

Engineering Data Sheet

8189

Product: OrganoSorb™ Organics and Heavy Metals Adsorbent

Product Description

OrganoSorb™ is a patented, modified aluminosilicate that is designed to adsorb anions such as chromate, selenate, sulfate, hydrocarbons (benzene, ethyl benzene, toluene, and xylene), heavy metals (lead and cadmium), and various petroleum products, such as oil, from aqueous waste streams.

Application	Contaminants Removed
Groundwater	Diesel Fuel, Gasoline, Oils, PCBs, BETX, Heavy Metals, Perchloroethylene, Trihalomethanes
Manufacturing Processes	Oil, Grease
Paint Stripping	Solvents, Heavy Metals
Electroplating	Heavy Metals
Wood Treating	Pentachlorophenol, Creosote
Produced Water From Oil Production Wells	Oil, Diesel Fuel

Other Applications:

- Use as pre-treatment for activated carbon media or other filtration systems to increase efficiency and life of filtration system.
- Use as a polishing agent downstream of oil separators, flotation units, and other filtration equipment.
- Blend with activated carbon to produce a broad range filtration media.

How OrganoSorb™ Works

The basic concept involves imparting to the aluminosilicate hydrophobicity. To do this, the aluminosilicate substrate is coated with a strongly bound hydrophobic compound. Then other hydrophobic chemicals, such as hydrocarbons, prefer to combine with the surface modified particles rather than maintaining a suspension in water. The treated aluminosilicate also adsorbs inorganic oxyanions such as chromates, selenates, and sulfates while maintaining its natural adsorption capacity for heavy metals. The essential media for OrganoSorb™ is an aluminosilicate with an exceptional cation exchange capacity. The modifying agent is a strong cation that replaces other cations on the surface of OrganoSorb™ thus producing a surface anion exchanger.

Why OrganoSorb™ is Superior to Tailored Clays

Tailored clays have been used successfully for a number of years to adsorb organic contaminants. OrganoSorb™, because it is not clay but an aluminosilicate with a rigid crystalline structure is a better alternative. When water passes through a clay medium, the clay particles expand reducing the intraparticle space thereby lowering the permeability of the clay medium. Clays will also tend to cloud the water and become amorphous. Each OrganoSorb™ particle is a large network of open channelways similar to a sponge with uniform holes and high cation exchange capacity. Unlike clay particles, this structure is rigid and stable, even in water, allowing more of the contaminant to be adsorbed in its open channelways.

The Description and Properties of OrganoSorb™

Buff or off-white granules of an aluminosilicate modified with a quaternary ammonia compound. Standard particle size is 4X6 mesh.

Cation Exchange Capacity	2.20 meq/g
Bulk Density	55 pounds per cubic foot
Hardness - Mohs Scale	5.1
Pore Size	4.0 Angstrom
Specific Surface Area	40 m ² /g
Thermal Stability	1,200° F
Crushing Strength	2,500 psi

OrganoSorb™ presents no health hazards when shipped, stored and handled properly. Please refer to our Material Safety Data Sheet for more complete information.

OrganoSorb™ is effective in the removal of the following contaminants from waste streams:

Organic Contaminants		Heavy Metals	
anthracene	methylene chloride	aluminum	magnesium
benzene	naphthalene	antimony	manganese
chloroform	non-ionic surfactants	arsenic	mercury
creosote	oil	barium	nickel
ethyl benzene	penanthrene	cadmium	selenium
diesel fuel	pentachlorophenol	calcium	silver
flourene	perchloroethylene	chromium	tin
fulvic acids	pyrene	cobalt	zinc
grease	solvents	copper	
humic acids	toluene	iron	
indeno pyrene	trihalomethane	lead	

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WaterSmart
Environmental, Inc.

