonzuur (PFDoDS)	µg/kg DS	< 0.96	< 0.95	< 0.96
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2 fluortelomeerfosfaat diester (6:2diPAP)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
6:2/8:2 fluortelomeerfosfaat diester (6:2/8:2diPAP)	µg/kg DS	< 1.9	< 1.9	< 1.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
10:2 fluortelomeersulfonzuur (10:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-1-butaansulfonamide (PFBSA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluorbutaansulfonamide (MePFBSA)	µg/kg DS	< 0.96	< 0.95	< 0.96
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
perfluor-1-hexaansulfonamide (PFHxSA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *
Som PFAS indicatief	µg/kg DS	<2.89	<2.85	<2.87
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Monsternamedatum	23-06-2022	23-06-2022	23-06-2022	23-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
Som PFAS EFSA-4	µg/kg DS	0.448	0.936	0.355	0.415
Report :	Startdatum analyse	01-07-2022 *	01-07-2022 *	01-07-2022 *	01-07-2022 *

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Code Servaco		2231599-13	2231599-14	2231599-15	2231599-16
Monsternamedatum		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Ontvangstdatum :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Omschrijving component					
droge stof	% (g/100g)	79.1	79.6	78.3	80.0
bids : E	Startdatum analyse	29-06-2022	29-06-2022	29-06-2022	29-06-2022
perfluorbutaanzuur (PFBA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorpentaanzuur (PFPeA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorhexaanzuur (PFHxA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorheptaanzuur (PFHpA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroctaanzuur (PFOA)	µg/kg DS	< 0.19	< 0.19	< 0.19	< 0.19
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluormonaanzuur (PFNA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluordecaanzuur (PFDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorundecaanzuur (PFUnDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluordodecaanzuur (PFDoDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluortridecaanzuur (PFTrDA)	µg/kg DS	1.0	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluortetradecaanzuur (PFTeDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorhexadecaanzuur (PFHxDA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorbutaansulfonaat (PFBS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorpentaansulfonzuur (PFPeS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorhexaansulfonzuur (PFHxS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorheptaansulfonzuur (PFHpS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroctaansulfonzuur (PFOS)	µg/kg DS	0.25	1.1	0.55	0.43
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorononaansulfonzuur(PFNS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluordecaansulfonzuur (PFDS)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroctaansulfonamide (PFOSA)	µg/kg DS	< 0.48	< 0.48	0.50	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
N-methylperfluoroctaansulfonamide (MePFOSA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *
N-ethylperfluoroctaansulfonamide (EtPFOSA)	µg/kg DS	< 0.48	< 0.48	< 0.48	< 0.48
bidsperfl	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *

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Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
<u>Omschrijving component</u>				
N-methylperfluorooctaansulfonamido-azijnzuur (MePFOSAA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
N-ethylperfluorooctaansulfonamido-azijnzuur (EtPFOSAA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
4:2 fluortelomeersulfonzuur (4:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
6:2 fluortelomeersulfonzuur (6:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
8:2 fluortelomeersulfonzuur (8:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
8:2 fluortelomeerfosfaat diester (8:2diPAP)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
hexafluorpropyleenoxidedimeerzuur (HFPO-DA)(GenX)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
4,8-dioxa-3H-perfluormonaanzuur (ADONA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
perfluor-4-ethylcyclohexaansulfonzuur (PFECHS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
Som PFAS kwantitatief	µg/kg DS	1.3	1.1	1.1
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
perfluorooctadecaanzuur (PFODA)	µg/kg DS	< 2.9	< 2.9	< 2.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
perfluordodecaansulfonzuur (PFDodS)	µg/kg DS	2.2	< 0.95	< 0.97
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
6:2 fluortelomeerfosfaat diester (6:2diPAP)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
6:2/8:2 fluortelomeerfosfaat diester (6:2/8:2diPAP)	µg/kg DS	< 1.9	< 1.9	< 1.9
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
10:2 fluortelomeersulfonzuur (10:2FTS)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
perfluor-1-butaansulfonamide (PFBSA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
N-methylperfluorbutaansulfonamide (MePFBSA)	µg/kg DS	< 0.95	< 0.95	< 0.97
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
perfluor-1-hexaansulfonamide (PFHxSA)	µg/kg DS	< 0.48	< 0.48	< 0.48
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *
Som PFAS indicatief	µg/kg DS	2.25	<2.85	<2.90
bioperf	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *

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Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
Som PFAS EFSA-4	µg/kg DS	0.253	1.06	0.546	0.432
Report :	Startdatum analyse	01-07-2022 *	01-07-2022 *	04-07-2022 *	04-07-2022 *

