SODECON SUSTAINABLE REMEDIATION

Dear Reader,

This newsletter is focused on innovation and PFAS. For several years, we have been conducting intensive research on remediation techniques for treating PFAS contamination. One of the projects is the investigation of alternative adsorbents for activated carbon. By adsorbing PFAS more efficiently, less adsorbent material should be used and smaller quantities should be dealt with. For this research we are working together with VITO. In our previous newsletter, we already explained the first phase of this research. In this newsletter, we explain the second phase of this research. One of the adsorbents tested also has potential for on-site stabilization of PFAS. We present results from our lab tests.

And finally, a little news from our own organization: next year we will start the construction of a new warehouse and workplace. This way we want to be prepared for the future!

We wish you happy holidays!

SODECON

SODECON is an innovative, knowledge-driven company specialized in soil and groundwater remediation providing consultants, project developers, companies and private persons with sustainable, economic solutions to their soil issues.

NEWSLETTER

DECEMBER

2022



Hans en Wouter

INNOVATIVE ADSORBENTS FOR PFAS IN WASTE WATER

Two years ago, we were awarded funding through the European Water Test Network to test adsorbents to efficiently remove PFAS from industrial wastewater.

From the research we can draw the following conclusions:

- Batch tests give a good indication of which adsorbents perform best in column tests.
- The best performing adsorbent is site specific and depends on the physicochemical properties and the PFAS components present in the wastewater.
- Very good results can be obtained by combining adsorbents: for example, PFBA was able to be removed from wastewater very efficiently with a combination of adsorbents.
- Based on the research, we can evaluate which adsorbents are best for a specific site and which lab and pilot tests may be useful.



activated carbon			activated carbon+ adsorbent		
# bed volumes	PFBA (ng/L)	PFAS total (ng/L)	PFBA (ng/L)	PFAS total (ng/L)	

starting conc.	47 000	339 000	47 000	339 000
200	15000	44000	< 4	0
400	17000	48000	< 4	0
600	14000	46000	< 4	0
800	22000	55000	< 4	0
1000	26000	61000	240	240

IN SITU STABILISATION OF PFAS IN SOIL

Commente	Adsorbent dosing					
Compound	0%	0,10%	0,25%	1%	4%	
PFPeA	1600	260	140	< 20	< 20	
PFHxA	430	33	< 20	< 20	< 20	
PFHpA	49	< 20	< 20	< 20	< 20	
PFBS	84	< 20	< 20	< 20	< 20	
PFOS	9 000	< 20	< 20	< 20	< 20	
PFOSA	27	< 20	< 20	< 20	< 20	
PFBA	120	74	57	< 20	< 20	
6:2 FTS	5800	< 50	< 50	180	150	
Som PFAS	17 110	568	399	180	150	
% reduction of leaching	-	96,7	97,7	98,9	99,1	

Cleaning of all PFAS-containing soils will not be practically feasible. BIn addition, physicochemical cleaning generates PFAS-containing sludge. An alternative is on-site sequestration of PFAS by mixing with an adsorbent to reduce PFAS leaching. Sodecon conducted tests with a soil sample contaminated with PFAS. The table below shows the results of these tests. Leaching can be reduced by a factor of 96-99% depending on the dosage. PFBA was also greatly reduced. In addition to soil, the technique can also be used to reduce leaching of sludge before landfilling, for example. Field tests are planned to further evaluate the technique.



BUILDING OF NEW WAREHOUSE

In order to continue growing in the future,

we have acquired land in Deinze for the construction of a warehouse and workplace. We hope to move into this new location in 2024!





CONTACT

DO YOU WANT TO KNOW WHAT SODECON CAN DO FOR YOU IN THE FUTURE? OR DO YOU HAVE A QUESTION ON A SPECIFIC PROJECT IN WHICH WE CAN HELP YOU WITH OUR EXPERTISE?

DO NOT HESITATE TO CONTACT US.



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