

EnviroClean

OVERVIEW

EnviroClean is a proprietary blend of water-based, biodegradable surfactants that was specifically engineered as a cleanup/mitigation agent and vapor suppressant for use on a wide range of hydrocarbon products.

EnviroClean, in and of itself, does not cause or catalyze specific chemical reactions, nor does it contain any bacteria cultures. The basic principle of **EnviroClean** is to emulsify and encapsulate hydrocarbon particles.

The addition of the **EnviroClean** / water solution as an emulsifier, accompanied by agitation, reduces the cohesive forces between the molecules of the hydrocarbons, separates them into extremely small microscopic particles, and allows the material to become encapsulated or coated with the **EnviroClean** solution.

The combination of emulsification and encapsulation in conjunction with the other properties of **EnviroClean** (pH, water-based, etc.) makes it a very unique and versatile product with numerous practical and cost effective applications, such as:

BIOREMEDIATION
VAPOR SUPPRESSION
STORAGE TANK CLEANING
WASTE REDUCTION

SPILL CLEANUP
UST WASHING
SOIL WASHING

GENERAL APPLICATION

EnviroClean, in concentrated form, is a viscous liquid surfactant material that must be diluted with water before use. A red tracing dye is present so that it can be easily seen during application. Once diluted with water to the proper concentration, **EnviroClean** can be applied with virtually anything that will apply water, such as a hand pump sprayer, fire hose, pressure/steam sprayer, water truck, etc. This characteristic makes **EnviroClean** very adaptable and much more convenient to use in almost any site situation.

VAPOR SUPPRESSION

EnviroClean is commonly utilized by many environmental firms, fire departments, HAZMAT and emergency response teams nationwide, to suppress hydrocarbon VOC vapor and odors. Because **EnviroClean**

emulsifies and encapsulates hydrocarbons rather than just temporarily blanketing them, it is being utilized as a vapor suppressant in place of foam for many applications.

Vapor reduction is so fast and effective that **EnviroClean** is commonly used to comply with the tough air emission standards of the California SCAQMD's Rule 1166 resulting VOC vapor release from soil. It provides a simple and cost effective method of controlling VOC vapor release during excavation, stockpiling, loading, and transporting of soil. The application is quick and easy and the effect is long lasting.

- ✓ FAST
- ✓ COST EFFECTIVE
- ✓ SIMPLE
- ✓ VERSATILE
- ✓ LONG LASTING
- ✓ INCREASE SAFETY

SPILL CLEANUP

Because of the unique combination of cleaning ability and vapor suppression, **EnviroClean** is used by numerous fire departments, HAZMAT and emergency response teams, manufacturing, and industrial facilities when dealing with hydrocarbon spills.

EnviroClean emulsifies and encapsulates hydrocarbons almost instantly, helping to greatly reduce the danger of ignition, while at the same time cleaning up the spilled material, and stopping damage to asphalt, concrete or painted surfaces. Hydrocarbon spills can be quickly and easily picked up for recycling/disposal with a vacuum or other mechanism means when **EnviroClean** is applied properly.

UST WASHING

During the removal of Underground Storage Tanks, washing the inside of the tank with an **EnviroClean** solution through a pressure washer can virtually eliminate the recurrence of VOC vapors (LEL) in tanks that were used for gasoline, diesel or jet fuel storage.

When used to wash oil and waste oil tanks, the **EnviroClean** solution will clean with amazing efficiency. Because the oil is emulsified into the solution, it will not stick to the walls of the tank, the hoses, or the pumps, extending equipment life, reducing cleaning and maintenance time, as well as rendering cleaned surfaces inert and free of hydrocarbon.

IN STORAGE TANKS

In addition to emulsifying or water solubilizing fuels, oils and crudes for removal, **EnviroClean** has been proven effective in eliminating or reducing VOC vapors in large storage tanks as well.

When properly applied, the **EnviroClean** solution added to the sludge will create a slurry that can be removed and processed

through an oil-water separator. Recoverable hydrocarbons can be separated and recovered from the solids present in most tank bottoms, greatly reducing the amount of solid waste to be disposed.

BIOREMEDIATION

EnviroClean is also very effective and has produced excellent results when used as a biosurfactant for the remediation of hydrocarbon contaminated soil and ground water.

During the biodegradation process of hydrocarbons, only the surface area exposed to the bacteria is subject to the optimum conditions. The addition of the **EnviroClean** and water solution as an emulsifier, accompanied by agitation results in a much greater surface area exposed to the proper elements for biological degradation.

EnviroClean and the Principle of Desorption

The surfactants in **EnviroClean** desorb or strip the hydrocarbon from the soil particles by converting it to an emulsion and moving it into the pore space of the soil. The advantages of desorption are evident:

- ❑ The emulsion separates and reduces the size of the hydrocarbon particles
- ❑ A dramatic increase of surface area is exposed to the bacteria
- ❑ **EnviroClean** increases permeability by "*Making Water Wetter*" resulting in a more rapid and even penetration of moisture and biotreatment products

All of these factors combine to create conditions that are very favorable for bacteria to degrade the hydrocarbon at a greatly accelerated rate. Whether **EnviroClean** is used with indigenous bacteria, or in conjunction with commercial bacteria cultures, the end result is that the time and costs involved in soil biotreatment are greatly reduced.

For additional information or to order please contact:

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Enviro Clean Tank & Environmental Services is an authorized chemical products distributor of Enviro Clean.