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Code Servaco	2231599-17	2231599-18	2231599-19	2231599-20	
Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
droge stof	% (g/100g)	15.1	29.1	15.9	14.5
bids : E	Startdatum analyse	29-06-2022 *	29-06-2022 *	29-06-2022 *	29-06-2022 *
perfluorbutaanzuur (PFBA)	µg/kg DS	< 0.47	2.7	< 0.45	0.81
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorpentaanzuur (PFPeA)	µg/kg DS	0.64	3.1	0.47	1.2
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorhexaanzuur (PFHxA)	µg/kg DS	1.1	8.2	0.62	4.9
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorheptaanzuur (PFHpA)	µg/kg DS	0.52	4.3	< 0.45	2.2
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluoroctaanzuur (PFOA)	µg/kg DS	1.3	20	0.80	12
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluormonaanzuur (PFNA)	µg/kg DS	8.3	170	28	15
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluordecaanzuur (PFDA)	µg/kg DS	10	12	58	10
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorundecaanzuur (PFUnDA)	µg/kg DS	5700 *	11000 *	3900 *	3100
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluordodecaanzuur (PFDoDA)	µg/kg DS	16	220	21	430
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluortridecaanzuur (PFTriDA)	µg/kg DS	260	3500	730	2800 *
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluortetradecaanzuur (PFTeDA)	µg/kg DS	4.4	130	6.4	170
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorhexadecaanzuur (PFHxDA)	µg/kg DS	0.87	52	1.2	15
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorbutaansulfonaat (PFBS)	µg/kg DS	< 0.47	1.2	< 0.45	2.0
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorpentaansulfonzuur (PFPeS)	µg/kg DS	< 0.47	1.8	< 0.45	3.6
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorhexaansulfonzuur (PFHxS)	µg/kg DS	6.4	29	2.7	41
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorheptaansulfonzuur (PFHpS)	µg/kg DS	0.56	4.2	< 0.45	4.1
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluoroctaansulfonzuur (PFOS)	µg/kg DS	290	880	430	1300
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorononaansulfonzuur(PFNS)	µg/kg DS	160	250	25	270
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluordecaansulfonzuur (PFDS)	µg/kg DS	1700	770	39	1800
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluoroctaansulfonamide (PFOSA)	µg/kg DS	140 *	1200	20 *	2700 *
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
N-methylperfluoroctaansulfonamide (MePFOSA)	µg/kg DS	opm. *	63	opm. *	320
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
N-ethylperfluoroctaansulfonamide (EtPFOSA)	µg/kg DS	opm. *	3.1	opm. *	6.2 *
bidsperfl	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *

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Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Omschrijving component					
N-methylperfluorooctaansulfonamido-azijnzuur (MePFOSAA)	µg/kg DS	1.3	30	< 0.45	44
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
N-ethylperfluorooctaansulfonamido-azijnzuur (EtPFOSAA)	µg/kg DS	opm. *	opm. *	opm. *	150
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
4:2 fluortelomeersulfonzuur (4:2FTS)	µg/kg DS	< 0.47	< 0.47	< 0.45	< 0.47
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
6:2 fluortelomeersulfonzuur (6:2FTS)	µg/kg DS	1.5	18	0.69	7.0
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
8:2 fluortelomeersulfonzuur (8:2FTS)	µg/kg DS	1.3	26	1.1	54
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
8:2 fluortelomeerfosfaat diester (8:2diPAP)	µg/kg DS	< 0.47	< 0.47	< 0.45	< 0.47
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
hexafluorpropyleenoxidedimeerzuur (HFPO-DA)(GenX)	µg/kg DS	< 0.47	< 0.47	< 0.45	< 0.47
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
4,8-dioxa-3H-perfluornonaanzuur (ADONA)	µg/kg DS	< 0.47	< 0.47	< 0.45	< 0.47
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluor-4-ethylcyclohexaansulfonzuur (PFECBS)	µg/kg DS	< 0.47	< 0.47	< 0.45	< 0.47
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
Som PFAS kwantitatief	µg/kg DS	8300	18000	5200	13000
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluorooctadecaanzuur (PFODA)	µg/kg DS	< 2.8	18	< 2.7	< 2.8
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluordodecaansulfonzuur (PFDoDS)	µg/kg DS	540	3200	53	4300 *
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
6:2 fluortelomeerfosfaat diester (6:2diPAP)	µg/kg DS	< 0.47	< 0.47	< 0.45	< 0.47
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
6:2/8:2 fluortelomeerfosfaat diester (6:2/8:2diPAP)	µg/kg DS	< 1.9	< 1.9	< 1.8	< 1.9
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
10:2 fluortelomeersulfonzuur (10:2FTS)	µg/kg DS	5.9	32	5.5	270 *
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluor-1-butaansulfonamide (PFBSA)	µg/kg DS	opm. *	13	< 0.45	7.3 *
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
N-methylperfluorbutaansulfonamide (MePFBSA)	µg/kg DS	opm. *	< 0.93	< 0.90	opm. *
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA)	µg/kg DS	opm. *	< 0.47	< 0.45	opm. *
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
perfluor-1-hexaansulfonamide (PFHxSA)	µg/kg DS	440 *	560	15 *	410 *
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *
Som PFAS indicatief	µg/kg DS	986	3810	73.6	5030
bioperf	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *

