



How to Apply DE-OIL-IT

A product usage guide

For any questions please send email or call us (407) 574-3898



Disclaimer

This document is a guideline based on general principles, feedback, observations, and contact-us information; therefore this document is not an absolute set of procedures.

In over 20+ years since De-Oil-It has been on the market (under various names) we know the product works in a degrading manner, breaking down hydrocarbon chains up to C40, resulting in a significant reduction to elimination of spills of fuel, oil, and the like. We know the broken down molecular structure is less complex than its original hydrocarbon make up and through the degrading process converted into a simpler chemical arrangement that is far less toxic, in fact rendered neutralized such that natural bacteria (or in some applications, extra bacteria or other biodegradable accelerants) complete the decomposition of petroleum based hydrocarbons in a very environmentally responsible and safe manner, reintroducing the basic elements of carbon, oxygen and hydrogen gently back into the ecosystem. Results over the years strongly support the notion that environmentally responsible actions of De-Oil-It contributes significantly to the substantial reduction if not elimination of further hazmat management. Degreasers, dispersants and other such harsh chemical approaches cannot make this degrading claim to significantly reduce or eliminate further hazmat management of hydrocarbon contamination.

Concerning the EPA, and specifically the National Contingency List (NCP) update as of January 2020, De-Oil-It is not currently on this list; however, the product has been supervised in large remediation projects under the name ECOSPERSA (same industrial concentrate formula as De-Oil-It "Industrial Concentrate"). This supervision is expected to help pave the way for an application to the EPA that is still outstanding; in the mean time, it is still possible as it always has been to gain EPA exceptions using the product in various remediation projects. If you need a more personal explanation of the roadmap to EPA and NCP list inclusion simply contact us via email, contact us form on website or call us at 407-574-3898 and we can discuss your project, EPA, and product as required.

Finally, product naming. De-Oil-It and Ecospersa are the same formula. As of this writing De-Oil-It Industrial Concentrate is the only authorized private label equivalent formula of Ecospersa, and De-Oil-It Ready-to-Use is the only authorized private label equivalent formula of EcoCarbon Clean; ready to use means the product formula already has a 1:1 dilution - you can still manage further dilutions to achieve square foot coverage as described on <http://deoilit.com/data>



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De-Oil-It Cleans and Degrades The Following

- Hydrocarbons with carbon chains ranging from C-5 to C-40
- Benzene, xylene and toluene
- Trichloroethylene (TCE)
- Polycyclic Aromatic Hydrocarbons (PAH)
- Polychlorinated Biphenyls (PCB)
- Fuel oils Fossil fuels - gasoline, diesel, aviation gas
- Condensate - leakage from pipelines
- Glycols



Trichloroethylene (TCE) is a volatile, colorless liquid organic chemical. TCE does not occur naturally and is created by chemical synthesis. It is used primarily to make refrigerants and other hydrofluorocarbons and as a degreasing solvent for metal equipment. TCE is carcinogenic

TCE is used as a solvent for

- degreasing
- a spot cleaner in dry cleaning
- consumer **products** (cleaners and solvent degreasers, adhesives, lubricants, hoof polishes, mirror edge sealants, and pepper spray).

Polycyclic aromatic hydrocarbons (PAH) are a group of more than 100 chemicals that are also called polynuclear aromatic hydrocarbons. **PAHs** are released from burning coal, oil, gasoline, trash, tobacco, and wood.

PAHs are found in industries that produce or use coal tar, coke, or bitumen (asphalt). They are emitted by coal gasification plants, smokehouses, municipal incinerators, and some aluminum production facilities

Polychlorinated biphenyls (PCB) are a group of manmade chemicals. They are oily liquids or solids, clear to yellow in color, with no smell or taste. PCBs are very stable mixtures that are resistant to extreme temperature and pressure. PCBs were used widely in electrical equipment like capacitors and transformers.

Products that may contain PCBs include:

- Transformers and capacitors.
- Electrical equipment including voltage regulators, switches, re-closers, bushings, and electromagnets.
- Oil used in motors and hydraulic systems.
- Old electrical devices or appliances containing PCB capacitors.
- Fluorescent light ballasts.
- Cable insulation.

Benzene, Xylene, and Toulene

Natural Processes That Produce Benzene

- Volcanoes
- Forest fires



Products Containing Benzene

- Paint, lacquer, and varnish removers
- Industrial solvents
- Gasoline and other fuels
- Glues
- Paints
- Furniture wax
- Detergents
- Thinners
- Inks
- Adhesives and coatings
- Rubbers
- Industrial cleaning and degreasing formulations

Activities/Uses Involving Benzene

- Emissions motor vehicle exhaust
- Burning coal and oil
- Painting and lithography
- Dry cleaning
- Making chemicals used to make:
 - Plastics
 - Resins
 - Nylon and synthetic fibers
- Making some types of:
 - Lubricants
 - Rubbers
 - Dyes
 - Detergents
 - Pharmaceutical drugs
 - Agricultural chemicals (pesticides)

Industries Using Benzene

- Petrochemical manufacturing
- Petroleum refining
- Coke and coal chemical manufacturing
- Rubber tire manufacturing
- Gasoline storage, shipment, and retail operations
- Plastics and rubber manufacturing
- Shoe manufacturing
- Aviation fuels



Occupations/People Who May Be Exposed To Benzene

- Steel workers
- Printers
- Rubber workers
- Shoe makers
- Laboratory technicians
- Gasoline service station employees
- Aviation, Industrial manufacturing

Places Where Benzene May Be Found

- Air around waste sites and gas service stations
- Contaminated well water, as a result of benzene leaks from underground storage tanks or hazardous waste sites containing benzene
- Ends of airline runways

Xylene is primarily used as a solvent (a liquid that can dissolve other substances), particularly in the printing, rubber and leather industries. Xylene is also used as:

- Cleaning Agent
- Paint Thinner and Remover
- Varnish
- Airplane Fuel
- Gasoline
- Shellac
- Rust Preventatives
- Pesticides
- Lacquers

Toulene is primarily used in various cosmetic products, fuels, and other uses or found in products / elements such as:

- Nail polish
- Hair dyes
- Crude oil
- Pain thinners, stain removers
- Adhesives, glues
- Rubber
- Gasoline especially racing fuel



De-Oil-It Mechanics

De-Oil-It is formulated as a HYDROCARBON DEGRADER and this is purposely meant to differentiate cleaning petroleum based contamination in a manner that is more environmentally responsible than a degreaser or dispersant.

Degraders, biodegraders (using biological elements to accelerate decomposition), degreasers, and dispersants all "CLEAN" petroleum hydrocarbons such as oil, fuel, and many kinds of greases.

Degraders such as De-Oil-It go beyond cleaning in a manner that safely reintroduces the broken down hydrocarbon chain elements (i.e. degrade = "break down" AND THEN altering the hydrocarbon chain into a neutralized, less toxic to no toxicity such that natural bacteria complete this "break down" process to reintroduce the contaminant safely back to the environment as soluble carbon, oxygen and hydrogen .. i.e. the chemical elements of hydrocarbon).

Biodegraders add an additional element to degraders and that is a biological accelerant and usually this is either a combination or singular element of bacteria (most popular), or archaea (a kind of bacteria), fungi, or algae. De-Oil-It does not contain accelerants.

De-Oil-It in large field remediation projects has been used by itself successfully and in combination of bacteria (usually pseudomonas); we do not include biological accelerants because they effect the shelf life of the product. We encourage the use of bacterial accelerants and even plant based materials which are somewhat effective cleaning hydrocarbons. We do not hold any particular prejudices on accelerants. Note that De-Oil-It has an unlimited shelf life. De-Oil-It does not get weaker, does not separate, and does not lose effectiveness over time; if anything disturbs De-Oil-It it would be freezing and we place "do not freeze" warnings on the label.

