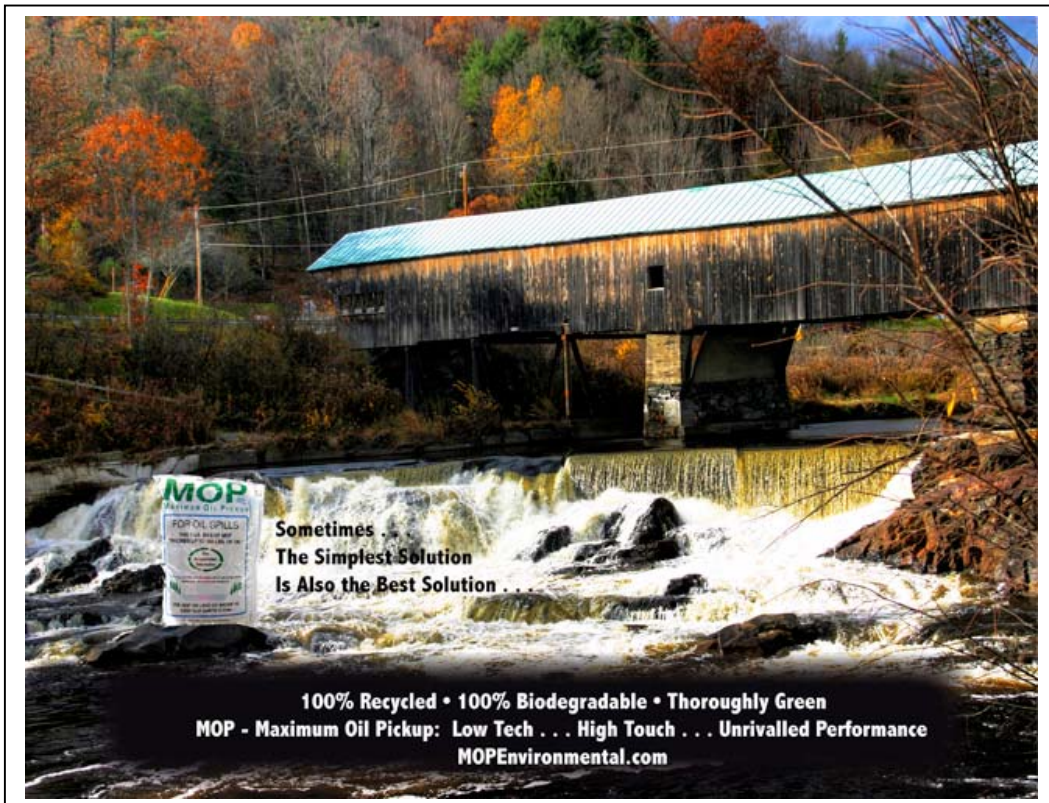


Introduction

MOP Environmental Solutions, Inc. Company & Product Description



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MOP Environmental Solutions, Inc.
Expanded Company & Product Description

It's NOT MAGIC . . . it's MOP!
Maximum Oil Pickup, Sorbent and Solutions.

I. MOP Environmental Solutions, Inc, Mission and Company Description

Mission statement: MOP

Environmental Solutions is dedicated to creating sustainable approaches to difficult environmental challenges including oil spill remediation, recovery and filtration. In recent months MES has expanded its mission to a broader range of challenges and solutions including groundwater pollution, waste remediation and bioenergy generation and carbon negative energy solutions.



MES's Oil spill containment and remediation remains the most important aspect of our mission and is built around our patented MOP Maximum Oil Pickup sorbents, MOP 201 and MOP 301. MOP sorbents are the most **cost-effective** and **performance-efficient** sorbents on the planet. MOP, (Maximum Oil Pickup) sorbents are used to create a family of products and solutions/processes that yield a more environmentally sound and financially beneficial end result by re-capturing or recycling the oil or energy and reducing the generation of hazardous wastes where removal of oil from water based-solvents and coolants can be achieved.

MOP sorbents and sorbent-based products are manufactured using green, low-head hydroelectric power, MOP is the only cradle-to-cradle green oil spill remediation product on the planet, utilizing sustainable, environmentally friendly methodologies and products to achieve the highest levels of performance at an affordable and competitive cost.

