

SHEARFORCE LLC

Bioremediation Systems

SF-1000 -A non-hazardous, water based, Bio-Remediation Chemical for hydrocarbon elimination. SF-1000 acts as a food source to the indigenous microbes in the contaminated source to accelerate the natural bioremediation process of the hydro-carbon media.

Pit Closures	Highway Spills
Oil Spills	Tank Cleaning
Surface Spills	Drill Cuttings
Vapor suppression/Tank Degassing	Pipeline and Flow line leaks Soil Remediation
Compressor/Pump Stations	Well head and tank farm leaks

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OIL CONTAMINATED SOIL: WELL HEADS, OIL SPILLS,
DRILL CUTTINGS & WATER



SF-1000™ used to clean Well Head Leaks.

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OIL CONTAMINATED SOIL: WELL HEADS, OIL SPILLS,
DRILL CUTTINGS & WATER



SF-1000™ used to clean Oil Spill by Land Farming

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OIL CONTAMINATED SOIL: WELL HEADS, OIL SPILLS,
DRILL CUTTINGS & WATER



SF-1000™ used to clean Drill Cuttings by Wash Process

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Rig Wash

SF-1000™ is used for a wide range of industrial cleaning and degreasing applications, it is a non-hazardous, water based, bio-remediation chemical with a biodegradable solvent additive.

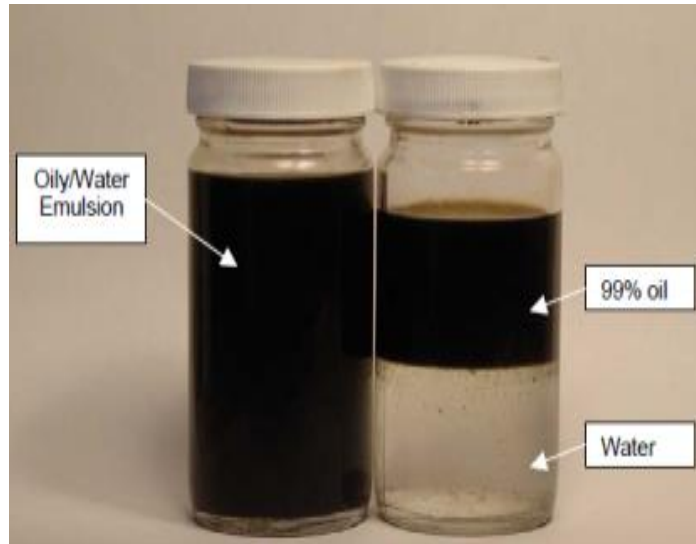
SF-1000™ is specifically blended for heavy-duty equipment cleaning is widely used in the oilfield as a rig wash.



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SF-F used to separate Oil and Water Emulsions

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SF-1000™ can be used for a wide variety of industrial cleaning applications including kitchen vent cleaning. Letter of references are available from University of Texas who tested the product extensively and is currently still using the product.

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BENEFITS

Because Shearforce SF-1000™ is a non-hazardous, non-flammable, water-soluble liquid, it can be used for removing oil and grease on surfaces while providing the following benefits:

- Will not diminish the integrity of surfaces
- Very fast working (TCEQ-1005 TPH testing)
- Contains no ozone depleting solvents
- Non-toxic (EPA LC50 testing)
- Non-chlorinated
- Does not leave volatile or semi-volatile organics (EPA 8260B & 8070C tests)
- 100% biodegradable
- Provides odor control

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TECHNICAL EXPLANATION

SF-1000™ is a bio-remediation chemical which has been designed to be sprayed onto or mixed with hydrocarbons contaminated medias such as heavy greases, hydraulic fluids, refined oils, etc. in order to accelerate the natural process of microbial degradation of hydrocarbon waste.

This microbial degradation is accelerated by the SF-1000 which is formed from a concentrated synergistic blend of synthetic biodegradable, non-toxic, non-flammable surfactants and selected nutrients.