The only De-Oil-It warnings we have are

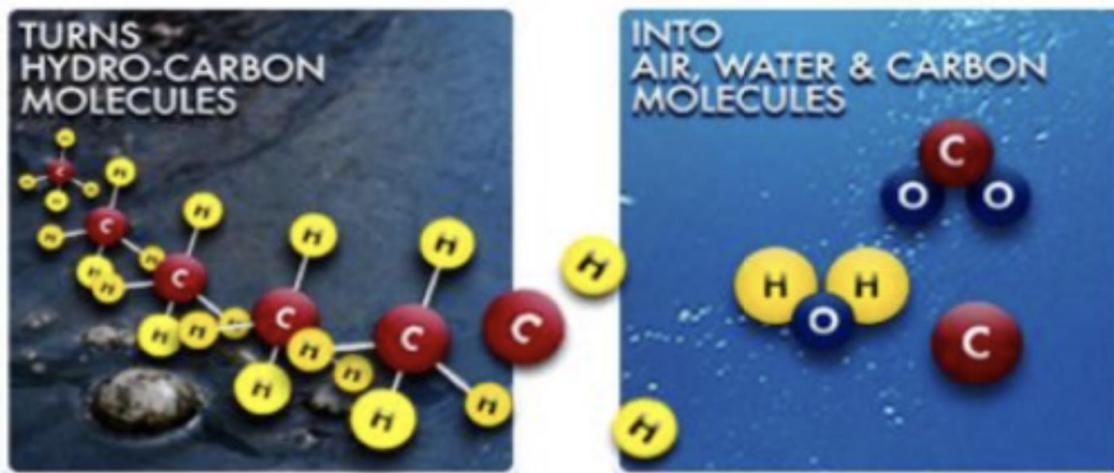
- A. Do not freeze product
- B. Glass - pre rinse water, apply De-Oil-It, clean, then immediately rinse thoroughly
- C. Asphalt - same as glass
- D. Beware of regulations that might affect usage

The main point on glass and asphalt is to not soak for long periods of time and to especially avoid drying as the residue could "stain" glass (permanent streaks) and can melt asphalt to a degree. We have extensive experience with regard to glass and asphalt, email us or call.. this warning should not be a deterrent to your cleaning needs, just a better approach. Finally, a note on



regulations - please note beyond our control sometimes there are local, state and federal laws etc that DO NOT PRECLUDE the use of De-Oil-It but rather set an approach (possibly reporting).

ABSORBANTS & DEGREASERS only relocate fossil fuels, spreading hazardous waste throughout the environment and making everything toxic in its path. **MICROBIALS** have other unwanted side effects. **DE-OIL-IT** is a degrader and allows nature to break down the petroleum molecules and reintroduce them safely back into the environment.



HOW IT WORKS: Petroleum molecules kill natural bacteria on contact. Bacteria are needed to break down the petroleum into an inert form of air, water & dirt, which is no longer harmful and toxic. Only **DE-OIL-IT** can break the chains of the hydrocarbons (grease, fuel, oil) into an altered state that allows the natural bacteria in the environment to break down petroleum and reintroduce it safely back into the ecosystem clean and petroleum free.



Kinds of De-Oil-It Formulas

There are three De-Oil-It Formulas

- a. Ready-to-Use
- b. Industrial Concentrate
- c. Super Concentrate

We have changed an older product name “De-Grease-It” to “Ready-to-Use” formula; there are slight changes in the dilution of Ready-to-Use (actually stronger), and the dilution factor is 1:1, meaning for every gallon of De-Oil-It Industrial Concentrate we add 1 gallon of water.

All formulas can be diluted according to our Dilution Guide. Ready-to-Use formulas do not require adding water to the product as it is as the name suggests ready to pour, degrade, and rinse; but we to encourage spritzing water first on the applied area, apply De-Oil-It, spritz again, if not also agitating (brush, etc.) and then rinsing after a prescribed soaking time (described throughout this document).

This document covers Ready-to-Use and Industrial Concentrate; Super Concentrate requires special handling but the Dilution Guide, Square Foot Coverage, etc. still applies. We do not routinely sell Super Concentrate as Industrial Concentrate works well in all cases we have seen over the years; but there have been a couple of applications whereby Super Concentrate was deemed necessary to use (but we had to ensure the user wore proper protection and managed Super Concentrate with proper handling).





 **GreenWorld
Innovations, Corp**

*Taking care of the world's petroleum problems with
environmentally responsible, green solutions*

DE-OIL-IT®

FUEL & OIL SPILL ELIMINATOR



DE-OIL-IT works at the molecular level of petroleum breaking its hydrocarbon chains and rendering them non-toxic. What's left is a natural form of air, water and carbon leaving the environment clean and safe.

Ready-to-Use Formula

**A hydrocarbon
Degradant**



22 FL OZ (650.6 ml)



Taking care of the world's petroleum Problems with environmentally responsible, green solutions

DE-OIL-IT

A hydrocarbon Degradant

Household	Automotive	Marine	Aviation	Wildlife
Emergency	Industrial	Janitorial	Remediation	Oil Spills

DE-OIL-IT works at the molecular level of petroleum breaking its hydrocarbon chains and rendering them non-toxic. What's left is a natural form of air, water and carbon leaving the environment clean and safe..

Ready-to-Use Formula

5 US GALLONS (18.927 L)

CAUTION...DO NOT FREEZE... DO NOT FREEZE... CAUTION...DO NOT FREEZE...DO NOT FREEZE...

DE-OIL-IT performance increases with soaking time, some agitation at the applied surface, constant moisture, and warm water if diluting. Number of reapplications depends on amount spilled, viscosity, and availability of bacteria. Visit <http://deoilit.com> for performance and dilution charts. Not recommended for glass or asphalt, you must presoak and rinse immediately

<ul style="list-style-type: none"> ✓ Instantly initiates the natural bioremediation process ✓ Neutralizes & eliminates grease, fuel & oil spills and their stains ✓ Removes petroleum from every surface & reachable subsurface ✓ Eliminates odors from fuel and oil ✓ Does not sink into water column, reduces hazmat efforts ✓ Reduces the risk of fire and explosions from spills ✓ Unlimited shelf life, do not freeze ✓ Continues degrading in run-off rinse 	<ul style="list-style-type: none"> ✓ Non-toxic, non-detergent, non-butyl, non-dispersant ✓ Harmless to plants, wildlife and the water column, soil ✓ Water based, non-flammable, no flash point ✓ No VOC's, no phosphates, no residue ✓ No halogens, no chlorinated solvents ✓ Non petroleum, water-based, can be diluted up to 32:1 ✓ Complies with "Clean Marina" environmental criteria
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WARNING: Keep product away from children. Adequate ventilation, protective gloves, and safety goggles not required but recommended; in case of skin or eye contact - rinse thoroughly with water until any irritation subsides. If any irritation persists seek medical attention. Greenworld Innovations liability limited to purchase

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Taking care of the world's petroleum Problems with environmentally responsible, green solutions

DE-OIL-IT

A hydrocarbon Degradant

Household	Automotive	Marine	Aviation	Wildlife
Emergency	Industrial	Janitorial	Remediation	Oil Spills

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Industrial Concentrate

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molecular structure into an environmentally safe end result of soluble carbon, oxygen and hydrogen.

Want to learn more about how De-Oil-It works? We have archived documents on our website <http://deoilit.com/data>

- (A) How De-Oil-It Works**
- (B) What is in the Emulsified Layer**

How De-Oil-It Works is a slightly technical version of this document, not to scary to read, but helps explain a bit more on the molecular level

What is in the Emulsified Layer is our answer to the EPA's dominant stance on dispersant applications; specifically as we all know, the Gulf of Mexico BP Horizon Oil Spill utilized a dispersant that SANK OIL and WAS EXTREMELY TOXIC TO OCEAN LIFE. De-Oil-It on the other hand breaks down oil spills and leaves an emulsified layer on the water's surface. Dispersants do not neutralize the toxicity and in most cases this prevents natural occurring bacteria to do its job eating the oil and thereby assisting in the remediation process; when bacteria were able to eat the BP Horizon spill oil after treatment with the selected dispersant, its waste from eating (yes Virginia, bacteria poop) was MORE TOXIC THAN THE OIL!

Warnings about Product Application

The only De-Oil-It warnings we have are

- A. Do not freeze product
- B. Glass - pre rinse water, apply De-Oil-It, clean, then immediately rinse thoroughly
- C. Asphalt - same as glass
- D. Beware of regulations that might affect usage

The main point on glass and asphalt is to not soak for long periods of time and to especially avoid drying as the residue could "stain" glass (permanent streaks) and can melt asphalt to a degree. We have extensive experience with regard to glass and asphalt, email us or call.. this warning should not be a deterrent to your cleaning needs, just a better approach. Finally, a note on regulations - please note beyond our control sometimes there are local, state and federal laws etc that DO NOT PRECLUDE the use of De-Oil-It but rather set an approach (possibly reporting).

We recommend but do not require protective eye wear, clothing or gloves; also, adequate ventilation is recommended. Isopropyl alcohol has been spritz while bottling the product to prevent foaming but is not in the product to cause concerns.



Hydrocarbon Measurement

One of the most common questions is how do we know De-Oil-It is working, and more particularly how many applications are required to remove / eliminate hydrocarbons?

The answer is “it depends on hydrocarbon measurement”.

We recommend Hanby Environmental Company who sells a variety of measuring instrumentation: <https://www.hanbyenvironmental.com/>. Hanby instruments are specific for detecting HYDROCARBON MEASUREMENT in SOIL and WATER.