Preparing MOP sorbents for use: *Please note: The MOP Packaging process compresses the MOP sorbent from 7-10 times to maximize the value of a bag of MOP. In order for MOP sorbents to be most effective they must be "fluffed" before use. MOP is naturally fluffed when delivered onto a spill using the MOP Cannon or any similar dispersal device. To fluff by hand, place MOP into a large plastic bag, breaking it up as you introduce it into the bag, then shake it vigorously before use.*

II. MOP Sorbents and Other Core Products

MOP® - Maximum Oil Pickup oil sorbent (Oil absorption medium) is - by far - the most cost-efficient and performance-effective oil sorbent in existence. MOP® is manufactured in two forms, the first for use on water (MOP 201) and the second for use on land (MOP 301), each optimized

for their specific use. Both can be used in either environment, but their effectiveness is maximized when they are used according to their optimization. MOP 301 has several different iterations: 301-I, our main 301 sorbent line with a preferred nutrient that acts as a catalyst for the rapid growth of oil consuming bacteria, indigenous to the soil. MOP301-M adds additional oil consuming microbes; MOP 301-U and 301-S are Universal sorbents and a floor sweep respectively.

While the formula for MOP is a trade secret, it is possible to say that all the major components of MOP sorbents are created from all recycled materials. For customers and others interested in recycling and environmental stewardship it is important to know that the sorbents are created from sectors of the waste stream, known as "**recovered materials**" the US Environmental Protection Agency's (EPA's) term for materials that are technically recyclable but that otherwise are without markets for the recycled materials. EPA, understandably, places a high priority on the use of items that employ "recovered materials" giving MOP an additional leg up on the competition in government bids and contract negotiations. Furthermore, because recovered materials constitute the highest percentage of our sorbent's makeup, our raw materials costs are more stable and predictable and less subject to the fluctuations of the market for other raw materials like polypropylene.

Manufactured using hydroelectric power, MOP®'s patented process employs only biodegradable materials. The final formula makes the sorbent Oleophilic (oil loving/absorbant) and hydrophobic (water hating/repelling). With properties like this, the moment that the sorbent is spread on an oil spill on land or water, it sucks up the oil and repels any water. This means that as the sorbent is cleaned up only oil is captured with it.

Using any one of several different paths and processes, the oil-laden sorbent can be:

- burned as bio-mass fuel in a traditional biomass energy system or a pyrolysis fuel system to convert the biomass into biofuels, heat and energy.
- bioremediated in a landfarm or industrial compost;
- Processed to recover the oil. The highest value path is to convert spilled oil through an extraction process utilizing a low cost press system to recapture up to 60 % of the spilled oil or using one of the MOP Petroleum Extraction Tools (MOP PET). MOP PETs capable of processing from 60 gallons per day to as much as 100 gallons per minute, built exclusively for MOP, are available through MES.

Because MOP acts as both an absorbing medium and a filtration medium, the oil that emerges from any method of recapturing oil will be as clean or cleaner than the oil that was spilled.

III. The Product and Technology

A. General Product Description

Maximum Oil Pickup™ sorbent is a "cradle-to-cradle" green product that is the most effective oil spill recovery system on the market.

MOP is an aggressive **oleophilic** and **hydrophobic** (oil attracting and water repelling) recycled fiber, manufactured using low-head hydropower, from recycled and fully biodegradable components, MOP's properties are such that it can effectively deal with an oil spill the size of the Exxon Valdez in a 24 hour period, but is just as effective at cleaning up the spill off a garage floor.

B. About "Green" Products.

The term green is an unregulated term that can mean many things to many people, similar to "natural" with food products. We emphasize MOP's green characteristics because it is the most environmentally stable and sustainable of all sorbent products. A

product's green credential can be measured in many ways because there are many steps in the manufacturing process. For example, two competitors of MOP use a very energy intensive mining process to mine a "natural" product which they label as a "green" product. Since the product itself is a naturally occurring item, it is "fair" to say that the sorbent is "natural" and perhaps even "green", but the manufacturing process is decidedly NOT green. Customers who are looking to be able to claim that they are using a green product for the purpose of "window dressing" will certainly find this sufficiently green. However, customers who are sincerely seeking to reduce their carbon footprint will see through this immediately. Furthermore, organizations that make determinations about this will see immediately the shortcomings of products that are "green-washing".

C. Product capabilities and capacity:

1. Hydrophobic: Repels water
2. Oleophilic (Oil loving): absorbs oil
3. MOP™ sorbent is manufactured utilizing different formulas to create MOP™ products specifically optimized for dry land and water spills.

MOP 301™ contains a preferred nutrient to spur the activities of environmentally safe oil consumptive microbes that are indigenous to almost all soils and catalyzed when MOP is spread on a spill. Creating a consumptive environment where the microbes consume any trace amounts of oil not picked up by the MOP.

