

ENVIRONMENTAL SPILL ENCAPSULANT POLYMERS

H-100 HYDROCARBON ENCAPSULANT

H-100 is an environmentally safe homopolymer that effectively encapsulates petroleum and other hydrocarbon based products. H-100 will encapsulate and permanently bond hydrocarbons such as kerosene, gasoline, diesel fuel, crude oil, transformer oil, jet fuel, and other chemicals such as benzene and xylene.

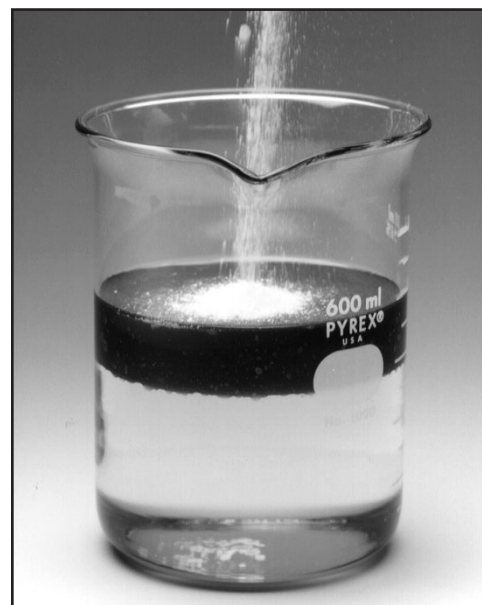
H-100 is insoluble in water and can safely absorb hydrocarbon spills in waterways without effecting the environment. The fixated hydrocarbon spill will float on the water and can be easily recoverable.

Once the hydrocarbon is absorbed, it will not leach out. It forms a permanent bond that is non-biodegradable. The low ash content (< 0.6%) of H-100 allows the fixated hydrocarbon to be incinerated.

With the high and rapid absorption capacities, H-100 requires considerable less product to clean up any spill. The disposable costs are considerably lower with less by-product to dispose.

APPLICATIONS:

H-100 is effective on both land and water applications. **On land:** Spread the powder as a very thin layer on the spill. The encapsulated hydrocarbon can be picked up by manual or mechanical means. **On water:** Spread the powder as a very thin layer on the spill by mechanical or manual means. Spread the powder on the outer edges of the spill and work towards the center of the spill. Once encapsulated, the hydrocarbon can be picked up.



BENEFITS:

- ◆ Cost effective: Less product required to absorb a spill
- ◆ Lower Disposal Costs: Less by-product to dispose of with the high absorption capacity of H-100
- ◆ Reduce clean-up time
- ◆ Rapid absorption
- ◆ High absorption capacities
- ◆ Environmentally safe, non-toxic and non-hazardous
- ◆ Permanent fixation, product can be incinerated
- ◆ Floats on water for easy recovery
- ◆ Passes TCLP test

ENCAPSULATION RATES

The chart below shows the encapsulation rates of H-100 on various hydrocarbons. Encapsulation rates are expressed as a ratio by weight. Example, one pound of H-100 will encapsulate and fixate 15 pounds of kerosene within fifteen minutes.

Product	Temp. (F)	5 min.	Time 15 min.	30 min.
Sour Crude	70F	6.3 (1.0)	8.1 (1.3)	9.8 (1.5)
Sweet Crude	70F	10.5 (1.6)	11.4 (1.8)	12.8 (2.0)
Kerosene	70F	13.2 (1.9)	15.0 (2.2)	15.2 (2.2)
Diesel Fuel	70F	13.5 (1.9)	14.3 (2.0)	15.0 (2.1)
Gasoline	70F	13.3 (2.1)	14.0 (2.3)	15.0 (2.4)

Figures in parentheses () express the volumetric absorption capacity of H-100 on various hydrocarbons. Example, one pound of H-100 will encapsulate and fixate 2.3 gallons of gasoline within fifteen minutes.

H-100 absorbs and fixates hydrocarbons very rapidly and effectively. Over 82.0% of its absorption capacity is achieved within the first five minutes on all hydrocarbon spills with the exception of sour crude oil. Maximum encapsulation is achieved on all hydrocarbons within thirty minutes.

The above encapsulation rates were verified and tested by a certified independent environmental laboratory using H-100 on various hydrocarbons placed in water.

USES:

Overall, H-100 can be used where there is a need to clean-up a hydrocarbon spill on waterways and land. Other uses of the product are in industrial factories, storage facilities, airports, refineries and waterway authorities.

OTHER BENEFITS:

- ◆ High BTU value
- ◆ Reduces volatility of recovered spills
- ◆ Low volumetric increase
- ◆ Increases flashpoint of encapsulated material

H-300 AND H-400 AQUEOUS SPILL ENCAPSULANTS

H-300 is a rapid absorbing polymer for aqueous spills. H-300 permanently bonds and encapsulates water and other water based spills up to 350 to 1 (encapsulation rate based on deionized water). H-300 achieves its maximum absorption encapsulation rate within fifteen minutes. The grade size of the polymer is 100 - 700 microns. H-400 is a larger granular grade size of 1000 - 2000 microns. Maximum encapsulation rate is achieved within thirty minutes.

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