For soil hydrocarbon treatment, De-Oil-It will not only break down (“degrade”) fuel, oil, etc. but also drive the treated contaminate into the soil via a surfactant action to reach the naturally occurring bacteria that completes the degrading process by eating the treated contaminant rendered non-toxic by De-Oil-It specifically so that bacteria can consume the degraded hydrocarbons. So even though the oil for example seems to disappear, we urge measurement of hydrocarbons (will be in PPM, Parts per Million), to determine if further applications of De-Oil-It is necessary. For large remediation projects this is the only way to know how successful the degradation process has worked.

For water hydrocarbon treatment De-Oil-It is significantly different than EPA approved products on the NCP list known as dispersants; usage of dispersants typically sinks oil into the water channel, whereas De-Oil-It keeps an emulsified treated layer on top of the water. Water remediation usually is approached by containing oil spills via booms, or flotillas, placed around the spill and then rely on mechanisms to collect contamination off the surface. In the case of treating water hydrocarbon pollution, such as an oil spill, not only is the cleanup more efficient, as the product does not sink the treated oil, but also the degrading action neutralizes the toxicity of the oil significantly reducing, or eliminating further hazmat management.





Example of Hydrocarbon Measurement and Reduction of Contaminant

Pre-treatment

Sample ID: S161741637	Client ID: 11 Surface	Sampler: Client
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Client: TSI Laboratories
 Study: Soils
 Project: McFaddia CTB Clean-Up
 Location: TSI
 Notes:

Batch No: 43155
 Sampled: 6/22/2016 2:50 PM
 Type: Grab
 Matrix: Soil

Case Narrative:

Analyte	Result	Units	Method	Analyst	Date/Time Analyzed	LOQ	MDL	DF	Qual	S/Out	Laboratory
TPH-S. nC6-nC12	1923	mg/Kg-dr	TX 1005	A Schneider	6/23/2016 10:00	20	8.98			<input type="checkbox"/>	B-E Cert. # T104704328-16-12
TPH-S. >nC12-nC28	11288	mg/Kg-dr	TX 1005	A Schneider	6/23/2016 10:00	20	9.37			<input type="checkbox"/>	B-E Cert. # T104704328-16-12
TPH-S. >nC28-nC35	3510	mg/Kg-dr	TX 1005	A Schneider	6/23/2016 10:00	20				<input type="checkbox"/>	B-E Cert. # T104704328-16-12
TPH-S. Total nC6-nC35	17000	mg/Kg-dr	TX 1005	A Schneider	6/23/2016 10:00	20	18.14			<input type="checkbox"/>	B-E Cert. # T104704328-16-12
TPH-Surr. 1-Chlorooctad	85	%	TX 1005	A Schneider	6/23/2016 10:00	70	130			<input type="checkbox"/>	B-E Cert. # T104704328-16-12

Post-treatment

Sample ID: S162031304	Client ID: j	Sampler: Client
-----------------------	--------------	-----------------

Client: TSI Laboratories
 Study: Soils
 Project: Taos
 Location: TSI
 Notes:

Batch No: 44243
 Sampled: 7/21/2016 10:30 AM
 Type: Grab
 Matrix: Soil

Case Narrative:

Analyte	Result	Units	Method	Analyst	Date/Time Analyzed	LOQ	MDL	DF	Qual	S/Out	Laboratory
TPH-S. nC6-nC12	177	mg/Kg-dr	TX 1005	A Schneider	7/27/2016 22:10	20	8.98			<input type="checkbox"/>	B-E Cert. # T104704328-16-12
TPH-S. >nC12-nC28	6758	mg/Kg-dr	TX 1005	A Schneider	7/27/2016 22:10	20	9.37			<input type="checkbox"/>	B-E Cert. # T104704328-16-12
TPH-S. >nC28-nC35	2093	mg/Kg-dr	TX 1005	A Schneider	7/27/2016 22:10	20				<input type="checkbox"/>	B-E Cert. # T104704328-16-12
TPH-S. Total nC6-nC35	9000	mg/Kg-dr	TX 1005	A Schneider	7/27/2016 22:10	20	18.14			<input type="checkbox"/>	B-E Cert. # T104704328-16-12



Remediation vs Cleaning

We distinguish remediation versus cleaning in the following ways

Remediation is a much larger cleaning effort, usually managing up through thousands of cubic yards of soil or large oceanic oil spills

The goals are the same, namely to remove hydrocarbons. The action is the same, applying De-Oil-It.

In general INDUSTRIAL CONCENTRATE is used in Remediation and READY-TO-USE (already diluted 1:1) is used for nearly all cleaning projects other than remediation. Usually remediation is uncut concerning not requiring diluting when managing water large remediation projects, and typically diluted 4:1 for large soil remediation.

For a variety of reasons, De-Oil-It is currently the only authorized private label degrader of Ecospersa. The following are equivalent:

- A. De-Oil-It "Ready-to-Use" is the only private label of EcoCarbon Clean, both products are the same formula and are used in all cleaning activities other than remediation. There is no harm further diluting Ready-to-Use formulas, in fact we recommend it to optimize cost and product coverage for a variety of cleaning requirements
- B. De-Oil-It "Industrial Concentrate" is the only private label of Ecospersa, both products are the same formula and are used for remediation, but can be diluted for a variety of common cleaning requirements.

Ready-to-Use vs. Industrial Concentrate

As previously described in this document, Ready-to-Use is already pre-diluted and activated; all you need to do is pour and clean. We provide a dilution chart to optimize cost and product coverage - diluting the product does not weaken De-Oil-It, rather it provides from experience sufficient amount of product usage (versus using too much).

Industrial Concentrate is now more typically used for remediation projects, but has always been diluted according to our suggested guideline charts (see within this document) for managing general cleaning requirements.



Dilution Guidelines Chart

DE-OIL-IT "CONCENTRATE DILUTION GUIDE"

HOUSEHOLD	Ratio
Driveways	3 to 1
Pavers	4 to 1
Lawn equipment	2 to 1
Clothes, Shop rags	5 to 1
Garage Floors	30 to 1
Shop Floors	30 to 1

AUTOMOTIVE	Ratio
Car Wash	30 to 1
Engine Cleaner	2 to 1
Engine Parts	2 to 1
Wheel Rim Cleaner	3 to 1
Car Debugger	5 to 1

REFINERIES	Ratio
Drill Rigs	5 to 1
Gas Station Platforms	6 to 1

MARINE	Ratio
Boat Wash/Teak	30 to 1
Scuff Marks	5 to 1
Bilge Cleaner	2 to 1
Bilge Pumps	2 to 1
Carbon Build ups	3 to 1
Fuel Tanks	3 to 1
Boat Docks	3 to 1

REMEDIATION	Ratio
On water	Uncut
Beaches & Marshes	Uncut
Land down to 100'	2 to 1
Retention Ponds	Uncut

ROADSIDE HAZARD	Ratio
Emergency Spills	2 to 1
Fire prevention	1 to 1

AVIATION	Ratio
Carbon Build-ups	2 to 1
Airport Runways	10 to 1
Turbines	2 to 1
Engine Parts	2 to 1

INDUSTRIAL	Ratio
Metal Parts	4 to 1
Hydraulic Lines	2 to 1
Gummed Deposits	1 to 1
Factory Floors	30 to 1
Loading Docks	3 to 1

JANITORIAL	Ratio
Parking Garages	5 to 1
Commercial Floors	30 to 1
Hospital Floors	30 to 1
Supermarket Floors	30 to 1

The dilution ratios listed are by "parts water" to "parts concentrate". These are estimates only. The actual ratio needed may change depending on the amount and viscosity of the petroleum present for your particular application. Generally, the stronger the concentrate, the better the results.



