

# HydroLock

## Degassing, Decontamination and Cleaning Agent



**Hazard Control Technologies, Inc.**



# HydroLock for Tank Degassing and Cleaning

HydroLock™ is an encapsulator agent that renders flammable liquids and vapors nonflammable, nonignitable and nonexplosive. In addition, it also dissolves hydrocarbon sludge and residue. HydroLock in solution with water seeks out and surrounds various forms of hydrocarbons and creates a molecular bond around the hydrocarbon molecules. These encapsulated, flammable liquids and vapors are reduced to an LEL level near zero. HydroLock is batch mixed or proportioned into the water supply and may be sprayed, circulated, or left to stand in the vessel.



## HydroLock Improves Safety

The ability to encapsulate hydrocarbon liquids and vapors rapidly reduces LEL levels to near zero. HydroLock is nontoxic, nonhazardous, non skin-sensitizing and 100% biodegradable. HydroLock can mitigate most every hydrocarbon including benzene, oils, jet fuel and crude oil and neutralizes ethanol and ethanol-blended fuels, like E10 and E85. HydroLock even works on H<sub>2</sub>S (hydrogen sulfide), some acids and has proven to be effective on pyrophoric iron (iron sulfide), a combustible scaling that is encountered in refineries during shut-down.

## HydroLock Will Increase Your Profits

HydroLock encapsulates vapors and degasses vessels quickly. *When utilizing expensive equipment and manpower, time is of the essence. Increased efficiency results in increased profitability.* HydroLock works to encapsulate the hydrocarbon liquids and vapors in a fraction of the time it would take for air circulation to achieve safe LEL levels. The period of time work crews have to wait for entry and the expense of idle equipment is greatly reduced. In a short time, workers can enter the vessel, or it can be returned to service. After the work is completed, the crew can move on to the next tank. During shutdown operations, turnaround time is minimized and costs are reduced. A work crew can be more productive, preparing several vessels in the time it used to take for a single tank. The sludge that is created is quickly broken down into a nonflammable slurry that can be removed and safely transported to a waste site.

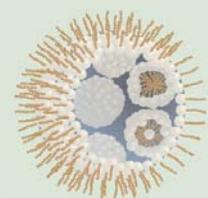
## Environmentally Safe

HydroLock and its ingredients comply with CEPA 1999 and contain no ingredients reportable under Superfund Amendments and Reauthorization Act (SARA) Title III, Section 313 of 40 CFR-372 or the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as of July 1, 1995. HydroLock can be discarded as nonhazardous waste under RCRA CFR261.

Testing shows HydroLock is 100% biodegradable. As with any substance, care should be taken to prevent uncontrolled discharge from entering ground water, surface water or storm drains.

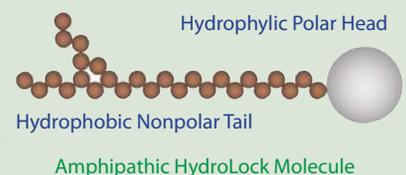
### How Does HydroLock Work?

HydroLock is an Encapsulator Agent. The HydroLock molecule is a large amphipathic molecule, meaning its ends act independently. One end is a hydrophylic polar head which attaches to water and the other end is a hydrophobic nonpolar tail, that is repelled by water and seeks hydrocarbon molecules. When you mix HydroLock with water, the HydroLock polar heads attach to the water droplets.



HydroLock Surrounds Water Droplet

The nonpolar tails protrude from the droplets and attach to hydrocarbon liquids and vapor molecules, completely enveloping them and forming "micelles" or cocoons. The protective shells around the hydrocarbon molecules render the hydrocarbons nonflammable. This "Encapsulation" allows the water and hydrocarbon molecules to dissolve into a harmless liquid that can be safely removed and recovered. Encapsulation also captures the vapors, allowing quick and safe entry into the vessel.



# HydroLock™ Applications

HydroLock's unique ability to encapsulate hydrocarbons and vapors makes it invaluable for all types of storage vessels, including above ground and underground storage tanks and over the road tank trailers. Whether the vessel is being cleaned or maintenance must be performed, HydroLock is a cost effective tool. HydroLock dissolves any hydrocarbon and encapsulates the vapors. HydroLock is noncorrosive and won't harm delivery equipment or vessels.

- Encapsulates volatile vapors
- Quickly reduces LEL levels allowing entry into vessel
- Improves personnel safety by reducing flash point issues
- Minimizes turnaround time and associated costs
- Softens and dissolves thick accumulations
- Cuts through film and sludge
- Nontoxic, noncorrosive and 100% biodegradable



## Above Ground and Underground Storage Vessels



Before HydroLock

HydroLock is excellent for tank degassing through encapsulation, which results in rapid vapor suppression. This rapidly reduces LEL levels, providing entry into the vessel so welding or other work can be performed. The vessel can be quickly accessed, increasing productivity and reducing downtime.

### Above Ground Vessels



After HydroLock

Generally, HydroLock is circulated through all piping and equipment. This allows you to reduce benzene to less than 1 ppm, and H<sub>2</sub>S and LEL levels to near zero, while removing oils and sludge from equipment and piping. Spraying HydroLock on the walls expedites entry into the contaminated area as the solution penetrates the deep-seated hydrocarbons for complete cleanup. Steaming methods used to assist in vapor removal can cause materials to "bake-on" the vessel's walls. Using HydroLock to encapsulate and remove vapors eliminates this negative and costly side effect. By wetting the solids and walls, HydroLock goes to work dissolving the oil and sludge so that it can be removed from the system and recovered.

## Underground Storage Tanks (UST)

The most effective and efficient method of degassing and cleaning UST's is to apply a 3% solution of HydroLock through spray mist nozzles that encapsulate the vapors and reduce the LEL levels, immediately allowing quick entry into the contaminated work area. It is excellent for decontamination before decommissioning vessels so they can be safely sectioned and hauled away.

At 3%, HydroLock can also be sprayed on external surfaces through a pressure washer, circulating through the heating coils. Using HydroLock eliminates concerns over low flash point solvents and degreasers, making it safer for personnel. The application and cleanup of HydroLock are easier than when using solvents.



### Caution:

LEL readings should be taken before performing hot work on any tank.

# HydroLock Applications

## Over the Road Tank Trailers

HydroLock Encapsulator Agent forms a molecular bond around hydrocarbons rendering liquids and vapors inert. It rapidly dissolves hydrocarbon sludge and residue, reducing LEL levels to near zero. HydroLock provides quick access to the trailer for inspections, repairs or general cleanout and can safely be applied to aluminum, stainless steel or carbon steel tank trailers without harm. After cleaning, HydroLock does not leave a residue.



HydroLock at a 3% solution is best applied through a sprayer at temperatures below 180 °F. Benzene levels will be reduced to less than 1 ppm and H<sub>2</sub>S and LEL levels will drop to near zero. Caked on deposits and sludge can be quickly removed. The same solution can be safely applied to the exterior of the trailer, using a scrub brush to remove deposits, followed by a rinse. Personnel are safe from the dangers of low flash point solvents or degreasers and are not contributing to the waste by using diesel fuel as a solvent.

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## HydroLock Packaging

HydroLock is available in 5-gallon pails, 55-gallon drums and 250 or 275-gallon totes.

HL-005G



HL-055G



HL-250G or HL-275G



Hazard Control Technologies products are designed, developed and manufactured in compliance with ISO 9001. Certification of this compliance is issued by FM Approvals.



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