

MICROBE[™] Oil Spill Cleaner

Available in Bulk,
Tote, Drum, Pail,
Gallon and Quart

FEATURES & BENEFITS

- Ground-breaking Microbe Technology remediates hydrocarbons into water and carbon dioxide.
- Eliminates 100% of disposal costs
- Eliminates need for granular absorbants, socks, pads and caustic degreasers
- Easily applied with mops, auto floor scrubbers and degreasing equipment
- Excellent rinseability, dries quickly and removes all oily, slick film, leaving a non-slip surface
- NSF-Approved A-1, A-4 Class; biodegradable with a pH of 7
- Safe to use on any water-safe surface, including metal, concrete, plastic and rubber
- Renders flammable liquids, such as gasoline, diesel or jet fuel, non-flammable
- Non-toxic, non-pathogenic, and is completely harmless to human, plant, animal and marine life
- Compatible with oil/water separators, skimming units, evaporators, polymers and more

SAFETY SOLUTIONS

MICROBE OIL SPILL CLEANER[™] has a pH of 7 and does not have any odor or contain any corrosives or butyls. These microbes are naturally-occurring, not genetically engineered, and are non-toxic and non-pathogenic. It prevents slip and fall accidents, which are 30% of all workplace accidents, by removing the oily film and leaving surfaces dry and oil-free.

MICROBE OIL SPILL CLEANER[™] significantly reduces the ability of flammable hydrocarbons to ignite. First, the VOC's are inerted on contact, eliminating the potential for ignition. Second, it removes the fuel and slickness, resulting in reduction of future accidents and surface degradation.



BIOREMEDIATION TECHNOLOGY

Bioremediation is the application of biological microbes for the clean up of hazardous oil spills resulting in a safe, efficient and cost-effective solution.

Bioremediation (Fig. 1) uses microbes, enzymes, oxygen and other nutrients to chemically transform oil into carbon dioxide and water.

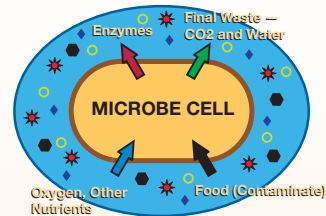


Fig. 1

MICROBE OIL SPILL CLEANER[™] (Fig. 2) increases the surface area of the oil while the enzymes break down the contaminants into smaller molecules.

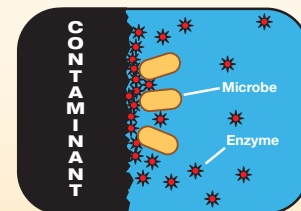


Fig. 2

The enzymes then attract the microbes (Fig. 3), which consume the oil, leaving only water and carbon dioxide as by-products. Once the reaction is complete, the enzymes break free to attach to another hydrocarbon source in order to repeat the same reaction.



Fig. 3

FOOD PROCESSING SOLUTIONS

MICROBE OIL SPILL CLEANER[™] removes and degrades vegetable and animal oils and greases as well as proteins, starches and carbohydrates. It is NSF approved (A-1, A-4) for use as a general cleaner and a floor and wall cleaner. Provides "deep-cleaning" by penetrating the floor's surface and removing embedded oil/grease left in pores, cracks, grout and crevices by soap-based segrasers. Floor drains, normally clogged by soap-based cleaners, stay clean, free-running and odor-free.



NSF Reg No. 123558
Category Code: A-1, A-4

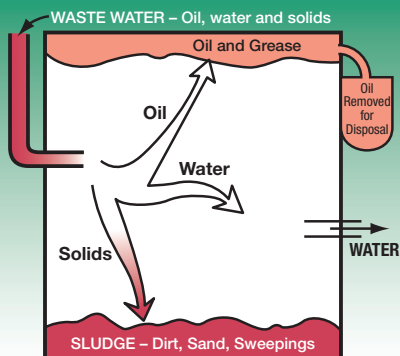
DILUTION SOLUTIONS

MICROBE OIL SPILL CLEANER[™] is highly concentrated and works best when properly diluted. We offer a variety of proportioner systems for drums and totes. The drum proportioner automatically mixes water with MICROBE OIL SPILL CLEANER[™] precisely to the prescribed

ratio, and is capable of being wall-mounted. The tote dispensing system consists of one 275-gallon tote (empty), a proportioner and a delivery hose. When added to a 275-gallon tote of MICROBE OIL SPILL CLEANER™ (bottom tote), the proportioner dilutes the product at the prescribed ratio and stores the ready-to-use product in the top tote for continuous dispensing.