Square Foot Coverage Chart

Square Foot Coverage Effective Jan 2020

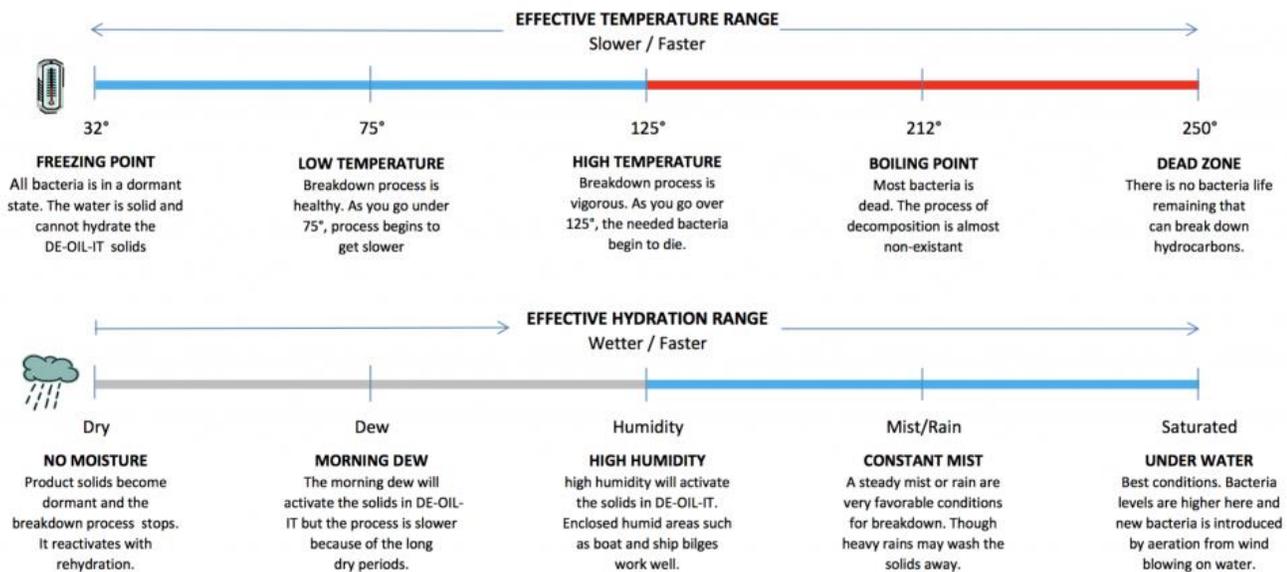
DISCRIPTION		SIZE	UNIT	SQ Foot Coverage RATIO (gallon water to gallon product) for simple cleaning, call for oceanic or land remediation applications										
UPC Code	Formula	Unit Liquid Contents	Unit Photo	Unit Size	2 : 1	3 : 1	4 : 1	5 : 1	6 : 1	10 : 1	30 : 1	31 : 1	32 : 1	
8 60003 23480 8	Ready-To-Use Fuel & Oil Spill Eliminator	22oz. Spray Bottle		L 4-1/2"										
				W 2-1/4"	A 22 oz spray bottle covers approximately 72 square feet									
				H 11-1/2"										
8 60003 23481 5	Diluted, Ready to Use	1-Gallon Jug		L 7-1/4"										
				W 4"	48	65	81	97	113	177	500	516	532	
				H 12-1/4"										
8 60003 23481 5	RTU-1GJ	L		Jug										
8 60003 23482 2	Diluted, Ready to Use	2 1/2-Gallon Jug		R 7-1/4"										
				W 6.5"	121	161	202	242	282	444	1250	1290	1331	
				H 12-1/4"										
8 60003 23482 2	RTU-1GJ	L		Jug										
8 60003 23483 9	Diluted, Ready to Use	5-Gallon Pail		L 10.5"										
				W 10"	242	323	403	484	565	887	2500	2581	2661	
				H 14.5"										
8 60003 23483 9	RTU-5GP	18,925 L		Pail										
8 60003 23484 6	Diluted, Ready to Use	55-Gallon Drum		R										
				D 23"	2661	3548	4435	5323	6210	9758	27,500	28,387	29,274	
				H 34-1/2"										
8 60003 23484 6	RTU-55GD	208,175 L		Drum										
8 60003 23485 3	Diluted, Ready to Use	275-Gal. Caged Tote		L 46-1/2"										
				W 39-1/2"	13,306	17,742	22,177	26,613	31,048	48,790	137,500	141,935	146,371	
				H 46"										
8 60003 23485 3	RTU-275GT	1,040.8L		Tote										
8 60003 23486 0	Industrial Strength Concentrate	5-Gallon Pail		L 10.5"										
				W 10"	242	323	403	484	565	887	2500	2581	2661	
				H 14.5"										
8 60003 23486 0	ISC-5GP	18,925 L		Pail										
8 60003 23487 7	Industrial Strength Concentrate	55-Gallon Drum		R										
				D 23"	2661	3548	4435	5323	6210	9758	27,500	28,387	29,274	
				H 34-1/2"										
8 60003 23487 7	ISC-55GD	208,175 L		Drum										
8 60003 23488 4	Industrial Strength Concentrate	275-Gal. Caged Tote		L 46-1/2"										
				W 39-1/2"	13,306	17,742	22,177	26,613	31,048	48,790	137,500	141,935	146,371	
				H 46"										
8 60003 23488 4	ISC-275GT	1,040.8L		Tote										
					2 gal. wtr	3 gal. wtr	4 gal. wtr	5 gal. wtr	6 gal. wtr	10 gal. wtr	30 gal. wtr	31 gal. wtr	32 gal. wtr	
					1 gal. DOI	1 gal. DOI	1 gal. DOI	1 gal. DOI	1 gal. DOI	1 gal. DOI	1 gal. DOI	1 gal. DOI	1 gal. DOI	



Performance Chart

DE-OIL-IT PRODUCT PERFORMANCE GRAPH

DE-OIL-IT is water activated and temperature driven. The wetter and warmer it gets, the better it performs.



- 1. Temperature** - The top graph illustrates what temperatures DE-OIL-IT performs best in.
- 2. Moisture** - The bottom graph shows that the more hydrated DE-OIL-IT gets, the better it performs.
- 3. Decomposition** - Petroleum molecules kill the earth's natural decomposing bacteria on contact. The oil remains there indefinitely.
- 4. Chemical Reaction** - When DE-OIL-IT is applied to petroleum, it changes its molecules enough to disarm their bacteria killing ability.
- 5. Bacteria Supply** - Once an area is treated, there must be enough fresh bacteria present to eat the petroleum. You find them in the air, water and soil. Sometimes enclosed areas such as storage tanks become a dead zone and need to have fresh air or water introduced during the remediation period.
- 6. Amount & Viscosity** - Results will also vary depending in the amount and viscosity of the petroleum being treated. Stronger levels of DE-OIL-IT concentrate may be required.



APPLICATION GUIDELINES

Household

Household usage of De-Oil-It manages general cleaning of the following but not limited to this list:

- Driveway stains
- Paver stains
- Garage floor stains from oil, fuel, radiator, and greases
- Deck stains
- Patio stains
- Suntan oils in pools
- Lawn mowers, weed whackers, edgers, chain saws, etc.
- Oil / greased stained clothes, rags, and carpets

In essence you are using De-Oil-It as a SOAP, and the normal methods you would use with soap is the same for De-Oil-It. For instance a bucket of cleaning solution would be to add De-Oil-It and some water to create a sudsy mixture.

How much De-Oil-It and water you use depends on what you are cleaning; if you create for instance a bucket of sudsy solution (De-Oil-It and water) and you run out, and don't have enough solution to clean - MAKE MORE !

There is guidance on general cleaning in the DILUTION GUIDE we have presented already in this document. It will help you have a better starting point regarding how much De-Oil-It to use. Don't stress out on the math; the dilution chart is all about ratios, and the easy to understand ratio is all about water to product.

For instance a 3:1 ratio means 3 gallons water and 1 gallon of De-Oil-It making a total volume of cleaning solution of 4 gallons.

Do you have to use gallons? NO... if your measurement is pints, cups, or whatever you would cut the product in this 3:1 example by 3 parts water, 1 part De-Oil-It. Easy. No stress.



If you accidentally spill gasoline from say your lawn mower or weed whacker, don't sweat it. De-Oil-It will immediately eliminate the odor, instantly start breaking down the fuel completely (De-Oil-It eliminates fuel very fast and very thoroughly), and will take out the carcinogenic elements of fuel.

From the Dilution Guide we provide these household cleaning examples

Driveways	3 to 1
Pavers	4 to 1
Lawn equipment	2 to 1
Clothes, regs, etc.	5 to 1
Garage floors	30 to 1
Shop Floors	30 to 1

In general, we have most customers buying gallon portions of De-Oil-It, if this is your case we appreciate your purchase and you can rest-a-sure any left over amounts will be usable for the foreseeable future as De-Oil-It does not have a shelf life, meaning it stays in its original potency as long as you store the remaining product in its original container.

If you have purchased the 22 ounce spray bottle you are more apt to be able to treat stains on clothing, spray on equipment (or car engines) to act in a grease removal cleaning - in other words small spills.

And as long as we are talking about spray bottles you can pour larger size De-Oil-It ready-for-use into any sprayer, aspirator (as in the end of a water hose in the same manner you would apply perhaps products to your lawn such as fertilizer, pest control, etc.), you can even use a pressure washer...



Don't see your specific application, we can make a recommendation, send email or call us.

The most common question from any cleaning is HOW LONG DO WE SOAK the product on the contaminant?

We generally recommend at least 10-15 minutes. We understand impatience and how to articulate knowing to what extent the product is working. To this regard the beauty of De-Oil-It, and why we always state De-Oil-It is environmentally responsible, De-Oil-It is ALWAYS WORKING EVEN WITHIN WATER / RINSING RUN-OFF INTO THE GROUND OR DRAIN.