MOP 201™ is especially optimized, and EPA permitted, for use on water. It will never sink and can be deployed into a spill from above the waterline under quiet conditions or, in windy conditions, from below the spill rising up to capture the oil as it seeks the surface. Deployment can be by hand or utilizing our MOP Cannon. MOP 201 deployed using multiple MOP Cannons can stabilize an Exxon Valdez size spill within 24 hours with complete cleanup in a matter of days or weeks.

D. Delivery/Use MOP Use on Land and Water - Remediation and Recovery

1. Small spills: MOP™ can be spread and cleaned up by "hand" in response to any small spills. Additionally, products including pillows and booms are available. A broad range of spill kits are available from those developed for large ocean going tankers to small industrial and consumer kits. Start from the outside of the spill and work in to prevent the spill from spreading.





2. Larger Spills: Rapid delivery of the product utilizing MOP's patented MOP Cannon™ will mitigate a spill of almost any size rapidly on land or water. The MOP Cannon can deliver 1000 bags of MOP onto a spill in 3 hours. Pickup is performed using a commercial weed harvester and takes about 4 hours. On land any kind of heavy loader will quickly pick up the used sorbent. In areas where loose sorbent is not permitted on open water, a net trawling system with MOP enclosed in a fishing net can provide the same effect.

MOP is often the ONLY effective remediation product for spills that are not addressed immediately. MOP's™ newly developed RESCUE (Rapid Environmental Spill, Clean Up & Elimination) soil scrubbing system removes oil from oil-contaminated soil in as little as 5 minutes. We expect this technology to shift the paradigm on the cleanup of large land-based spills by creating an affordable in-situ (on-site) method for remediation. Where the existing method involves digging up the soil and removing it to a treatment facility.

3. Recovery: Allows for near total recovery of oil spilled in usable condition;
4. Disposal: Because all of the components of MOP are fully biodegradable the by-products of any cleanup - that does not involve any additional toxic agent* - does not require treatment as a hazardous material. This allows both the recovery of the oil (if specific quantities justify recovery) in a usable form and the disposal of MOP residual byproduct. The list below represents all of the ways that oil-laden MOP sorbent can be disposed. We feel strongly that it also represents the specific hierarchy that companies should seek to utilize in the interest of best stewardship practices. See the section on Use and Testing of MOP for more specific directions about using MOP sorbents.

5. Choices for disposal:
- a. Land-Farm treatment: Used MOP can be tilled directly into a soil land-farm disposal system. This can be done with MOP that is optimally-full (Not over-saturated) of oil or after oil recovery utilizing one of the MOP recovery system products.
 - b. Composting: MOP sorbents can be composted. The oil-consuming microbes will work in concert with the composting process to fully remediate the used MOP.
 - c. Burnable: MOP is burnable as a fuel after the removal of oil. Additionally, MOP Environmental Solutions is in the final stages of developing a "biomass" system that will burn the MOP product in a carbon negative environment with the creation of a biochar soil amendment as a by-product.
 - d. Disposal as a solid waste
 - e. Return to MOP Environmental Solutions. We believe that oil cleaned up with MOP qualifies in every state of the US as a solid waste – so long as no hazardous substances are part of the spill. As such we will **guarantee** to process any oil-laden MOP that is free of hazardous substances but refused by all of the facilities outlined above.
 - f. See the section on Use and Testing of MOP for more specific directions about disposing of oil-laden MOP sorbents.

E. Key Characteristics of MOP™ Sorbent

Works on water and land; in all types of weather conditions.

1. Is 100% biodegradable, non-corrosive, non-toxic, non-irritating – it is safe to plants and animals and people.
2. Is 100% Biodegradable. Any MOP not picked up in cleanup effort will hold the oil in it and biodegrade naturally.
3. Cleanly recovers up to 95% of the absorbed oil simply by squeezing. The remaining material can be burned to recover 100% of the available energy, while leaving as little as 0.1% ash.
4. Absorbs up to 30 times its own weight in oil offering superior absorbent performance.
5. It is treated to be fire retardant, is very lightweight and easy to handle.
6. MOP 301™, optimized for land use, contains traction restoring grit, so treated hard surfaces are immediately safe and not slippery.
7. It is lightweight; easy to handle.
8. Cost effective in comparison to other sorbents.
9. **More than four times as cost effective as most other sorbents based on material costs;**
10. **More than ten times more cost effective than most other sorbents when disposal cost is considered.**

Patents:

MOP Sorbent
MOP RESCUE Soil cleaning process (Patent Pending)