



# Forever Chemicals are not a Forever Problem

Per and polyfluoroalkyl substances (PFAS /PFOA) have been called "Forever Chemicals" by the media because of their pervasiveness and the difficulty in removing these compounds from the environment. Historically, the treatment for PFAS has been Granular Activated Carbon (GAC). This is an effective, but expensive treatment method. GAC vessels are often large and PFAS is often one of the first contaminants to breakthrough. Early breakthrough results in a total carbon changeout which is expensive and results in the disposal of large amounts of carbon.

For more information, contact:  
**Phil Farina**  
 Midwest Business Development Manager  
**419-346-8848**  
**pfarina@clearcreeksystems.com**  
 clearcreeksystems.com

## Advances in PFAs Treatment

The development of advanced resins, used in conjunction with GAC, can significantly reduce the cost of treating for PFAS. Resins have been designed to preferentially capture PFAS from water. Using carbon, followed by resins in series, extends the life of both materials. Carbon removes contaminants which would negatively impact the resin. The resin captures residual PFAS that escapes the carbon. The result is a longer life cycle for both the carbon and the resin while maintaining compliance with stringent permit requirements

A new option, CSS100 a proprietary Organoclay, is typically very good at filtering long-chain molecules. By adding CSS100 to the treatment train, we can optimize the system in a way to meet any site specific requirements. Organoclay, followed by GAC and resin in series, can effectively be used in the treatment of PFAS. This treatment train concept results in significant overall performance improvement and increases the effectiveness of both the carbon and the resin.

No two water sources are identical and as such, each application must be studied to determine the best treatment standard for the specific application. As the standards for PFAS are further clarified and defined for each application the proper implementation of these technologies will be determined.