Of course you want the stain, oil spill, fuel leak to be cleaned, and the usual visual checks you make when using soapy water using perhaps a known brand of dishwashing detergent, are the same as cleaning with De-Oil-It.

Product performance improves with soak time, so even while rinsed or washed away into soil or a drain for instance, the product is still working.

So, after some agitation, perhaps scrubbing or the like, and washing away the cleaning solution containing De-Oil-It, if you still see some grime, etc., re-wash like you normally would with ordinary soap.

It is not about setting a timer or alarm on your smart phone, there is no exact timing sequence to follow... the longer De-Oil-It soaks on the stain, spill, etc. before rinsing away, the more De-Oil-It will degrade the stain, spill, etc., therefore a more complete cleaning.

Finally, how long do you rinse? Answer: until the bubbling action subsides.

PLEASE NOTE: from an environmental responsible product perspective, note that as you clean, including washing clothes, the run-off into a drain is not the end of De-Oil-It working. De-Oil-It will continue to work in our drains, sewers, and road channeled run-off — exactly what you would want from a product advocating environmental responsibility. This claim of a continual degrading action, breaking down the stains, oils, etc. is unique to a degrader as all a degreaser / dispersant will do is move hydrocarbons from one location to another; a degrader in contrast moves AND neutralizes toxicity, and returns the hydrocarbon safely back into the environment in the form of soluble carbon, oxygen, and hydrogen. KEEP OUR ECOSYSTEM SAFE - USE A DEGRADER SUCH AS DE-OIL-IT.



Marine

Marinas • Yacht Clubs • Shipyards • Tugs • Port Security • Spill Response • Ships • Barges • Yachts • Patrol • Towing • Salvage • Fueling • Lightering • Refineries • Tank Farms • Fleet Ops • Drilling Rigs • Fuel & Oil Transfer Facilities

- ✓ Quickly begins to degrade fuel and oil spills on contact
- ✓ Instantly begins the biodegrading/remediation process
- ✓ Sprayable on to hot or running engines (no flash point)
- ✓ Quickly degrades fuel/oil spills on land, water, surfaces
- ✓ Reduces or eliminates explosive vapors at their source
- ✓ Removes fuel & exhaust stains from hulls and stacks
- ✓ Economical concentrate dilutable up to 10:1 with water
- ✓ No costly cleanup • disposal of contaminated sorbents
- ✓ Meets and or exceeds Clean Marina criteria
- ✓ Safely cleans grease traps, catch basins and drains
- ✓ Cleans scuff marks, wine, bird stains from decks
- ✓ Cleans test tanks, replaces harmful detergents
- ✓ Cleans degrades bilge oil/fuel for safe pump-out
- ✓ Reduces risk of heavy fines for oily discharges
- ✓ Cleans/degreases engines & parts, water cleanup
- ✓ No harmful runoff from boat washing & test-tanks
- ✓ Cleans teak with no harmful acids to leak out its natural oils

Cleaning in the marine industry is a combination of general cleaning (such as described in the HOUSEHOLD section) - meaning making for instance a bucket of sudsy soap water, to controlling your bilge of odor, buildup of oil or leaking fuel.

Or perhaps you want to remove stains on the deck; same principle as general



cleaning already outlined.

To review general cleaning, apply a pre-rinse to the area so you provide initial moisture, apply De-Oil-It (spray, spritz, pressure wash, aspirator, etc.), and allow to soak. While not necessary it does help to agitate the applied product on stain or spill; sometimes this is managed by a brush, maybe a rag, or you applied the product using pressure washer, etc. and the action of product hitting the required area naturally agitated by the force hitting the surface.

In a bilge we highly recommend having at least a gallon of De-Oil-It and apply direct out of the ready-to-use formula (which could be diluted if you want to extend the amount of De-Oil-It liquid to a variety of cleaning needs) or if you have the industrial concentrate formula you do need to dilute to properly activate De-Oil-It.

We have learned over the years the following dilution guide lines work very well in marine cleaning applications

Boat wash / teak	30 to 1
Scuff marks	5 to 1
Bilge cleaning	2 to 1
Carbon build ups	3 to 1
Fuel tanks	3 to 1
Boat docks	3 to 1

For marina owners / dock masters / operators, etc. we strongly urge keeping De-Oil-It on hand to manage spills at the fuel station, and recommend a program to spritz on the water surrounding boats, docks, etc. De-Oil-It is a superior eliminator of sheens of fuel and oil; you will be keeping your marina area looking inviting, clean, and less smelly. De-Oil-It is an environmentally responsible method of removing hydrocarbon contaminants (fuel, oil, grease) in which ALL BOATS leak at one point or another, even if resting in their dock position. Nearly 90%+ marinas for recreation or commercial have a water stagnation problem; in their designs to reduce water wave formation reduce rocking and swaying of boats in the marina; its a convenience many boat owners enjoy while chilling out on their boat in its docked position. The issue is even the tides do not help to flush out the waters in the marina; for all intensive purposes marina waters tend to stagnate and therefore build up of oils, fuels, etc. effecting the small localized ecosystem. If marinas would invest in a marina beautification and environmental program, De-Oil-It would be number one to achieve their goals. Remember De-Oil-It keeps on working even after a wash or preventative measures of spritzing out on the stagnant



waters to eliminate sheens, foaming, and odors.

Another important feature of De-Oil-It is the product does not have a flash point, it immediately eliminates fire hazards of leaking fuel, stops leaking fuel odor ON CONTACT (even diesel), and will act as a fire extinguisher on a fire in the bilge / and engine (assuming the initiator of the fire was spilled fuel; however, depending on the amount of fire, we would still recommend using a properly inspected fire extinguisher - we are not calling for a replacement of a fire extinguisher we are mere letting you know from experience that De-Oil-It is usable as a first response to preventing and in action fire).

Before leaving the marine section we will need to preserve some history of using De-Oil-It on water from the perspective of the EPA; and we understand that in Canada, England, Europe, etc. there is a similar concern about using a product such as De-Oil-It on waterways.

We provide a broader more detailed discussion about the EPA and using De-Oil-It on waterways but for the point of concluding for marine usage of De-Oil-It we can safely and legally express that cleaning your boat, your bilge and spraying perhaps out over the edge of your boat to immediately eliminate fuel / oil sheens is all fair game, no problems. Once a spill starts to climb over 500-1000 gallons this is considered a small spill reporting requirement. The US Coast Guard has already approved De-Oil-It for first responder action on spills, fires, etc.; we are restricted from posting this letter of approval because they consider it a form of marketing (so we had to remove from our website). The EPA, and specifically to the process of deploying NCP list product, does allow use of products for reportable spills according to the decision and discretion of local EPA officials. The EPA works on a national, state and local first responder chain of command and how they expect to act and decide on product usage is all governed by CFAR 40.

Regulations are codified annually in the U.S. Code of Federal **Regulations (CFR)**. Title **40**: Protection of Environment is the section of the **CFR** that deals with EPA's mission of protecting human health and the environment.

Section CFR 40 300.90 comments on the emergency use of products not on the NCP list, on navigable waters. If human life is at stake and the first immediate response is deemed critical to containment, and can reasonably reduce the danger to human life, a product not on the NCP list can be used. De-Oil-It is already authorized in emergency situations by the US Coast Guard and has been since 2012. Beyond the criteria of endangerment to



human life, the regional responders with EPA authority can still select a product outside the NCP list; this decision considers available product approved on the NCP list, nature of the problem at hand, and immediacy believed to control the situation before it comes much worse.

In other words there are no regulations, laws, etc. that restrict using a product like De-Oil-It for boats, marina fuel stations, marina maintenance, etc. for general cleaning and maintenance; and there are no substantial restrictions using our kind of product for spills other than the need to report spills once they are 500+ gallons (that is a lot even in “small spills”).

We urge you to visit our website where we provide the full EPA approved laboratory test of De-Oil-It that concludes the product has very low toxicity in regards to treating spills in water. We also provide relevant sections of CFR 40 to further illustrate the extent of EPA regulations you might want to familiarize yourself.

Cleaning time: as previously presented in the Household cleaning section we generally advise to leave De-Oil-It on the area you are cleaning for at least 10-15 minutes which is a reasonable amount of time to have De-Oil-It degrade the hydrocarbons.

Product performance increases over time and De-Oil-It continues to work even in rinsing water runoff into a drain.

For boat bilges we advise pour about a cup of De-Oil-It, splash some water from a hose (or bucket) into the bottom of the bilge to start some foaming action, close the bilge, walk away .. the longer a De-Oil-It solution stays in your bilge the more the oils and fuels break down so that when the bilge discharges into the water you have far less film sheens forming around your boat. This could be a money saver with regard to we are getting a lot of feedback of regulation crack downs on boat discharges; boaters are getting fined for discharging oil, fuel sheens on the surface - use De-Oil-It in your bilge and this will not happen, you would be discharging degraded hydrocarbon contamination in the safe non-toxic form of soluble carbon, oxygen and hydrogen.