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Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
Som PFAS EFSA-4	µg/kg DS	310	1100	457	1370
Report	Startdatum analyse	05-07-2022 *	04-07-2022 *	05-07-2022 *	05-07-2022 *

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Code Servaco	2231599-21	2231599-22	2231599-23	2231599-24	
Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
droge stof	% (g/100g)	24.1	19.5	26.3	25.8
bids : E	Startdatum analyse	29-06-2022 *	29-06-2022 *	29-06-2022 *	29-06-2022 *
perfluorbutaanzuur (PFBA)	µg/kg DS	7.8	1.2	< 0.47	< 0.48
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorpentaanzuur (PFPeA)	µg/kg DS	7.1	2.5	1.3	1.1
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorhexaanzuur (PFHxA)	µg/kg DS	35	9.3	8.4	4.1
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorheptaanzuur (PFHpA)	µg/kg DS	7.2	1.9	1.9	2.0
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroctaanzuur (PFOA)	µg/kg DS	56	6.5	11	3.8
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluormonaanzuur (PFNA)	µg/kg DS	2.9	opm. *	0.69	6.0
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluordecaanzuur (PFDA)	µg/kg DS	2.1	16	8.5	2.8
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorundecaanzuur (PFUnDA)	µg/kg DS	630	1600	130	130
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluordodecaanzuur (PFDoDA)	µg/kg DS	120	250	38	20
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluortridecaanzuur (PFTrDA)	µg/kg DS	2100	1500	410	240
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluortetradecaanzuur (PFTeDA)	µg/kg DS	96	32	20	5.3
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorhexadecaanzuur (PFHxDA)	µg/kg DS	21	3.1	2.5	1.3
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorbutaansulfonaat (PFBS)	µg/kg DS	1.1	1.1	0.89	1.4
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorpentaansulfonzuur (PFPeS)	µg/kg DS	1.8	1.6	0.99	2.0
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorhexaansulfonzuur (PFHxS)	µg/kg DS	29	56	11	21
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorheptaansulfonzuur (PFHpS)	µg/kg DS	2.3	1.5	1.4	2.1
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroctaansulfonzuur (PFOS)	µg/kg DS	250	6900 *	570	360
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorononaansulfonzuur(PFNS)	µg/kg DS	46	770	230	97
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluordecaansulfonzuur (PFDS)	µg/kg DS	770	7800	380	320
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluoroctaansulfonamide (PFOSA)	µg/kg DS	860	810	1200	410
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
N-methylperfluoroctaansulfonamide (MePFOSA)	µg/kg DS	68	14	88 *	16
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
N-ethylperfluoroctaansulfonamide (EtPFOSA)	µg/kg DS	5.3	opm. *	3.6 *	0.89
bidsperfl	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *

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Resultaten

Code Servaco	2231599-21	2231599-22	2231599-23	2231599-24	
Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Omschrijving component					
N-methylperfluorooctaansulfonamido-azijnzuur (MePFOSAA)	µg/kg DS	26	54	30	3.7
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
N-ethylperfluorooctaansulfonamido-azijnzuur (EtPFOSAA)	µg/kg DS	49	120	40	10
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
4:2 fluortelomeersulfonzuur (4:2FTS)	µg/kg DS	< 0.47	< 0.46	< 0.47	< 0.48
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
6:2 fluortelomeersulfonzuur (6:2FTS)	µg/kg DS	4.8	16	3.6	0.56
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
8:2 fluortelomeersulfonzuur (8:2FTS)	µg/kg DS	13	130	210	2.6
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
8:2 fluortelomeerfosfaat diester (8:2diPAP)	µg/kg DS	< 0.47	< 0.46	< 0.47	< 0.48
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
hexafluorpropyleenoxidedimeerzuur (HFPO-DA)(GenX)	µg/kg DS	< 0.47	< 0.46	< 0.47	< 0.48
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
4,8-dioxa-3H-perfluornonaanzuur (ADONA)	µg/kg DS	< 0.47	< 0.46	< 0.47	< 0.48
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluor-4-ethylcyclohexaansulfonzuur (PFECBS)	µg/kg DS	< 0.47	< 0.46	< 0.47	< 0.48
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
Som PFAS kwantitatief	µg/kg DS	5200	20000	3400	1700
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluorooctadecaanzuur (PFODA)	µg/kg DS	1.8	< 2.8	< 2.8	< 2.9
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluordodecaansulfonzuur (PFDoDS)	µg/kg DS	6500 *	6900 *	2200	170
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
6:2 fluortelomeerfosfaat diester (6:2diPAP)	µg/kg DS	0.78 *	< 0.46	< 0.47	< 0.48
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
6:2/8:2 fluortelomeerfosfaat diester (6:2/8:2diPAP)	µg/kg DS	< 1.9	< 1.9	< 1.9	< 1.9
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
10:2 fluortelomeersulfonzuur (10:2FTS)	µg/kg DS	14	38	38	2.6
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluor-1-butaansulfonamide (PFBSA)	µg/kg DS	4.6 *	3.8	1.2	2.9
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
N-methylperfluorbutaansulfonamide (MePFBSA)	µg/kg DS	< 0.93	opm. *	< 0.95	< 0.96
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA)	µg/kg DS	< 0.47	opm. *	< 0.47	< 0.48
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
perfluor-1-hexaansulfonamide (PFHxSA)	µg/kg DS	260	370	53	320
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *
Som PFAS indicatief	µg/kg DS	6760	7320	2250	494
bioperf	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *

