

De-Oil-It DISCLAIMER

- * We do not replace remediation, rather we augment and improve
- * We are not yet on the EPA'S NCP list
- * Coast Guard approved De-Oil-It for 1st responder usage for emergency spills

DISCUSSION: De-Oil-It is an environmentally responsible industrial strength degreaser, surface washing agent, and hydrocarbon (fuel, oil, grease) focused cleaner. De-Oil-It formula is a bio-based (the elements of De-Oil-It are on the FDA Safe List: "GRAS" Generally Recognized as Safe). De-Oil-It is non-hazardous, does not have a shelf life, non-flammable (and inhibits fuel/oil spills from catching fire, i.e. a natural extinguisher) and in time with proper procedures significantly degrades hydrocarbons. We do not replace remediation but rather are an important tool to more easily clean up spills with less toxicity and time associated with the clean up process; as such users of De-Oil-It, like any other cleaner formula, are responsible for understanding their role within government regulations by EPA, USDA, FDA, FEMA and possibly others.

As a surface cleaning agent, De-Oil-It acts on hydrocarbon contamination (diesel, gas, oil, grease/lipids) in three ways.

1. The first IMMEDIATE reaction is to disable the contamination flash point meaning it will not / can not catch fire, and the odor / nauseous fumes associated with fuel, oil, grease spills is significantly reduced or eliminated.
2. Second, De-Oil-It will relieve the surface tension of the oil / grease non-sticky making cleaning more easy and leaving the surface non-oily / non-greasy. (Fuel is quickly degraded vs. oil / grease).
3. Third, the hydrocarbon contaminant molecular chain is broken down into smaller less harmful parts that are more strongly capped* than solvents, soaps and detergent; for oil / grease this results in a formation (referred to "colloidal" or emulsified oil) that stays on the surface and is easily picked up for further remediation. Recall that for large oil spill such as the Horizon Gulf Spill products used for remediation ended up encapsulating versus capping, with the result that oil was sunk to the ocean floor. De-Oil-It on the other hand "caps" the smaller molecules making the still very vulnerable to further degradation by natural occurring bacteria or added bacteria + enzymes (which are not part of our product because it would effect marine life).

* by capped we mean De-Oil-It extracts Hydrogen and Oxygen from water and rebinds to both the original and the broken down hydrocarbon chain resulting in the process of releasing surface tension and to more permanently prevent smaller hydrocarbon chains reforming into their original toxic formation (detergents and soaps do not cap hydrocarbon chains strong enough which is why more of the product is needed as you always have an oily / greasy finish to the surface)

While these three steps of De-Oil-It action contribute to less toxicity, easier to clean, and therefore faster spill remediation time, we are not a substitute of remediation (defined to take further steps to detoxify the contamination during proper disposal). In this regard water based remediation requires inclusion on the NCP (National Contingency Plan) list, which as of this writing De-Oil-It is not part of this list but undergoing lab testing.

Typically an emulsified layer will occur on top of the water; therefore we do not sink oil. This emulsified layer is De-Oil-It in the process of decomposing (“degrading”, “degreasing”, “cleaning”, “breaking down the hydrocarbon chain”) oil; the smaller, simple partial hydrocarbon components are highly vulnerable to natural occurring bacteria that will continue to break down the hydrocarbon contaminant (oil, fuel, etc.). This emulsified layer is the result of the “capping” technology.

EPA / NCP lab testing requires a declared classification and for a degreaser associated with remediation it is regarded as better to be a dispersant versus a surface agent washer (which we are testing towards). However the tests for EPA approved dispersants (and therefore on the NCP website list) require a product to show in a laboratory signs of degrading within 10 minutes; at this point there is a disregard for any further time that a product like De-Oil-It would need for its equivalent action.

Products EPA approved as NCP listed dispersants are highly toxic and most always have a petroleum distillate, strong solvent of another base or a harsh chemical associated within their formula. De-Oil-It is comprised of a bio-based comprised mainly of highly purified alcohols; we have just been admitted to the USDA BioPreferred program that recognizes among other items classification of cleaners that are mainly bio-based (we are 100% bio-based).

De-Oil-It will degrade oil like a dispersant in time; the industrial concentrate can take up to 24 hours and our Super Concentrate (“Malone 98”) acts within 3 hours. Acting like a dispersant means to break down oil (or fuel) into a soluble state that integrates directly into the water column. De-Oil-It not only acts as a dispersant in time, tests show, particularly with the Super Concentrate of further breaking down the oil such that the brown colored water (which is how the EPA tests for dispersant action) actually turns clear.

We have submitted to EPA approved third-party laboratory tests for toxicity that show no solvents, metals, or other harsh elements. We are also very low toxicity and one of 7 products that show toxicity over 100ppm out of 161 on the NCP list: De-Oil-It is very eco-friendly..

Our conclusion is the required testing has a bias that we cannot control but none the less know we need to be tested in a standard way and show the public we have participated in approved third party laboratory standardized tests. The EPA has specific reasons that we understand are necessary for dispersant level categorization; we are in progress considering a secondary product line that can achieve dispersant categorization.

What can clients of De-Oil-It do until we are on the NCP list ?

First, abide by any posted regulations. Please be aware as much as possible about your responsibilities when using a cleaning product especially knowing it goes into drains, water, etc.

Second, in an emergency De-Oil-It can be used to start clean-up according to the Coast Guard. We will provide this documentation when requested. This is important because the read on the NCP list requirement is especially important for serious spills in our waterways and is a requirement to be on the list once the Government leads / engages in spill management. The grey area is everyday cleaning (cars, boats, parking lots). Our product design was to approach with a non- hazardous product (therefore all plant ingredient based), and to be effective yet safe in and on the water.