Final note on boat cleaning, when washing windows DO NOT LET THE CLEANING SOLUTION DRY, and in fact washing windows is a priority to scrub and immediately rinse the cleaning solution containing De-Oil-It. The reason for this is in many cases glass for boats, automobiles, etc. have a thin protective layer usually for UV protection, and this is a by-



product of petroleum and yes, De-Oil-It will attempt to break down. So on glass, apply, scrub if you are so inclined to do, and rinse off the De-Oil-It based cleaning solution immediately.

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Automotive

Automotive cleaning suggestions are similar to prior sections about households and marine industry; specifically you are cleaning with De-Oil-It in a manner that you are most likely already used to, meaning if you have cleaned with a soapy water mixture you already know how to clean with De-Oil-It.

De-Oil-It Ready-to-Use formula can be applied directly onto the surface that needs to be cleaned. Placing the product into a bucket and adding some water to start a sudsy solution is the way to go; adding water will not weaken the product (it is dilutable up to 33:1).

As in prior sections, we recommend at least 10-15 minutes soaking time.

The steps washing, cleaning with De-Oil-It is like your prior life cleaning experiences with automobiles. Apply initial rinse to clean as much surface dust and dirt, etc. Apply De-Oil-It based cleaning solution (typically a sudsy solution De-Oil-It plus some water in a bucket). Scrub. Rinse.

De-Oil-It is an environmentally responsible, safe, very effective removal of hydrocarbons such as fuel, oil, grease, and the like; therefore, De-Oil-It



will clean just like a degreaser, and in many cases, especially soap products. De-Oil-It will be an absolutely superior cleaning product as compared to degreasers and soap; this is why there is now an exclusive product use among top oil and fuel companies using De-Oil-It because of De-Oil-It's superior hydrocarbon cleaning, degrading, and environmentally responsible, ecosystem friend capabilities.

De-Oil-It's environmentally responsible degrading claims have been authenticated by the Greenworld Environmental Alliance (GEA) an IRS approved 501-c-3 nonprofit organization that has used grant money to provide a university with the evaluation of De-Oil-It to report and verify the degrading action of De-Oil-It is provable. What this means in regard to "environmentally responsible" is when cleaning say an engine's grease, caked on or fresh oil spill, or even fuel seepage; De-Oil-It will not only clean but will also keep working when rinsed away as water run-off - this is key to defining environmentally responsible. Compare a degrader to a degreaser or dispersant; degreasers and dispersants essentially move contaminant from one location (where you are cleaning) to another (in a drain for instance). A degrader, such as De-Oil-It, breaks down the fuel, oil, grease (hydrocarbon) rendering the smaller simplified altered hydrocarbon molecular structure to be neutralized, detoxified so that natural occurring bacteria finish the break down process. This continual breaking down process by De-Oil-It and bacteria CONTINUES EVEN IN WATER RUN-OFF FROM RINSING AWAY THE CLEANING

SOLUTION.

Washing an automobile on the outside or engine or under carriage is no different from previous sections; just like you would with other cleaning approaches you might typically fill a bucket to a sudsy consistency and use rags, sponges, mops, etc. to wash, maybe you will even use a pressure washer. The only thing we regard in cleaning a boat or auto is don't let the cleaning solution stay too long on glass; treat glass as a priority in cleaning by spray, agitate, and rinse soon as possible and there will be no damage to the glass

Some of the suggested dilutions for automotive cleaning are the following



Car wash	30 to 1
Engine cleaner	2 to 1
Engine parts	2 to 1
Wheel rim cleaner	3 to 1
Car debugger	5 to 1

As always concerning dilution ratios, the dilution is always WATER to PRODUCT,so 3 to 1 is 3 parts (usually gallons) water and 1 part De-Oil-It.

Don't be concerned about READY-TO-USE versus INDUSTRIAL CONCENTRATE when diluting. Ready-to-Use is already diluted 1:1, following the dilution chart will not overly weaken the product; diluting by the guide helps you to get a starting point creating a cleaning solution and extends the product. For the industrial concentrate diluting is very important as water activates the product. Ready-to-Use is really just pour, apply, use.

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Aviation

Aviation cleaning will as you are familiar from reading this document is all about creating a cleaning solution by the guidelines of the dilution chart or through your own experience.

One item we would like to bring to your attention is besides cleaning a plane, its parts, the tarmac, and maintenance bays, you might want to consider soil treatment at the airport, maintenance, production areas. De-Oil-It has been used, particularly in Trinidad and Tobago by our distributor in that region, Tank and Fuel company, who successfully treated ground areas around the runway to eliminate fuel elements such as benzene from the ground. This occurs because washing and rain causes water run-off and if it doesn't go down a drain it



will go to the path of least resistance into the soil.

Typical cleaning solution ratios for aviation includes but is not limited to the following:

Carbon build up	2 to 1
Airport runways	10 to 1
Turbines	2 to 1
Engine parts	2 to 1
Surrounding soil	2 to 1 then 30 to 1

Approach your Aviation industry cleaning like other cleaning efforts using soaps and degreasers: apply, scrub, rinse away. We just advise that after scrubbing (which in many cases we refer to as “agitation”) you let the cleaning solution soak for at least 10-15 minutes. The longer you let soak the better De-Oil-It’s performance will be.

Outside areas such as Airport runways and tarmacs for example, it is common to use a pressure washer. De-Oil-It works well in this application method. Based on a lot of feedback from professional pressure washers the best approach is first spray water without De-Oil-It to remove as much particulate matter such as dust, pollen, grime, etc. Warm water is always advised because this improves the performance of De-Oil-It. After the initial rinse, pressure wash using a De-Oil-It based cleaning solution. It is ok to use Ready-to-Use out of the container but in many cases to optimize cost and coverage it is perfectly ok to dilute with water, which will not weaken the capabilities of De-Oil-It. Warm water is best to use, between 70-90 F. Pressure wash on the surface and before rinsing let the solution soak for 20-30 minutes when washing hard surfaces such as concrete, longer if you can allow extra time.

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Industrial and General Maintenance

Industrial and General Maintenance refers to janitor cleaning, large shop floor cleaning, manufacturing cleaning etc.

Industrial cleaning includes prior general cleaning “bucket of suds”, to now pressure washing, and janitorial.

As usual pre-rinsing to start moisture (see performance chart), apply, agitation is probably more applicable to industrial cleaning, SOAK, then rinse until bubbling action subsides. Recommended soaking time is 20-30 minutes as we typically hear cleaning industrially is usually tackling larger size cleaning areas or there is more grime and dirt than say you face at home.

Machine assistance with floors or pressure washing is typical; De-Oil-It works very well in this cleaning application.

As we have described in prior sections the approach to cleaning is the same, we recommend a pre-rinse of the area to be cleaned to remove debris, etc.; then apply a De-Oil-It based cleaning solution, agitate (machine, mop, sponge, etc.), soak (20-30 minutes based on experience in these environments), rinse away until surface bubbling action subsides.

Some sample industrial cleaning solutions via our dilution guide are:

Metal parts	4 to 1
Hydraulic Lines, etc.	2 to 1
Gummed deposits	1 to 1
Loading docks	3 to 1
Parking garages	5 to 1
Commercial floors	30 to 1
Hospital floors	30 to 1
Supermarket floors	30 to 1
Factory floors	30 to 1

We have had fabulous results cleaning metal parts especially when they have been brand new, many times to fight corrosion metal parts are purposely shipped with a finely applied light oil that De-Oil-It will easily remove. We DO NOT RECOMMEND a De-Oil-It cleaning solution be used for SONIC CLEANING TREATMENT; we have found that the sonic treatment interferes



with the method De-Oil-It breaks down hydrocarbon, specifically speaking of the ability of De-Oil-It to cap simplified degraded hydrocarbon chains by altering polarity of the molecule to prevent re-attaching to surrounding molecules (this is why soaps, like familiar dishwashing soaps are not effective in a degreasing manner, these familiar soap products start to act like De-Oil-It but have an inefficient polarity capping capability and more easily allow the altered oil molecules rejoin together .. this explains some “greasy” feelings after cleaning with a dishwashing soap :: De-Oil-It on the other hand more strongly binds the ends of broken down molecules and the only interference we have run into is sonic cleaning)

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Environmental Remediation (non-reportable)

Small scale remediation is typically a volume of under 500 gallons or a size of up to 1,000 square feet.

We cannot adequately or accurately describe in detail what is reportable, what is small scale, or what is contained within the regulations because they vary depending on locality, the rules of a municipality, park, state, and Federal. This is why we request you to be familiar with regulations that effect your region and application.