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Resultaten

Code Servaco	2231599-21	2231599-22	2231599-23	2231599-24	
Monsternamedatum	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
Ontvangstdatum :	24-06-2022	24-06-2022	24-06-2022	24-06-2022	
<u>Omschrijving component</u>					
Som PFAS EFSA-4	µg/kg DS	342	6930	592	396
Report :	Startdatum analyse	04-07-2022 *	05-07-2022 *	04-07-2022 *	04-07-2022 *

Opmerkingen

2231599-01

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-02

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-03

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-04

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-05

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-06

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-07

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-08

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-09

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-10

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-11

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bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-12

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-13

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-14

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-15

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-16

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

2231599-17

bads : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

N-ethylperfluoroctaansulfonamide (EtPFOSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-ethylperfluoroctaansulfonamido-azijnzuur (EtPFOSAA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-methylperfluoroctaansulfonamide (MePFOSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-methylperfluorbutaansulfonamide (MePFBSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-methylperfluorbutaansulfonamide acetaat (MePFBSAA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

perfluor-1-butaansulfonamide (PFBSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

perfluor-1-hexaansulfonamide (PFHxSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluoroctaansulfonamide (PFOSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluorundecaanzuur (PFUnDA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluorundecaanzuur (PFUnDA) : Resultaat indicatief; buiten lineair bereik.

2231599-18

bads : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFD_oDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

N-ethylperfluoroctaansulfonamido-azijnzuur (EtPFOSAA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

perfluorundecaanzuur (PFUnDA) : Resultaat indicatief; buiten lineair bereik.

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2231599-19

bads : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFDoDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

N-ethylperfluorooctaansulfonamide (EtPFOSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-ethylperfluorooctaansulfonamido-azijnzuur (EtPFOSAA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-methylperfluorooctaansulfonamide (MePFOSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

perfluor-1-hexaansulfonamide (PFHxSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluorooctaansulfonamide (PFOSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluorundecaanzuur (PFUnDA) : Resultaat indicatief; buiten lineair bereik.

2231599-20

10:2 fluortelomeersulfonzuur (10:2FTS) : Resultaat indicatief; buiten lineair bereik.

bads : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFDoDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

N-ethylperfluorooctaansulfonamide (EtPFOSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

N-methylperfluorbutaansulfonamide (MePFBSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA) : Resultaat indicatief, recovery van inwendige standaard buiten specificaties.

N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

perfluor-1-butaansulfonamide (PFBSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluordodecaansulfonzuur (PFDoDS) : Resultaat indicatief; buiten lineair bereik.

perfluor-1-hexaansulfonamide (PFHxSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluorooctaansulfonamide (PFOSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluortridecaanzuur (PFTrDA) : Resultaat indicatief; buiten lineair bereik.

2231599-21

6:2 fluortelomeerfosfaat diester (6:2diPAP) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

bads : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFDoDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

perfluor-1-butaansulfonamide (PFBSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

perfluordodecaansulfonzuur (PFDoDS) : Resultaat indicatief; buiten lineair bereik.

2231599-22

bads : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFDoDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

N-ethylperfluorooctaansulfonamide (EtPFOSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-methylperfluorbutaansulfonamide (MePFBSA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

N-methylperfluorbutaansulfonylamide acetaat (MePFBSAA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

perfluordodecaansulfonzuur (PFDoDS) : Resultaat indicatief; buiten lineair bereik.

perfluornonaanzuur (PFNA) : Opm.: Recovery inwendige standaard < 20%, wegens matrixinterferentie.

perfluorooctaansulfonzuur (PFOS) : Resultaat indicatief; buiten lineair bereik.

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2231599-23

bad : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFDoDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

N-ethylperfluorooctaansulfonamide (EtPFOSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

N-methylperfluorooctaansulfonamide (MePFOSA) : Recovery van inwendige standaard is te laag wegens matrixinterferentie

2231599-24

bad : Niet voldaan aan de minimaal monsterhoeveelheid

bloperfl : PFODA, PFDoDS, 6:2 diPAP, 6:2/8:2 diPAP, 10:2 FTS, PFBSA, MePFBSA, MePFBSAA en PFHxSA zijn ten gevolge van onvoldoende terugvinding en adsorptie niet kwantitatief bepaalbaar.