USES & APPLICATIONS

OIL & WATER SEPARATORS can be costly to maintain and, if not properly managed, can pollute surface and ground water and lead to costly violations. MICROBE OIL SPILL CLEANER™ improves OWS operations and reduces costs and liabilities.



Conventional degreasers disperse oil in wash water and make OWS's ineffective, allowing oil to bypass the collection system straight into the sewer. MICROBE OIL SPILL CLEANER™ added to an OWS breaks down petroleum products suspended or dissolved in wastewater, floating oil, and/or sludge.

Facilities using MICROBE OIL SPILL CLEANER™ have eliminated wastewater violations and have reported reducing their sludge petroleum content by more than 80 percent. Such reductions lower the regulatory status of OWS sludge, which will affect the required disposal method and disposal costs.

MOPPING: Fill the container with properly diluted product (1:10 to 1:15, depending on soil type and concentration). Unlike degreasers, MICROBE OIL SPILL CLEANER™ digests oil and grease. As a result, there will not be an oily film in the water of the mop bucket. The solution may be used for several days until a film begins to appear. Although the water may look dirty, it does not mean the solution has stopped working. If the solution does not seem to be "picking up" the oil very well, then it is time to change the solution. For best results, with oily floors or visible oil, allow the solution to remain on the surface for about 30 seconds before mopping. Liberally apply to floor with a wet mop, dip mop again into bucket, and agitate solution into surface. If the grease and/or oil is very thick, use an old push broom to scrub the solution into the surface before mopping. MICROBE OIL SPILL CLEANER™ will remove the oily film and leave the surface dry and clean, preventing slip and fall accidents.

AUTO FLOOR SCRUBBER: Fill scrubber with properly diluted product (1:20 to 1:40, depending on soil type and concentration). Start with a 1:25 dilution rate and adjust after testing. Add product to the solution tank full of clean water or dispense through a proportioner system. For best results, employ the double scrub method. For the first auto floor scrubber pass, do not lower the squeegee. Spray solution while scrubbing. For the second pass, spray solution, scrub and lower squeegee for soiled water removal. MICROBE OIL SPILL CLEANER™ will clean the auto floor scrubber by removing the hydrocarbon buildup in the tanks, therefore enhancing the overall performance. Leaves surface dry and oil-free without any residue, and prevents slip and fall accidents.

DEGREASING: Fill container with properly diluted product (1:2 to 1:8, depending on soil type and concentration). The dilution may be determined if the operator will be using rags to clean (stronger), scrub brush (medium) or rinsing with a power washer (weaker). When cleaning heavy oil/grease deposits, allow product to soak for 1-2 minutes before removing. Heavy deposits of synthetic grease may require additional dwell time. MICROBE OIL SPILL CLEANER™ will remove the oily film, leaving the surface dry and clean. It may be used on any water-safe surface.

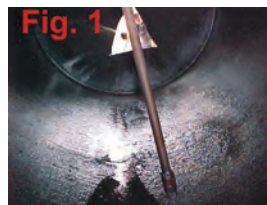
HYDROCARBON DEGRADE CHART

Crude Oil	Gasoline	Diesel Fuel
Xylene	Kerosene	Fuel Oils
Jet Fuel	Toluene	Transmission Fluid
Motor Oil	Anti-Freeze	Glycols
Parrafin	Lubricating Oil	Grease/Tars
Carbon Black	Skydrol	Hydraulic
Cutting Fluids	Benzene	Acetone
Mineral Spirits	Paint Thinners	Animal Grease
Methanol	Vegetable Oils	Heating Oil
	Solvents	

DILUTION CHART

Applications	Heavy	Medium	Light
Scrubber	1:20	1:30	1:40
Mopping	1:5	1:10	1:15
Degreasing	1:2	1:4	1:8

FUEL REMEDIATION & CLEANING POWER



In Figure 1, there is shown a 1,000 gallon underground fuel storage tank containing jet fuel residue and flammable vapors. Before this tank could be dismantled with cutting torches, the remaining fuel needed to be neutralized and the tank thoroughly cleaned to remove any flammable

vapors. Two gallons of MICROBE OIL SPILL CLEANER™ were applied and circulated throughout the tank.

In Figure 2, the remaining jet fuel was remediated, rendering the fuel non-flammable and neutralizing any flammable vapors. The tank was rinsed with pressurized water, leaving a clean, residue-free and vapor-free environment.



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