Most likely this kind of remediation, i.e. something beyond general cleaning, requires larger volumes of De-Oil-It; this is why we carry 55-gallon drums, and 275 gallon totes, plus provide a square foot coverage chart to help you decide what starting volumes you may require to get started (and perhaps finish your remediation task).

Contact us for assistance on coverage.

Unfortunately we do not have to resources that adequately allow us to articulate what is reportable and what is not; if in doubt call your local government to understand what your responsibilities are.

We need to repeat that even though De-Oil-It is not on the EPA's NCP list, it is still possible to use De-Oil-It for reportable spills. The CFR regulation 40 clearly lists the criteria when a product not on the NCP list can be used. The US Coast Guard has already granted use of De-Oil-It, in 2012, as usable in a first responder action to an emergency spill. We are not permitted to vend on our website because the US Coast Guard regards this action as "marketing"; but if necessary we can submit to you if in need.

Remediation of De-Oil-It on water is use the product uncut, even the Ready-to-Use which is predicated but extremely effective on fuel spills and will cover small scale remediation of oil.

For small scale LAND / SOIL remediation the general rule of thumb is cut the product to a ratio of 2 to 1. There is no need for small scale to drill access holes to ensure depth coverage of De-Oil-It (but there is this need many times for large scale remediation on land).



Environmental Remediation (reportable)

On NAVIGABLE waters, the EPA requirement is what they refer to as the “SHEEN RULE” meaning quantity does not matter, it is merely the presence of an oil or fuel sheen on top of the water. In essence this means nearly every owner of a recreational boat this is a concern, especially during general maintenance replacing for instance a fuel filter or cleaning out a bilge (or your bilge naturally discharges contaminated water of oil and / or fuel). This is why we urge boaters to always have on hand De-Oil-It to treat their bilge monthly, and to have a spray bottle (we sell a convenient 22-oz solution in a spray bottle applicator). We continually receive feedback from boaters who are being fined for leaving a sheen around their boat; you should take preventative measures.

According to US Federal Government CFR regulation 40, section 300, there can be usage of products on the NCP list and not on the NCP list to treat emergency situations to contain the spills before becoming more of a dangerous situation. The NCP stands for National Contingency Plan, and the list is EPA products approved for cleaning oil and fuel spills (i.e. hydrocarbon pollution).

The following is a real life experience by the owner of De-Oil-It at his boat dock; his boat was in vicinity of a Viking 68 foot vessel that just had it's Perkin diesel fuel filter replaced and the result was diesel fuel was leaking just around the two boats (Viking and Cris Craft Commander). The sheen was obvious and noxious. The De-Oil-It 22oz spray bottle was placed into use and the sheen and odor were instantly removed.





Water Remediation

Probably the most critical large remediation will be another kind of BP Horizon Oil spill. While De-Oil-It is not on the NCP list, we have described several times in this document that it is still entirely possible to use De-Oil-It for reportable oil spills on water. CFR 40, section 300 describes this well. <https://www.epa.gov/laws-regulations/regulations>

Large scale water remediation will typically involve:

1. Use De-Oil-It INDUSTRIAL CONCENTRATE
2. Add directly to the water by corralling the oil spill at its outer edges
3. After the oil slick has been corralled spray De-Oil-It on top of the corralled oil
4. Let soak for 24 hours before reapplying

How much product to use depends on the square foot area effected by the oil slick, you can use our square foot coverage chart to help with approximations. You may require several treatments every 24 hours until there is significant emulsified layers forming on top of the water. Typical recovery remediation would take place next to place a boom or flotilla around the surrounding oil slick and vacuum off the top treated layers.

There have been extremely successful oil slick removals in Trinidad and Tobago by our distributor Tank and Fuel. They were not hampered by government regulations as we are concerning EPA involvement. Besides the EPA currently still embraces dispersant technology which is far more toxic and sinks oil in stark contrast to a degrader such as De-Oil-It.

Notice that we refer to water remediation requiring reporting to EPA or other authorities concerning NAVIGABLE WATERS. This is the area of concern by the EPA. There are no outstanding remarks on CFR 40 about other sources of water, such as a lake, pond, or other description; our belief is you should contact government authorities to better understand your responsibilities; regrettably we do not have a central database or extensive list of region responsibilities.

But incase you are granted an acceptance here is a proven method in general

- | | |
|--------|---|
| STEP 1 | Build Solution for WATER |
| STEP 2 | Broadcast Solution over contaminated area |
| STEP 3 | Repeat step 1 & 2 until successful remediation obtained |

ALLOW 15 minutes for “build solution” (i.e. PDV, PAV) to set before applying



Water Remediation Method Details

1. Determine the number of applications that will be performed that day
2. Build the “PER DAY” Solution for water
3. Broadcast Solution over contaminated area thoroughly cover contaminated water using high PSI pump (40 PSI or greater)
4. Allow solution to set at least 15 minutes before reapplying
5. Repeat steps until desired results are achieved

Initial notes

The amount of solution built is based on the surface area and thickness of the hydrocarbon contamination.

This method reduces hydrocarbon contamination up to 90% on initial application

Per day solution is built by mixing De-Oil-It INDUSTRIAL STRENGTH or ECOSPERSA (they are equivalent formulas, just different names) with fresh water at a 3:1 ratio (3 parts water, 1 part De-Oil-It)

You would purchase 275 gallon totes size of De-Oil-It INDUSTRIAL STRENGTH

Build “PER DAY” Solution = PDV

It is recommended that no more than one application be performed per day (surface area is expected in square feet)

$$PDV = ((\text{surface area} / 450) \times 275 \times (\text{oil thickness in inches} / 0.125)) + ((825 \times (\text{surface area} / 450))$$

Example:

Surface area = 900, thickness = 0.125 inches (typical oil slick, 1/8 inch)

$$((900 / 450) \times 275 \times (0.125 / 0.125) + ((825 \times (900 / 450))) = 2,200 \text{ gal}$$

3:1 ratio = 1,650 fresh water plus 550 gallons De-Oil-It Industrial Conc.



How do you know when to apply again ??

This is experience, generally the emulsified layer at the top will start to change colors to a lighter tone, and break apart. In some cases depending on salinity, wave action, and many other factors the emulsified layer will completely break down and disappear, in other cases you might need to reapply depending on budget for the product or spend money of a vacuuming up the surface. We have seen complete degrading in 70-92 hours, but this experience may be different than yours. We have remediation experts to confirm your approach and further decisions; contact us at 407-574-3898 or send email to info@deoilit.com.

Soil Remediation - Shallow (contamination on top 2 ft of soil)

This scale of remediation on land is nearly always reportable even on private or company property. We assume you have authorization in one form or another to use De-Oil-It for this cleanup activity. In some cases the NCP list will rear its head again and either be accepted according to CFR 40 requirements, or as in several of our customers they were granted an acceptance. In general we have seen far less scrutiny on allowing non-NCP listed products to be used on land, we do find a lot more red tape using non-NCP listed products for navigable water remediation.

Having said all of that, here is a well known successful approach to shallow soil remediation methods:

- STEP 1 Build Solution for SHALLOW SOIL contamination for that day
- STEP 2 Till top 6 inches soil
- STEP 3 Broadcast solution over contaminated area
- STEP 4 Allow solution to soak (at least 10 minutes if you are to apply more that day)

ALLOW 15 minutes for “build solution” (i.e. PDV, PAV) to set before applying



Shallow Soil Remediation Method Details

1. Determine PER DAY VOLUME OF SOLUTION = **PDV**
2. Determine PER APPLICATION VOLUME = **PAV**
3. Till top 6 inches soil
 - A. Use a rear tine tiller for smaller areas (ex. Honda FRC 800)
 - B. Use machine mounted tiller for large areas (ex. Skid steer w/ tiller)
4. Broadcast solution using 40 psi or more capable pump
5. Allow solution to soak at least 10 minutes before next PAV
6. Repeat steps; next day (or days application) best determined by hydrocarbon measuring instrumentation

Initial Notes

The amount of solution is based on surface area, depth, and levels of hydrocarbons found using appropriate measuring instrumentation.

