



P-Sorb

PFOS/PFOA Sorption
In-Situ and Water Treatment

Technical Data Sheet

P-Sorb Activated Carbon

For PFAS Sorption

Benefits Include

High surface area powder
Activated carbon

P-Sorb PAC is easily
injectable.

Economical solution
compared to other
available products

Complements other
remediation approaches
and reagents

Applications

Soil Mixing: Excavation and
treatment of impacted soils
for backfill or off-site use

In-Situ: Direct push injection
in groundwater and by
hydraulic fracturing

Soil or sediment
Stabilization

May be combined with
other reagents and
remediation approaches
to meet site specific
remediation objectives

Effective to support natural
attenuation and
bioremediation applications

Target Contaminants

**PFAS- perfluoroalkyl
substances**

PFAS/PFOA/PFOS

Chlorinated Solvents

PCE, TCE, DCE, VC

Petroleum Hydrocarbons:

BTEX- Benzene, toluene,
ethylbenzene, xylenes

MTBE- Methyl tert-butyl-ether

Gasoline, Diesel and Oil

Polycyclic Aromatic
Hydrocarbons (PAHs)

Boron, Mercury (Hg) and other
metals

P-Sorb™ is a virgin activated carbon (AC) produced from a rare coal utilizing a high temperature activation process under stringent quality control uniquely suited for sorption of **PFAS, PFOA, & PFOS with sorption capacity of 100-110 mg/kg which may achieve up to 100% higher sorption capacity compared to standard activated carbons.** *Activated carbon is an approved method for treating PFAS (ITRC 2023).* CERES brings this technology to the market for water treatment systems or soil and groundwater remediation applications to use as a standalone solution for PFAS compounds or in combination with other sequestration and reduction reagents including MTS®, organoclay, ZVI, Bacteria, TEAs or Donors to degrade or reduce many other contaminants of concern including heavy metals, chlorinated solvents, petroleum hydrocarbons, methyl tert-butyl ether (MTBE), PAHs or other VOCs and SVOCs.

- Applicable for both liquid phase and gas phase applications
- Particularly suitable for potable water treatment to remove PFAS and other organic compounds
- Rapid adsorption kinetics
- Standard packing is 44 lb bags or 880 lb bulk sacks.

P-Sorb™ Powder Activated Carbon

| | | | | |
|---------|-------------------|-----|-------------------|---------|
| Spec | Iodine Number | Min | mg/g | 900 |
| | 325 mesh | Min | % | 90 |
| | 200 mesh | Min | % | 95 |
| | 100 mesh | Min | % | 99 |
| Typical | Particle Size d50 | - | micron | 15 |
| | Surface Area | - | m ² /g | 1000 |
| | Tapped Density | - | g/cm ³ | 0.4 |
| | Moisture | - | % | up to 8 |

Meets ANSI / AWWA B-600 standard

Meets EN 12903 standard



P-Sorb™ Granular Activated Carbon 8x30

| | | | | |
|---------|---------------|-----|-------------------|------|
| Spec | Iodine Number | Min | mg/g | 900 |
| | +8 mesh | Max | % | 5 |
| | -30 mesh | Max | % | 5 |
| | Moisture | Max | % | 5 |
| Typical | Hardness # | - | g/cm ³ | 88 |
| | Surface Area | - | m ² /g | 950 |
| | App. Density | - | g/cm ³ | 0.40 |
| | Moisture | - | % | 2 |

Meets ANSI / AWWA B-604 standard



What is P-Sorb and how does it function?

P-Sorb™ is a non-corrosive and non-toxic powder and granular activated carbon that can be very effective in low permeability formations and injected into silts and clays (Winner and Fox, 2016) or combined with sand to improve hydraulic conductivity and preferential pathways for more rapid diffusion and effective capture of PFAS compounds.

How does it improve remediation performance in mixed COC applications?

Introducing adsorptive media, like **P-Sorb™**, to the treatment zone improves sequestration of PFAS compounds over time to reduce mass flux and when combined with biotic or abiotic reagents can facilitate the formation of active biofilm and enhanced biodegradation processes (Voice et al, 1992), abiotic reduction of competing VOCs, thereby improving long term performance of PFAS sequestration. The combined effects often result in synergistic processes that significantly prolonging the remediation lifetime to achieve increased value and/or exceed remedial objectives. The coupling of adsorption and degradation reduces the potential for contaminant rollover effects or competing contaminant rebound that is frequently observed with conventional remediation technologies.

How does PSorb reduce diffusive mass flux and potentially reduce overall time of remediation at mixed COC and PFAS sites?

The addition of **P-Sorb™** into the target treatment zone of the aquifer, results in rapid adsorption/sequestration of PFAS and other organic compounds. This is revealed in reduced dissolved phase concentrations in the aquifer, verified by reducing trends in groundwater monitoring wells. The reduction in dissolved phase compounds, increases rates of diffusion of adsorbed phase contaminants into the aquifer. **P-Sorb™** decreases the high concentrations in soluble phases that may aid in reducing the lag time for biodegradation or other biodegradable organics present along with PFAS compounds (Aktas, et al, 2012). It is imperative that biotic or abiotic processes are employed to complement **P-Sorb™** to ensure destruction of all biodegradable COCs encountered over time and reduce long-term competition.

Interested to learn more and see how P-Sorb™ can be applied at your site with PFAS or PFAS and other COCs?

CERES Remediation Products provide technical design support to all clients to ensure applicability, effectiveness, and guidance on treatability studies, pilot testing, performance assessment and full-scale design. CERES is your partner in this project because we want success as much or more than all stakeholders. We strive to achieve goals first time around and rarely preface that multiple rounds of treatment will be required. CERES endeavors to support clients from conceptual site model review, data gap evaluation and data collection and all the way through permitting support, delivery scheduling and performance verification. Reliable customer service is deserved to all customers.

Contact us today to introduce yourself or your project.