Bijlagen:

Methode-omschrijving:

bads ! E	Droge stof op bodem, bodemslib, bodemverbeteraar, pasteuze en vaste secundaire grondstoffen en pasteuze en vaste afvalstoffen - gravimetrie 105°C (CMA/2/II/A.1)
bavrb7	Gehomogeniseerd monster afvullen
blcperfl	perfluorverbindingen in bodem met LC-MS/MS volgens CMA/3/D

I : geaccrediteerde methode (BELAC-certificaat nr. 052-TEST) - via [deze link](#) kan de accreditatiestatus per parameter - deeldomein geconsulteerd worden.

E : erkende methode (erkenningen Departement Omgeving, OVAM) - via [deze link](#) kan de erkenningsstatus per parameter - deeldomein geconsulteerd worden.

De beproevingsresultaten hebben enkel betrekking op de beproefde objecten. Dit verslag mag alleen gedeeltelijk worden gereproduceerd met schriftelijke toestemming van Servaco. De meetonzekerheid en omschrijving van de vermelde onderzoeksmethoden zijn op aanvraag ter beschikking evenals eventueel aangewende verpakingscode's. De laboratoriumactiviteiten worden standaard uitgevoerd in Wevelgem, met uitzondering van in-situ metingen. Indien uitvoering in Puurs zal dit expliciet op het verslag bij de methode vermeld worden. In geval van bemonstering door derden, zijn de resultaten van toepassing op het monster zoals dit ontvangen is. Servaco is niet verantwoordelijk voor deze, in het rapport cursief & vet vermelde verstrekte, informatie

Opmerkingen i.v.m de houdbaarheid :

-



Normec
Servaco

Servaco NV
Vlamingstraat 19
8560 Wevelgem
Tel. 056 43 27 30
Fax 056 40 41 85
e-mail:sales-servaco@normecgroup.com

Pulliaar 207
2870 Puurs
Tel. 03 860 04 1
Fax 03 860 04

REPORT OF ANALYSIS

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VLAREL

Order description : Stavanger

Project :

Project description :

Deme Environmental NV
Haven 1025
Stany Pensaert
Scheldedijk 30
2070 Zwijndrecht

Ref. sampling/collection : Not present

Wevelgem, 14-07-2022

Dear Sir, Dear Madam,

Please find enclosed the report for the analyses mentioned above.
This report contains 17 page(s) and possible attachments

Jan Goossens
General manager

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Description of the sample

2231598-01	waste water	SW01-PW1		
	Packaging Aa		sample obtained by	collection
2231598-02	waste water	SW02-PW1		
	Packaging Aa		sample obtained by	collection
2231598-03	waste water	SW03-PW1		
	Packaging Aa		sample obtained by	collection
2231598-04	waste water	SW04-PW1		
	Packaging Aa		sample obtained by	collection
2231598-05	waste water	SW05-PW1		
	Packaging Aa		sample obtained by	collection
2231598-06	waste water	SW06-PW1		
	Packaging Aa		sample obtained by	collection
2231598-07	waste water	SW07-PW1		
	Packaging Ad		sample obtained by	collection
2231598-08	waste water	SW08-PW1		
	Packaging Ad		sample obtained by	collection
2231598-09	waste water	SW01-PW2		
	Packaging Aa		sample obtained by	collection
2231598-10	waste water	SW02-PW2		
	Packaging Aa		sample obtained by	collection
2231598-11	waste water	SW03-PW2		
	Packaging Aa		sample obtained by	collection
2231598-12	waste water	SW04-PW2		
	Packaging Aa		sample obtained by	collection
2231598-13	waste water	SW05-PW2		
	Packaging Aa		sample obtained by	collection
2231598-14	waste water	SW06-PW2		
	Packaging Aa		sample obtained by	collection
2231598-15	waste water	SW07-PW2		
	Packaging Ad		sample obtained by	collection
2231598-16	waste water	SW08-PW2		
	Packaging Ad		sample obtained by	collection