This method's solution reduces hydrocarbon contamination

(A) WHEN INITIAL LEVELS OF CONTAMINATION > 50,000 PPM
- will reduce up to 40,000 PPM / application day

(B) WHEN INITIAL LEVELS CONTAMINATION < 50,000 PPM
- will reduce contamination BY HALF / application day

The solution mixture recommended is made from De-Oil-It INDUSTRIAL CONCENTRATE at a 4:1 ratio (4 parts fresh water, 1 part De-Oil-It

It is recommended that NO MORE THAN 4 APPLICATIONS (PAV) BE PERFORMED IN A DAY

Build PER DAY VOLUME = PDV

$PDV = (\text{surface area} / 81) \times (\text{depth inches} / 3) \times 5 \text{ gallons soln} \times 4 \text{ apps}$

Example

60 square feet contaminated area at depth of 24 inches

Initial hydrocarbon measurement 80,000 ppm to 120,000 ppm

$PDV = (60 / 81) \times (24 / 3) \times 5 \times 4 = 119 \text{ gallons at a 4:1 ratio}$

PDV = 95 gallons fresh water + 24 gallons De-Oil-It INDUSTRIAL STRENGTH

$PAV = 119 / 4 = 30 \text{ gallons solution per application}$



Further Information

In total it would take about 8 applications for this method to clear the hydrocarbons given the parameters of this example

In the initial day we would expect the 80,000 - 120,000 PPM to be cut by 40,000 PPM per first application, and then approx. in half thereafter.

This kind of example the site would be closed under 1,000 PPM

Soil Remediation - Deep (contamination below 2 ft of soil)

This scale of remediation on land is nearly always reportable even on private or company property. We assume you have authorization in one form or another to use De-Oil-It for this cleanup activity. In some cases the NCP list will rear its head again and either be accepted according to CFR 40 requirements, or as in several of our customers they were granted an acceptance. In general we have seen far less scrutiny on allowing non-NCP listed products to be used on land, we do find a lot more red tape using non-NCP listed products for navigable water remediation.

Having said all of that, here is a well known successful approach to deep soil remediation methods:

- STEP 1 Install bore holes
- STEP 2 Build Solution for DEEP SOIL contamination for that day
- STEP 3 Inject solution into bore holes
- STEP 4 Allow solution to soak (at least 10 minutes if you are to apply more that day
- STEP 5 Repeat until you achieve remediation goals

ALLOW 15 minutes for “build solution” (i.e. PDV, PAV) to set before applying

Deep Soil Remediation Method Details

1. Install 4 inch bore holes using a grid pattern, separation of grid pattern is determined by soil type: clay 2’x2’, sand 4’x4’
2. Bore holes should extend 6 inches below known depth of contaminated soil
 - A. Use Skid steer w/ auger for 2-5 feet contamination depth
 - B. Use Drill Rig for sites with 6 feet or greater contamination depth



3. Build PDV solution (for Deep Soil PDV = PAV)
4. Inject PDV solution size in bore holes, completely fill all bore holes
5. Allow time for bore hole solution to soak into the soil formation, the amount of time to permeate the soil formation varies per soil type

Build PER DAY VOLUME = PDV

$$PDV = (\text{surface area} / 81) \times (\text{depth inches} / 3) \times 5 \text{ gallons soln} \times 4 \text{ apps}$$

Further information

PERFORM ONE INJECTION PER DAY for Deep Soil Remediation

Measure hydrocarbon contamination with appropriate instrumentation

Your goal will be to get contamination level to within 2 feet of soil, then switch to SHALLOW SOIL remediation

Materials Remediation - Such as oil pipelines

This section covers materials typically associated with the gas and oil industries concerning cleaning equipment such as pipelines or other items that might have had residual grease, oil, fuel in contact with the equipment.

In the USA the usual EPA NCP list requirements are fairly stringent in this kind of remediation because it is usually on the property of a gas / oil company, and all products they have on hand end up being tightly regulated. It's just the nature of the beast, and we assume you have permission or are working outside the US.

- STEP 1: Build per application volume PAV (allow to set 15 mins)
STEP 2: Spray on materials, soak for 5 mins, scrub, rinse w/ fresh water
STEP 3: Repeat, if necessary, until equipment clean

Materials Remediation Method Details

1. Build cleaning solution at 1:1 ratio (1 part water to 1 part De-Oil-It ISC)
2. Determine application sprayer type
 - A. 1/4 gallon spray bottle = 1/8 gal. fresh water to 1/8 gal De-Oil-It ISC
 - B. 2 gal pump sprayer = 1 gal. fresh water to 1 gal. De-Oil-It ISC
 - C. 50 gallon pressure washer = 25 gal. fresh water to 25 gal De-Oil-It ISC
3. Spray on to materials
 - A. Solution immediately relieves surface tension of hydrocarbon



- contaminate on materials using light agitation
- B. There is no need to capture excess fluids, De-Oil-It will continue to break down hydrocarbons which is why we refer to De-Oil-It as the environmentally responsible hydrocarbon degrader
4. Allow the solution to soak for 5 minutes
 5. Scrub materials
 - A. Use a soft bristle brush for smaller or delicate items (Tools, etc.)
 - B. Use a hard bristle brush for industrial items (concrete, pipe racks, etc.)
 6. Rinse with fresh water
 7. Repeat until desired results are achieved

ISC = "Industrial Strength Concentrate"

Build PER APPLICATION VOLUME = PAV

- 1/4 gallon spray bottle = 1/8 gal. fresh water to 1/8 gal De-Oil-It ISC
- 2 gal pump sprayer = 1 gal. fresh water to 1 gal. De-Oil-It ISC
- 50 gallon pressure washer = 25 gal. fresh water to 25 gal De-Oil-It ISC

The amount of PAV depends on amount of materials to be cleaned and the thickness of the hydrocarbon contamination

Further information

Usually one application achieves results

Note: when cleaning the inside of a pipeline using a PIG, we have had numerous comments that De-Oil-It achieves the best results ever seen; these comments come from USA and Nigeria.



Remediation Warnings

1. Responsibility is yours for applying product under local, state, federal laws
2. De-Oil-It is not designed for EPA approval in aquifers, rivers, lakes, oceans
3. De-Oil-It is recommended for use in ponds associated with oil, gas production
4. De-Oil-It, under the Ecospersa name, both are equivalent formulas, is undergoing trials to be placed on the EPA NCP (National Contingency Plan) list. Upon successful completion of testing and trials, and inclusion on the EPA NCP list, De-Oil-It / Ecospersa will issue a new formula to include aquifers, rivers, lakes and oceans.



APPENDIX

Transportation Classification and Shipping Codes

Domestic Shipping Code NMFS 48450-3, Class 55
International Shipping HS 3402.90.90

De-Oil-It from a transportation perspective is regarded as

- A specialized organic soap
- Non Hazardous
- Non Toxic
- No Flash Point
- Unlimited Shelf Life
- Do Not Freeze
- Rinse effected skin areas when spillage occurs and therefore skin contact, note that this is a general precautionary measure



EPA Lab-Approved Test Results

See the entire 66 page PDF (4.6 MB) test result at <http://deoilit.com/data>



TCEQ TNi Accredited



LDEQ NELAP Accredited



Bio-Aquatic Testing

2501 Mayes Rd
Suite 100
Carrollton, TX 75006
(972) 242-7750

GreenWorld Innovation, Corp.

De-Oil-It Industrial Strength Concentrate

48 Hour Acute *Mysidopsis bahia* Toxicity Test
and
96-Hour Acute *Menidia beryllina* Toxicity Test

Using:
De-Oil-It Industrial Strength Concentrate
#2 Fuel Oil
De-Oil-It Industrial Strength Concentrate / #2 Fuel Oil Mixture

Prepared by: 
Vice President

July 14, 2017
Date



SDS

See all De-Oil-It SDS files (2.3 MB each) at <http://deoilit.com/data>

DE-OIL-IT TM **Safety Data Sheet**

1. Product and Company Identification Effective Date: 06/20/2016
Revision: 01

DE-OIL-IT FUEL AND OIL SPILL ELIMINATOR

Principal Use: Cleans grease, fuel, or oil stains
Description: Liquid

Green World Innovations Corp.
3813 Highgate Drive
Valrico, FL 33594

Phone: (407) 574-3898
Fax: (813) 413-6073
Website: DEOILIT.com

2. Hazards Identification

Emergency Overview

Appearance: Clear liquid
Physical Hazards: None
Health Hazards: None

* Hazard summary defined by OSHA Hazard Comm. Std., 29 CFR 1910.1200.

Potential Health Effects:

General: This health hazard assessment based on information from commercial and scientific literature. Keep product away from children.

Ingestion: Relative to other materials, this material is classified as "relatively non-toxic".

Eye Contact: May cause irritation of eyes.

Skin Contact: Non-irritating to skin.

Skin Absorption: Not likely to be absorbed through skin.

Inhalation: Inhalation of vapors or mists can cause headaches, nausea and irritation of nose, throat and lungs.

3. Composition/Information on Ingredients

Ingredients:	%(w/w)	OSHA PEL
Emulsifier	---	Not listed
Solvent	---	Not listed
Cleaning agent	---	Not listed
Solubilizer	---	Not listed
Water	---	Not listed

Ingredients not precisely identified are proprietary or non hazardous. Values are not product specifications.

DE-OIL-IT FUEL AND OIL SPILL ELIMINATOR Page 1 of 4
US - English