

SOIL AND GROUNDWATER CONTAMINATION HAS BEEN VERY HOT IN BELGIUM. PFAS CONTAMINATION HAS BEEN IN THE MEDIA FOR DIFFERENT WEEKS. THE SOIL INDUSTRY HAD ALREADY BEEN AWARE FOR SOME TIME THAT THE ATTENTION ON PFAS WOULD INCREASE IN THE COMING YEARS. ALTHOUGH IT IS IMPORTANT IN THE FIRST PLACE TO IDENTIFY THE CONTAMINATION, WE ALSO WANT TO THINK ABOUT POSSIBLE SOLUTIONS. IN THIS NEWSLETTER, WE WILL DISCUSS A FEW PROJECTS WE ARE PERFORMING ON PERSISTENT POLLUTANTS. WE HAVE OBTAINED EUROPEAN FUNDING TO INVESTIGATE THE REMOVAL OF PFAS FROM WATER STREAMS WITH INNOVATIVE ADSORPTION MATERIALS. WE HAVE ALSO CONDUCTED RESEARCH INTO THE TREATMENT OF MONOCHLOROBENZENE, WHICH IS A DIFFICULT TO BIODEGRADE CONTAMINANT. FINALLY, WE PRESENT A PROJECT IN WHICH WE ARE PERFORMING VARIOUS BIOLOGICAL AND CHEMICAL TESTS FOR TREATING VERY HIGH CHLORINATED SOLVENT CONCENTRATIONS, ON BEHALF OF THE OVAM.

ENJOY READING!

HANS AND WOUTER

## 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.



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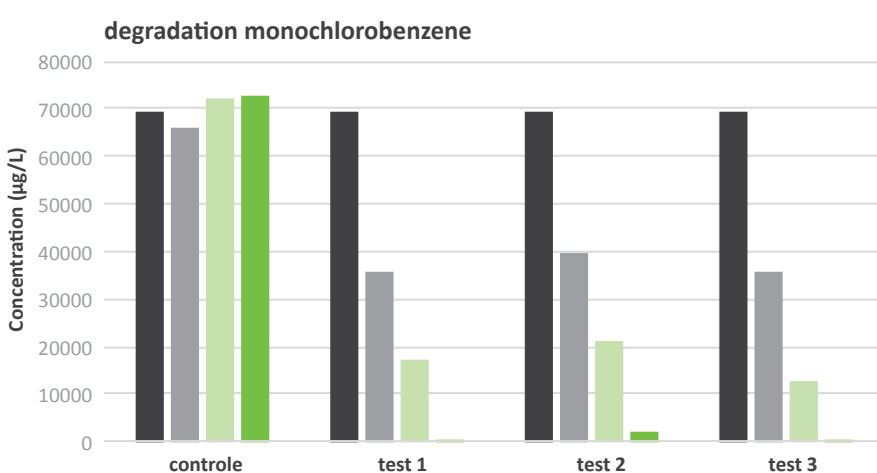
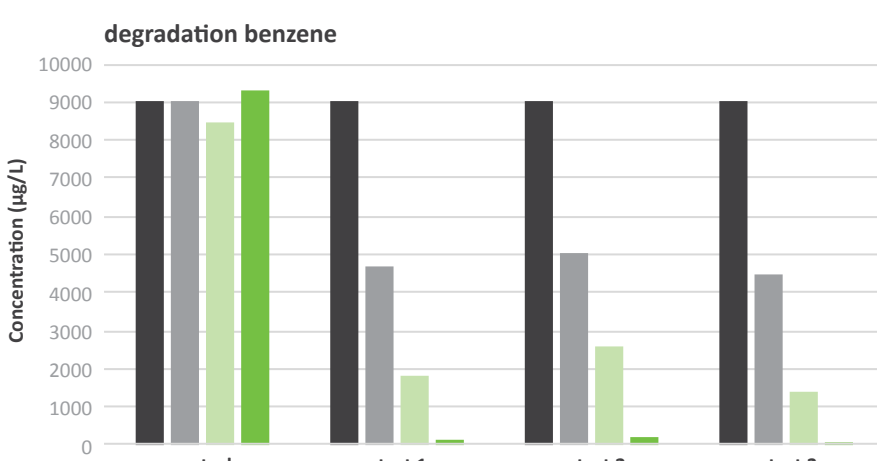


**Interreg** **North-West Europe**  
Water Test Network  
European Regional Development Fund

## RESEARCH PROJECT PFAS REMOVAL

Sodecon has been investigating solutions for PFAS for several years. In November 2020, we won the 'Innovation Challenge PFAS Removal' issued by the European Water Test Network. This means that we receive funding to do further research on our innovative PFAS removal technology. Together with VITO and i-Flux, we are testing several innovative adsorption materials for PFAS removal from industrial wastewater. The adsorption materials can also be used for soil remediation purposes. In the future, they could be used as filter media for groundwater treatment or as adsorbents for in situ stabilisation of source zones. The tests have been started and the first results will soon be known..... we are curious!

## LAB TESTING IN SITU CHEMICAL OXIDATION (ISCO) WITH CHLORO BENZENE



Monochlorobenzene is a contaminant that is very difficult to biodegrade. In order to assess the possibilities for remediation, Sodecon performed lab tests on monochlorobenzene using chemical oxidation. Groundwater contaminated with monochlorobenzene and BTEX was tested for degradation with persulfate. Three different test conditions were set up. More than 99% of the contamination in the groundwater was degraded in the 3 tests over a period of 90 days.

On the left, the different results are shown for benzene and monochlorobenzene.

■ Day 0  
■ Day 13  
■ Day 44  
■ Day 90

## CHEMICAL OXIDATION



## PILOT TESTS OVAM ON A FORMER DRYCLEANER SITE



By commission of the OVAM (Flemish Public Waste Agency), we are performing laboratory and pilot tests for the remediation of a dry cleaner site in Sint-Niklaas. On the one hand, a test with chemical oxidation using persulfate and, on the other hand, a test with biological and chemical reduction using a mixture of zero-valent iron and a long-lasting carbon source will be performed. The results of the tests will be used to remediate the contamination on the site so that it can be redeveloped.

### ► CHEMICAL OXIDATION:

Laboratory tests for persulfate indicate low matrix demand, which is positive for the application of chemical oxidation. An injection was subsequently executed with Injectis' Spin® injection technique in order to inject the injection solution as homogeneously as possible over the heterogeneous soil. Good degradation is observed but pure product is also observed as a separate phase, which results in a very high oxidant consumption. Currently, alternatives are being considered to tackle the source zone more intensively.



### ► BIOLOGICAL AND CHEMICAL REDUCTION:

The lab tests with biological and chemical reduction showed that the degradation to cis-dichloroethene was good but that the further degradation was very limited. When bioaugmentation was applied, the latter was broken down very quickly. Based on these results, the injection strategy was modified and additional bioaugmentation was applied to also degrade dichloroethene. The injection was carried out successfully and the pilot test is being followed up. The results will follow later this year.



## 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.