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Results

Code Servaco		2231598-01	2231598-02	2231598-03	2231598-04
Sampling date		22-06-2022	22-06-2022	22-06-2022	22-06-2022
Reception date :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Description of the component					
perfluorobutanoic acid (PFBA)	µg/l	0.025	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentanoic acid (PFPeA)	µg/l	0.026	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexanoic acid (PFHxA)	µg/l	0.061	0.057	0.053	0.057
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptanoic acid (PFHpA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanoic acid (PFOA)	µg/l	0.031	0.051	0.027	0.072
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononanoic acid (PFNA)	µg/l	0.026	0.027	0.49	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecanoic acid (PFDA)	µg/l	0.13	0.039	0.80	0.052
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/l	16	37	10	3.9
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecanoic acid (PFDoDA)	µg/l	< 0.020	0.045	< 0.020	0.037
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/l	0.049	0.046	0.044	0.048
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentane sulfonate (PFPeS)	µg/l	0.024	0.021	0.023	0.021
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexane sulfonate (PFHxS)	µg/l	0.092	0.063	0.060	0.075
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctane sulfonate (PFOS)	µg/l	4.0	1.7	8.0	1.5
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononane sulfonate (PFNS)	µg/l	0.77	0.75	0.14	0.46
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecane sulfonate (PFDS)	µg/l	2.3	1.4	0.055	0.93
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/l	< 0.020	0.32	< 0.020	0.28
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/l	0.18	3.4	0.069	6.6
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/l	< 0.020	opm. *	opm. *	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/l	< 0.020	opm. *	opm. *	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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	Sampling date	22-06-2022	22-06-2022	22-06-2022	22-06-2022
	Reception date :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
<u>Description of the component</u>					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/l	< 0.020	0.065	< 0.020	0.052
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/l	< 0.020	0.048	< 0.020	0.060
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECHS)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS quantitative	µg/l	23	45	20	14
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecanoic acid (PFTTrDA)	µg/l	< 0.050	0.068	0.069	0.062
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentadecanoic acid (PFPeDA)	µg/l	< 0.20	< 0.20	< 0.20	< 0.20
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctadecanoic acid (PFODA)	µg/l	< 0.050	< 0.050	< 0.050	< 0.050
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/l	< 0.050	0.078	< 0.050	0.15
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecane sulfonate (PFUnDS)	µg/l	0.21	0.48	< 0.050	0.56
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecane sulfonate (PFTTrDS)	µg/l	< 0.050	< 0.050	< 0.050	< 0.050
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/l	< 0.050	< 0.050	< 0.050	< 0.050
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/l	< 0.050	< 0.050	< 0.050	< 0.050
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/l	< 0.050	< 0.050	< 0.050	< 0.050
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/l	< 0.050	< 0.050	< 0.050	< 0.050
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/l	0.051	< 0.050	< 0.050	< 0.050
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorobutane sulfonamide (MeFBSA)	µg/l	< 0.15	< 0.15	< 0.15	< 0.15
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/l	< 0.050	< 0.050	< 0.050	< 0.050

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	Code Servaco	2231598-01	2231598-02	2231598-03	2231598-04
	Sampling date	22-06-2022	22-06-2022	22-06-2022	22-06-2022
	Reception date :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
<u>Description of the component</u>					
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/l	1.5	0.57	0.68	0.36
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS indicative	µg/l	1.8	1.2	0.75	1.1
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS EFSA-4	µg/l	4.1	1.9	8.5	1.6
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS VMM-20	µg/l	23	42	20	7.9
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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Sampling date		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Reception date :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Description of the component					
perfluorobutanoic acid (PFBA)	µg/l	< 0.019	0.027	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentanoic acid (PFPeA)	µg/l	< 0.019	0.026	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexanoic acid (PFHxA)	µg/l	0.047	0.087	0.039	0.037
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptanoic acid (PFHpA)	µg/l	< 0.019	0.022	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanoic acid (PFOA)	µg/l	0.041	0.055	0.067	0.027
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononanoic acid (PFNA)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecanoic acid (PFDA)	µg/l	< 0.019	0.091	0.073	0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/l	2.1	2.8	0.15	0.19
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecanoic acid (PFDoDA)	µg/l	0.026	0.037	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/l	0.041	0.043	0.033	0.032
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentane sulfonate (PFPeS)	µg/l	0.020	0.023	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexane sulfonate (PFHxS)	µg/l	0.050	0.11	0.044	0.059
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctane sulfonate (PFOS)	µg/l	0.36	36	8.3	1.2
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononane sulfonate (PFNS)	µg/l	0.10	1.7	0.92	0.23
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecane sulfonate (PFDS)	µg/l	0.71	3.4	0.43	0.46
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/l	0.046	0.97	1.2	0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/l	2.8	1.2	7.3	0.98
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/l	< 0.019	< 0.020	opm. *	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/l	< 0.019	< 0.020	opm. *	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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Sampling date		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Reception date :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Description of the component					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/l	0.024	0.033	0.055	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/l	0.033	0.044	0.056	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECHS)	µg/l	< 0.019	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS quantitative	µg/l	6.4	47	19	3.3
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecanoic acid (PFTrDA)	µg/l	0.068	< 0.049	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentadecanoic acid (PFPeDA)	µg/l	< 0.19	< 0.20	< 0.20	< 0.20
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctadecanoic acid (PFODA)	µg/l	< 0.049	< 0.049	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/l	0.43	0.40	0.13	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecane sulfonate (PFUnDS)	µg/l	0.63	2.2	0.23	0.20
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecane sulfonate (PFTTrDS)	µg/l	0.10	< 0.049	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/l	< 0.049	< 0.049	0.054	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/l	< 0.049	0.060	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/l	< 0.049	< 0.049	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorobutane sulfonamide (MeFBSA)	µg/l	< 0.15	< 0.15	< 0.15	< 0.15
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/l	< 0.049	< 0.049	< 0.050	< 0.049

