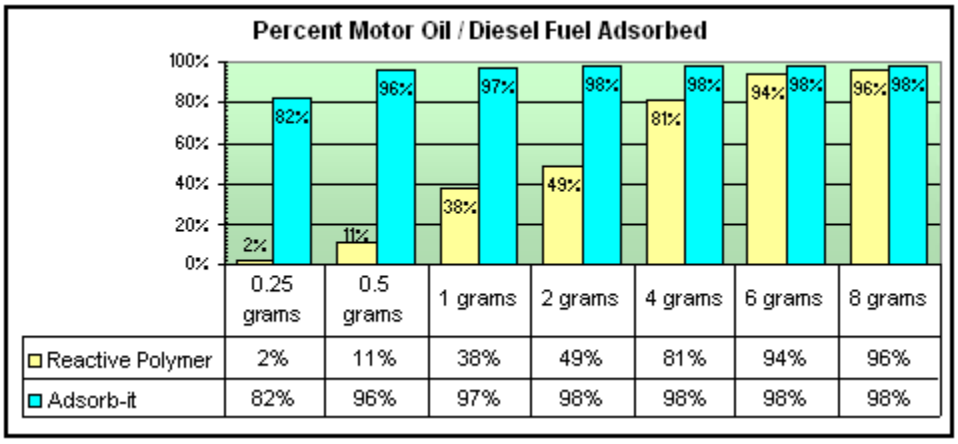
Motor Oil / Diesel Fuel Adsorption from Water

We used the following test to determine the degree of efficacy of the ADsorb-it® media as a sorbent for use in the removal of petroleum hydrocarbons from water after accidental spills or releases, and to determine its efficiency as compared to other well known sorbents.

Method

ADsorb-it® and a granulated *Reactive Polymer* were tested to compare the uptake of a motor oil / diesel fuel mixture from water. 200 ml of water and 10 grams of a motor oil / diesel fuel mix were added to pre-cleaned sample containers. Pre-weighed samples of sorbent, ranging from 0.25 grams to 8 grams, were added to each container and allowed to sorb. The sorbent was then removed and the contents of each jar were analyzed to determine the weight of motor oil / diesel fuel remaining. The graph below illustrates the results.

Results



	0.25 grams	0.5 grams	1 grams	2 grams	4 grams	6 grams	8 grams
Reactive Polymer	2%	11%	38%	49%	81%	94%	96%
Adsorb-it	82%	96%	97%	98%	98%	98%	98%

Conclusions

Addition of 0.5 grams of ADsorb-it® sorbent material removes more than 96% of the oil / fuel mix. The Reactive Polymer requires 8 grams to achieve the same results. With the addition of 0.25 grams, the ADsorb-it® material reaches saturation, but removes more than 32 times its weight of the petroleum. The saturation point for the *Reactive Polymer* occurs at approximately 3.6 times its own weight in oil.

The ADsorb-it® sorbed the oil almost immediately on contact, while the *Reactive Polymer* sorbent required several minutes before its maximum saturation was reached. When small amounts of the granulated *Reactive Polymer* were added, removal of the saturated material was difficult because the material did not mat together. The ADsorb-it® sorbent was cohesive and easily removed from the water.