



# R3MEDIATE

Hydrocarbon Remediation

## USE of R3MEDIATE on BODIES of WATER

The MSDS informs end users with regard to environmental information related to aquatic environments. The larger issue involves the regulations that inform what may or may not be applied in oceanic bodies of water. The BP spill off the Louisiana coast drastically altered that landscape. For example, if there was a spill off the gulf coast in U.S. waters, we can effectively use R3MEDIATE to treat the spill on the sandy soil beach, but would be hard pressed to get approval from authorities to apply it directly in the water unless prior approval was already obtained.

If we were to conduct a isolated, water based experiment, R3MEDIATE would make contact with the hydrocarbon and immediately turn a milky white color as the redox began to breakdown the hydrocarbon. The encapsulated hydrocarbon (sodium silicate cell) would settle to the bottom of the experimental vessel (sea floor) as an inert non-hazardous substance.

The milky white substance on the water (regardless of fresh or salt water) is the emulsifying agent (organo-imino complex) breaking down the longer chain hydrocarbons into smaller chain hydrocarbons. The evidence that the redox is happening is when the sodium silicate-based blend starts encapsulating the now smaller-chain hydrocarbon and subsequently drops to the bottom of the water environment (given the now increased total mass of the micro-encapsulated hydrocarbon).

In order to obtain approval from the authorities for direct application to water we would have to know what data is required for the approval process. Typically the parameters of interest for considering a quick field application trial are what you might expect (to include even pH, temperature, salinity, and total petroleum hydrocarbon or TPH by categorical concentration). In short the test required would be specific to the affected regulatory community in that specific region.

R3MEDIATE is effective at mitigating spills during the loading / unloading work on any hard surface. If the user is skimming the oil spill from the water into a container then R3MEDIATE could be utilized in an open-top container or vessel for in-situ treatment, thus reducing the hazardous component of the hydrocarbon. To our knowledge, there would be no approval process required by local authorities for this method.

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