

# Novel Reactive Matrices: A Promising Approach to Arrest Heavy Metal Migration into Soil and Aquatic Environments

Ruonan Liu\*

## Abstract

An alternative to the well-known reactive permeable barriers (PRBs) is the objective of this paper. Using a reactive barrier below the ground known as PRB is one method for cleaning up contaminated groundwater. New polymer active substrates (ASs) were used to prevent hazardous heavy metals from entering the soil. On the skeleton

the ASs were straightforward to obtain through pouring. The obtained ASs can be recycled and reused. The active

## C

Under model conditions, the solutions presented in this paper effectively reduce the concentration of heavy metals in water, soil, and water-soil environments. Nickel, cadmium, and lead concentrations in the aqueous solution were found to have been reduced by more than half thanks to the active substrate; For chromium, this reduction was greater than 90%. Zinc and chromium migration from soil to water decreased significantly as well, with reductions exceeding 61 percent and 81 percent, respectively. The soil environment provided the active substrate with the most potent plasticizer. For each metal ion tested, this solution reduced levels by at least 50%, with reductions of more than 70% for cadmium, lead, and copper. It has been shown that the active substrates can be made again and used in subsequent sorption cycles, that they are cheap to make, and that they lower the concentration of metals in environmental matrices. Active substrates are a viable alternative to solutions that are currently available because of the aforementioned benefits.

### References

Statistical Power Analysis.

- attributes.
- Schizophrenia.
- 5. international religion report.
- 7. Religiosity among
- The assessment
- of spirituality and religiousness in schizophrenia.
- 9. association with socio-demographics factors.