We once publicly showed on our website a letter by the Coast Guard stating that they approve De-Oil-It as first responder usage during an emergency spill. The original master distributors (Greenworld Products) posted this letter for 5 years and recently we were asked by Department of Homeland Security (DHS) to take down because it was regarded as a kind of endorsement. The letter only stated De-Oil-It can be used in an emergency usage and we posted to illustrate that before the NCP list approval that De-Oil-It was regarded as a first response to a spill.

In the strictest sense of the word, being on the NCP list is not an EPA endorsement. The same non-endorsement status applies to De-Oil-It being on the USDA BioPreferred program list.

If you want to understand the full EPA using NCP listed products (and for that matter products not listed on the NCP) you should read: <https://www.gpo.gov/fdsys/pkg/CFR-2014-title40-vol28/pdf/CFR-2014-title40-vol28-part300.pdf>

If you want to understand the USDA BioPreferred program visit <https://www.biopreferred.gov/BioPreferred>

NCP: National Contingency Plan
CFR: Code of Federal Regulations

What can you do once De-Oil-It is listed on the NCP list?

The CFR Title 40 Vol 28 clearly spells out how spills should be managed.

We do want to make it clear that usage of De-Oil-It on waterways (and we should include a responsibility of water run off into drains and on land) is a user responsibility. If compliance notices are posted please follow responsibly. Report spills.

In summary the RRT (Regional Response Team), a government agency available in every state, can select any product from the NCP list. There are 4 categories; of the four categories a major oil spill generally desires a dispersant due to its fast action. We feel that De-Oil-It, a Surface Washing Agent can play multiple roles as a tool in oil / fuel spill remediation. One of the common uses of De-Oil-It would be to surround the oil spill with our product with the result being an emulsified layer that will prevent the oil / fuel from spreading beyond this De-Oil-It perimeter.

DE-OIL-IT EFFICIENCY

De-Oil-It improves its degrading efficiency with some or all of the following to complete a more natural decomposition / degradation of a hydrocarbon.

1. Temperature
2. Agitation
3. Bio-Augmentation
4. Time

De-Oil-It needs water, oxygen, sufficient temperature, agitation, and time. De-Oil-It hydrocarbon breakdown is enhanced through bio-augmentation (adding microbes / bacteria) to more completely perform its degreasing action. In addition agitation (ocean waves, ground tilling, scrub brush, etc.) promotes more thorough separation of oil, grease or fuel molecules into a micelle formation.

Water and temperature activate De-Oil-It. Hot water approximately 95-125 degrees, and outside warm humid temperatures is ideal conditions to more vigorously induce De-Oil-It to perform at optimal efficiency. Further breakdown (“degrading”) of the hydrocarbon (oil, grease or fuel) chain can be further enhanced though extra introduction of microbes (“bio-augmentation” or bacteria). The oceans and land have naturally occurring bacteria that assists remediation tools like De-Oil-It; however, additional help by adding microbes speeds up the degrading action. And finally time is a virtue as well as patience working with De-Oil-It – the more time De-Oil-It is in contact with hydrocarbons and has the availability of water and oxygen De-Oil-It will continue the degrading action that multiple tests and projects show nearly or complete elimination of the hydrocarbon pollutant. In this way, using De-Oil-It with best practice methods, it is possible to better understand De-Oil-It is very environmentally responsible as the end result can be non- toxic, and thereby biologically safe. It also eliminates hydrocarbon flashpoint (“non-flammable”).

RESTRICTIONS ON USAGE AND TERMINOLOGY:

We use the term DEGRADE, DETOXIFY, HARDLY A TRACE in our descriptions of using De-Oil-It and are based on client testimony and in many cases studies with lab results that clients share with us. These words illustrate that De-Oil-It with proper application process, best practice guidelines, and possibly re-application (based on getting better and lower lab contaminant test results), plus perhaps introduce extra bacteria than is normally in the environment - in some remediation practices they add enzymes to enhance the hydrocarbon breakdown.

Bottom line when referring to hydrocarbon breakdown we interchange the work DEGRADE / DEGRADING (which is “breaking” down the molecular structure). Other terms might include “break down”, “decompose” and so forth. This break down of the hydrocarbon molecular chain into a simpler molecular structure is less toxic, therefore we use the wording DETOXIFY to describe one of many benefits of De-Oil-It. Another benefit of a degrading process is to reduce and / or eliminate the flash point, meaning De-Oil-It acts as a natural fire extinguisher. Beyond preventing a fire hazard, the elimination of flash point also removes nauseous fumes that are particularly associated with fuels (diesel, gasoline, kerosene, etc.).

De-Oil-It acts to reduce the surface tension of hydro carbons, causing the contaminant to be less sticky and easier to remove, we use the phrase “HARDLY A TRACE is left over” after applying De-Oil-It because this is what has been tested and clients testimony tells us.

Finally a comment on restriction of usage of our product depends on your application and your situation regarding government regulations. If its posted you are responsible. If you have a doubt you should call a government agency to request an interpretation. The NCP list has more to do with large spills having government oversight. The NCP list has more focus on waterway spills. Industrial, parks, marinas, etc. have the responsibility of posting restrictions. This is a first guideline but if in doubt ask management or government where you are about to apply De-Oil-It.

MSDS and the newer version SDS are available on our website.

Transportation Codes:

DOMESTIC	NMFC 48580-3, Class 3, non-hazardous
INTERNATIONAL	HS 3402.90.90, an organic cleaner, non-hazardous