BEYOND ENVIRONMENTAL

iSorb® Miotechnology: Bioremediation Reimagined

The nutrient-rich carrier MioGel affords microbes a sustainable life-support system throughout the entire treatment. Microbes arrive more active and remain more efficient because the smart gel fosters a sustainable level of biomass that remains in place.

Despite the gains being made in next-generation energy research, our world still relies heavily on petroleum-based products for a major portion of its energy. As long as this is true, there will always be a risk of leaks, spills, and other accidents.

Today, taking care of the environment goes beyond being in everyone's best interest—it is universally accepted as essential to sustaining life.

Bioremediation is a cost-effective, environmentally safe treatment for petroleum hydrocarbon contamination. However, its success depends on the treatment's ability to remain in place and active at the point of contamination.

iSorb® Miotechnology was developed to do just that.

What is iSorb® Miotechnology?
iSorb is a patented formulation of safe-to-use, natural ingredients that transforms water into a highly controllable super-carrier known as MioGel. This smart gel delivers biodegrading microorganisms exactly where they are needed—on the job, directly on the targeted contamination.

Superior and Sustainable Biomass
MioGels are sophisticated, rechargeable life-support systems that are responsive to their environment. They empower each microbe with water and the nutrients needed to thrive. MioGel expands and contracts over and over again, taking on and releasing resources for as long as necessary. This creates massive surface area in which the microbes can grow, ultimately turbocharging cleaning power.

It all adds up to faster results with fewer applications.

WHAT MAKES iSORB® UNIQUE

Traditional treatments use water as a delivery mechanism. Once you "turn off the tap," where does the treatment go? Mostly down the drain, taking much of the harmful contaminant with it.

iSorb MioGel is formulated in a wide range of application-specific viscosities, from watery for soils to semi-solid for vertical surfaces. MioGel's ability to stick to any surface optimizes cleaning power while eliminating the risk of secondary contamination.

Today, the industrial sector is under increasing pressure to reduce its overall environmental footprint. Yet choosing a non-aggressive, sustainable cleaning solution can be out of sync with day-to-day operational demands.

MioGel was designed to be that solution. Its application-specific viscosities make a non-aggressive cleaning solution possible for applications where using a lot of water is impractical or unsafe. MioGel can be used as a standalone treatment (see photos below) or combined with our nutrient-rich MioMats, creating bio-exfoliation (see photos at right). iSorb® MioGel and MioMats deliver results, without harmful chemicals or the risk of secondary contamination.

MioGel is:

- Highly controllable on the job
- A solution for industrial maintenance
- An effective treatment for soil
- Customizable to meet your specific goals

▲ *Before and after images of transformer treated for one week with a single application of Factor 36 MioGel.*

▲ *Bio-exfoliation results, using MioGel and MioMat, after a single one-week treatment.*

THE iSORB MIOTECHNOLOGY DIFFERENCE

Treating contamination in-situ is convenient and cost effective. However, perceived challenges create barriers to wider adoption of in-situ bioremediation. **iSorb® removes those barriers.**

Barriers to traditional in-situ bioremediation:	How iSorb Miotechnology removes barriers:
Hard to control. Most solutions use water as a carrier. Water flows freely, often away from the contamination, creating need for many applications. This drives up cost and reduces overall effectiveness.	**Easy to control.** Application-specific viscosities stabilize treated surfaces for prolonged periods, minimizing waste and maximizing targeted productivity. The result is a repeatable, easy-to-use solution.
Hard to manage. Water evaporation compromises the sufficient moisture critical to success.	**Easy to manage.** Simple to use, MioGels and MioMats combine superior absorption and controlled release to maintain moisture levels and impede evaporation.
Hard to sustain. From high toxicity at the start of a job to exhausted food supplies at the end, it is difficult to maintain optimal nutrient levels microbes need to remain effective.	**Easy to sustain.** MioGels and MioMats provide microbes with a rechargeable food source. This helps ensure superior and sustainable biomass is maintained where it's needed for as long as it's needed, delivering predictable results.
High costs. Repeated applications are needed to supply sufficient bacteria to the targeted site to successfully remediate contamination. The process is often complicated, vulnerable, seasonal, and takes too long.	**Low costs.** Our nutrient-rich environment creates sustainable biomass. Paired with targeted controllability, fewer applications are required for a successful site remediation.

The Beyond Environmental Approach: Consultation and Deployment

Contact us to discuss the specific challenges of your site. We will carefully review the facts and prepare an individualized action plan with the formulations, viscosities, and concentrations recommended for successful remediation.

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Science That Sticks™