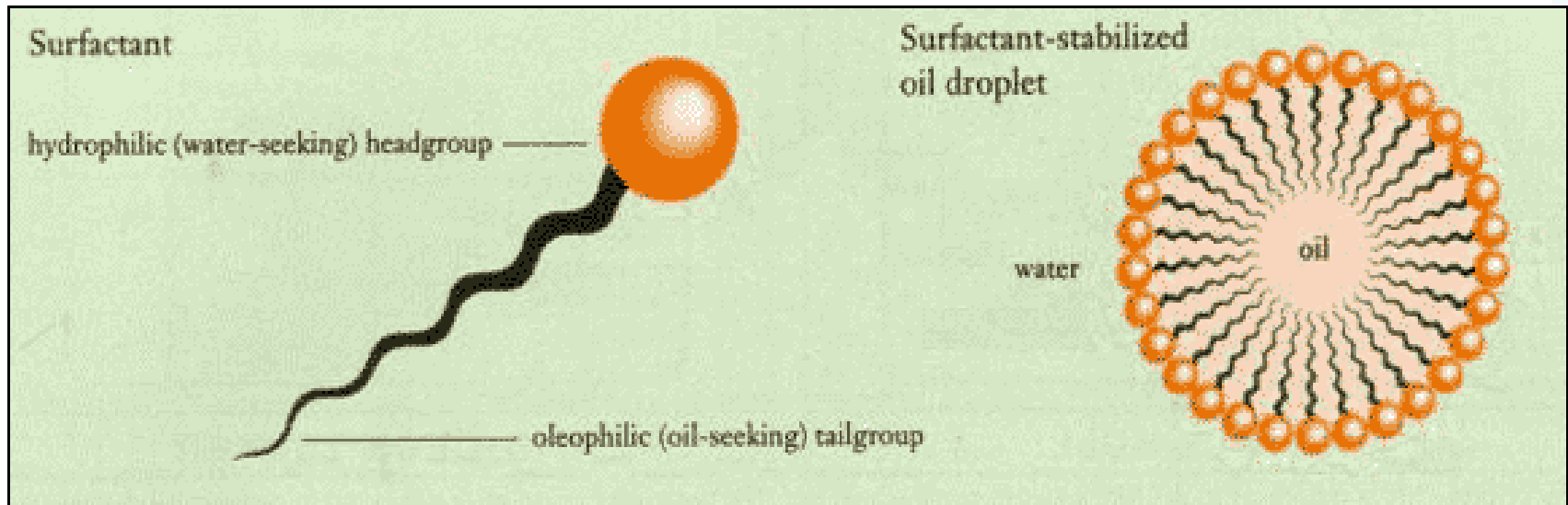
The SF1000 surfactants are long molecules that are hydrophilic (water-seeking) on one end and oleophobic (oil-seeking) on the other. One end grabs an oil molecule, the other, a water molecule. By reaching across the oil-water boundary, the surfactant lowers the tension which allows the hydrocarbon chain to brake into small minute particles or droplets..

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TECHNICAL EXPLANATION

These droplets are tightly suspended in solution and remain stable in the rinse and treated media. Noticeable evidence of this action is an immediate change in color of oily or greasing services, as well as the elimination of hydrocarbon odors.



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TECHNICAL EXPLANATION

The SF1000 nutrients provide a food source to the indigenous microbes which then eliminate the hydrocarbon contamination.

The immediate evidence of mitigation is exhibited in sharp declines in TPH (Total Petroleum Hydrocarbons per EPA Method 418.1) levels in the treated media, regardless of hydrocarbon characteristics or base line TPH levels.

Environmentally safe based on:

- EPA 8260 B – volatile compounds
- EPA 8270 C – semi-volatile compounds
- Texas 1005 TPH – total petroleum hydrocarbons
- EPA LC-50 – based on use around sensitive ecosystems, test on Mysidopsis Bahia shrimp.