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	Sampling date	24-06-2022	24-06-2022	24-06-2022	24-06-2022
	Reception date :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
<u>Description of the component</u>					
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/l	0.18	1.1	0.14	0.98
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS indicative	µg/l	1.4	3.7	0.55	1.2
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS EFSA-4	µg/l	0.45	36	8.4	1.3
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS VMM-20	µg/l	4.7	47	10	2.5
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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Sampling date		22-06-2022	23-06-2022	23-06-2022	23-06-2022
Reception date :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Description of the component					
perfluorobutanoic acid (PFBA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentanoic acid (PFPeA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexanoic acid (PFHxA)	µg/l	0.048	0.044	0.042	0.043
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptanoic acid (PFHpA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanoic acid (PFOA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononanoic acid (PFNA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecanoic acid (PFDA)	µg/l	< 0.020	< 0.020	0.025	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/l	1.4	2.8	1.1	0.27
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecanoic acid (PFDoDA)	µg/l	< 0.020	0.023	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/l	0.043	0.041	0.041	0.040
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentane sulfonate (PFPeS)	µg/l	0.021	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexane sulfonate (PFHxS)	µg/l	0.029	0.032	0.032	0.032
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctane sulfonate (PFOS)	µg/l	0.094	0.041	0.18	0.048
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononane sulfonate (PFNS)	µg/l	0.033	0.028	0.021	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecane sulfonate (PFDS)	µg/l	0.18	0.12	0.098	0.035
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/l	0.059	0.15	0.022	0.25
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/l	opm. *	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/l	opm. *	< 0.020	< 0.020	< 0.020
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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Sampling date		22-06-2022	23-06-2022	23-06-2022	23-06-2022
Reception date :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Description of the component					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECHS)	µg/l	< 0.020	< 0.020	< 0.020	< 0.020
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS quantitative	µg/l	1.9	3.3	1.5	0.72
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecanoic acid (PFTTrDA)	µg/l	0.062	0.25	< 0.050	0.089
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentadecanoic acid (PFPeDA)	µg/l	< 0.20	0.29	< 0.20	0.23
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctadecanoic acid (PFODA)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/l	< 0.050	0.058	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecane sulfonate (PFUnDS)	µg/l	0.057	0.10	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecane sulfonate (PFTTrDS)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorobutane sulfonamide (MeFBSA)	µg/l	< 0.15	< 0.15	< 0.15	< 0.15
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049

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	Sampling date	22-06-2022	23-06-2022	23-06-2022	23-06-2022
	Reception date :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
<u>Description of the component</u>					
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/l	< 0.050	< 0.050	< 0.050	< 0.049
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS indicative	µg/l	0.12	0.70	<0.20	0.32
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS EFSA-4	µg/l	0.12	0.073	0.21	0.081
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS VMM-20	µg/l	1.9	3.6	1.5	0.56
wlcpert : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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Sampling date		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Reception date :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Description of the component					
perfluorobutanoic acid (PFBA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentanoic acid (PFPeA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexanoic acid (PFHxA)	µg/l	0.041	0.039	0.034	0.033
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptanoic acid (PFHpA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanoic acid (PFOA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononanoic acid (PFNA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecanoic acid (PFDA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecanoic acid (PFUnDA)	µg/l	0.12	0.17	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecanoic acid (PFDoDA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotetradecanoic acid (PFTeDA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexadecanoic acid (PHXDA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-1-butane sulfonate (PFBS)	µg/l	0.039	0.037	0.031	0.032
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentane sulfonate (PFPeS)	µg/l	0.021	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorohexane sulfonate (PFHxS)	µg/l	0.032	0.031	0.027	0.023
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroheptane sulfonate (PFHpS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctane sulfonate (PFOS)	µg/l	0.029	1.2	0.053	0.034
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorononane sulfonate (PFNS)	µg/l	< 0.020	0.072	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorodecane sulfonate (PFDS)	µg/l	0.15	0.39	0.024	0.029
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4:2 fluorotelomer sulfonic acid (4:2 FTS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 fluorotelomer sulfonic acid (8:2 FTS)	µg/l	< 0.020	0.022	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctanesulfonamide (PFOSA)	µg/l	0.14	0.092	0.12	0.051
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorooctanesulfonamide (MePFOSA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethyl perfluorooctanesulfonamide (EtPFOSA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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Sampling date		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Reception date :		24-06-2022	24-06-2022	24-06-2022	24-06-2022
Description of the component					
N-methylperfluorooctanesulfonamido acetic acid (MePFOSAA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-ethylperfluorooctanesulfonamido acetic acid (EtPFOSAA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
8:2 Fluorotelomer phosphate diester (8:2 diPAP)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
hexafluoropropylene dimer acid (HFPO-DA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
4,8-dioxa-3h-perfluorononanoic acid (ADONA)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoro-4-ethylcyclohexane sulfonic acid (PFECHS)	µg/l	< 0.020	< 0.020	< 0.019	< 0.019
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS quantitative	µg/l	0.57	2.0	0.29	0.20
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecanoic acid (PFTTrDA)	µg/l	0.19	0.080	0.057	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoropentadecanoic acid (PFPeDA)	µg/l	< 0.20	< 0.20	< 0.19	< 0.19
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorooctadecanoic acid (PFODA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorododecane sulfonate (PFDoDS)	µg/l	0.30	0.23	0.054	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluoroundecane sulfonate (PFUnDS)	µg/l	0.24	0.40	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
perfluorotridecane sulfonate (PFTTrDS)	µg/l	0.093	0.071	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
10:2 fluorotelomer sulfonic acid (10:2 FTS)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 Fluorotelomer phosphate diester (6:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2/8:2 Fluorotelomer phosphate diester (6:2/8:2 diPAP)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
6:2 fluorotelomer sulfonic acid (6:2 FTS)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorobutane sulfonamide (PFBSA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluorobutane sulfonamide (MeFBSA)	µg/l	< 0.15	< 0.15	< 0.14	< 0.14
wlperfl : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
N-methyl perfluoro-1-butane sulfonyl amide acetate (MePFBSAA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048

