

The Smart Vault with Smart Sponge® Filtration Media

REDUCTION OF HYDROCARBONS, HEAVY METALS AND BACTERIA

SMART SPONGE TECHNOLOGY IS BASED ON A PROPRIETARY BLEND OF SYNTHETIC POLYMERS AIMED AT THE REMOVAL OF HYDROCARBONS AND OIL DERIVATIVES FROM WATER.

SMART SPONGE®

Is chemically selective to hydrocarbons and capable of removing up to 1.5 times its own weight in hydrocarbon contamination. The Smart Sponge is capable of transforming hydrocarbons into a stable solid per the EPA's Toxicity Characteristic Leaching Procedure (TCLP).

SMART SPONGE® PLUS

Is registered with the EPA (Registration # 86256-1) for the reduction of total coliform bacteria. Smart Sponge Plus features an antimicrobial agent that is chemically and permanently bound to its polymer surface.

SMART SPONGE® HM

Reduces Cadmium, Copper, Chromium, Lead, Zinc, Iron, Arsenic, Selenium and Orthophosphate. Smart Sponge HM also inhibits growth of mildew and mold in a variety of applications.



The Smart Vault is a comprehensive and cost effective solution for treating stormwater runoff. The vault utilizes AbTech's patented Smart Sponge filtration media in the form of Smart Paks, and can be retrofitted into existing collection systems included in new construction or redevelopment projects.

SMART PAK®



AbTech's Smart Pak allows Smart Sponge technology to be scaled to virtually any size required in an easy-to-maintain form. Requiring no electricity or moving parts, the stormwater vault treatment unit is fully scalable and ready to make an immediate impact on water quality standards. The flexible design makes it ideal for either new or retrofitted applications with a full turnkey solution includes design, installation, and maintenance. The modular system engineered to fit your custom application with ease of maintenance and no hazardous material generated.

HYDROCARBON REMOVAL

Smart Sponge fully encapsulates recovered oil, resulting in a substantially more effective response that prevents absorbed oil from leaching. It is also capable of successfully removing sheen. In addition, the Smart Sponge remains buoyant in calm or agitated water, permitting it to remain in place until fully saturated, resulting in no wasted product.

KEY BENEFITS

- Multiple contaminant treatment: trash/debris, sediment, hydrocarbons, and bacteria, when specified with Smart Sponge Plus
- AbTech's Smart Pak Units allows Smart Sponge technology to be scaled to virtually any size required in an easy-to-maintain form
- Variable treatment capacity
- Multiple Designs: online or off-line flow, horizontal or vertical flow
- Capable of removing up to 3 times its own weight in hydrocarbons
- Does not leach or leak by fully encapsulating recovered oil
- Inhibits growth of mildew and mold; does not absorb water and is unaffected by salinity
- Used Smart Pak can be recycled as an energy

Experts in Water

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ANTIMICROBIAL REDUCTION

Smart Sponge Plus features an antimicrobial agent chemically and permanently bound in a proprietary process to the Smart Sponge polymer surface which reduces total bacteria. Due to this permanent bond, the antimicrobial agent is active but does not leach or leak, avoiding any downstream toxicity issues. AbTech's Smart Sponge Plus targets bacteria such as enterococcus, Escherichia coli and fecal coliforms.

HEAVY METALS

AbTech Smart Sponge Heavy Metals (HM) media uses renewable resource based metal nanocomposites extruded into a macro-porous sponge. The media is in the form of hematite/magnetite and will bind to phosphorus resulting in removal rates as high as 98%.

Phosphorus is one of the major nutrients contributing in the increased eutrophication of lakes and natural waters. Its presence causes many water quality problems including increased purification costs, decreased recreational and conservation value of impoundments, loss of livestock and the possible lethal effect of algal toxins on drinking water.



ABOUT ABTECH

AbTech offers innovative solutions for Stormwater Management and Industrial Water Treatment. AbTech integrates its own advanced technologies along with third-party technologies and systems to provide customers with effective and economical solutions. AbTech products include advanced filtration media technologies and various water treatment systems.



ABTECH'S PROCESS CREATES A VERY POROUS STRUCTURE WITH HYDROPHOBIC AND OLEOPHILIC CHARACTERISTICS CAPABLE OF SELECTIVELY REMOVING HYDROCARBONS WHILE ALLOWING FOR HIGH FLOW THROUGH RATES.

DISPOSAL

The Smart Sponge samples saturated with hydrocarbons both in the lab and in the field have been tested according to the EPA's Toxicity Characteristic Leaching Procedure ("TCLP"). These tests show that Smart Sponge is a "non-leaching" (i.e., non-detect or "N.D.") product. As a result, Smart Sponge technology can afford many cost effective and environmentally friendly disposal options.

Waste-to-Energy Facilities - A specialized segment of the solid waste industry has used spent Smart Sponge as an alternative fuel in the production of electricity.

Cement Kilns - This industry has used the spent Smart Sponge as an alternative fuel in the production process of Portland Cement. This process is considered a beneficial reuse of waste products. The BTU value of spent Smart Sponge is consistently above the average acceptable levels set for this high temperature.

Landfills - As discussed above, spent Smart Sponge products have been classified as a solid waste and have been accepted at Subtitle D Landfills.

4110 N.Scottsdale Rd., Suite 235 Scottsdale AZ 85251 480-874-4000 info@abtechindustries.com