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	Sampling date	24-06-2022	24-06-2022	24-06-2022	24-06-2022
	Reception date :	24-06-2022	24-06-2022	24-06-2022	24-06-2022
<u>Description of the component</u>					
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Perfluorohexanesulfonic acid (PFHxSA)	µg/l	< 0.049	< 0.049	< 0.048	< 0.048
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS indicative	µg/l	0.82	0.78	0.11	<0.19
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS EFSA-4	µg/l	0.060	1.2	0.081	0.057
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *
Sum PFAS VMM-20	µg/l	1.3	2.7	0.28	0.15
wlcpertf : E	Analysis startdate	12-07-2022 *	12-07-2022 *	12-07-2022 *	12-07-2022 *

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Remarks

2231598-01

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-02

N-ethyl perfluorooctanesulfonamide (EtPFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

N-methyl perfluorooctanesulfonamide (MePFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-03

N-ethyl perfluorooctanesulfonamide (EtPFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

N-methyl perfluorooctanesulfonamide (MePFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-04

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-05

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-06

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-07

N-ethyl perfluorooctanesulfonamide (EtPFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

N-methyl perfluorooctanesulfonamide (MePFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-08

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-09

N-ethyl perfluorooctanesulfonamide (EtPFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

N-methyl perfluorooctanesulfonamide (MePFOSA) : Opm.: Recovery internal standard < 20%, due to matrix effects.

wlcpertif : PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

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2231598-10

wlcpertif: PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-11

wlcpertif: PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-12

wlcpertif: PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-13

wlcpertif: PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-14

wlcpertif: PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-15

wlcpertif: PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

2231598-16

wlcpertif: PFTrDA, PFPeDA, PFODA, PFDoDS, PFUnDS, PFTrDS, 10:2 FTS, 6:2 diPAP, 6:2/8:2 diPAP, 6:2 FTS, PFBSA, MePFBSA, MePFBSAA and PFHxSA cannot be quantitatively determined due to insufficient recovery and adsorption.

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Enclosures:

Method description

wlcperrf E Perfluorinated compounds in waste water (E) - LCMS/MS (WAC/IV/A/025)

! : method under accreditation (BELAC-certificate nr. 052-TEST) - through [this link](#) the accreditation status can be consulted for each parameter - domain.

E : recognized method (recognitions Departement Omgeving or OVAM) - through [this link](#) the recognition status can be consulted for each parameter - domain.

The results only apply to the objects being tested. This report may only be reproduced partially by written agreement of Servaco. The measurement uncertainties and the description of the methods of analyses mentioned are available on demand as are the codes of packaging that are possibly used. The laboratory activities are executed by default in Wevelgem, with the exception of in-situ measurements. If executed in Puurs, this will be explicitly stated on the report next to the method. In case of sampling by third parties, the results apply to the sample as received. Information provided by third parties may have an impact on the validity of the results. Servaco is not responsible for this information, in italic and bold, mentioned in the report.

Remarks concerning the preservability

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Annexe 3. Comparison Normec-Servaco versus Eurofins.

Variable	Variable Label	Variable Label	Unit	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000
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