

- [RegenesiS Launches New Gas Vapor Barrier Division](#)
- [DoD Environmental Program Awarded to RegenesiS](#)
- [Recent Site Closures using RegenOx™](#)
- [RegenOx™ Treatment via Soil Mixing Methods](#)
- [3-D Microemulsion \(3DMe\) FAQs](#)



RegenesiS Launches New Gas Vapor Barrier Division

A recently developed composite membrane system, Geo-Seal™, offers exceptional chemical resistance for use as a gas vapor barrier on construction sites with environmentally impacted soil and/or groundwater. This new technology was announced in a key platform presentation at the recent *Sixth International Symposium on Remediation of Chlorinated and Recalcitrant Compounds* in Monterey, California. Developed by Land Science Technologies, a division of RegenesiS (San Clemente, CA), Geo-Seal (patent pending) is the first vapor barrier technology to combine the durability and chemical resistance of two bonded high-density polyethylene (HDPE) layers with the ease and quality of installation found in a basic spray-applied asphalt/latex barrier. [Read Complete Story.](#)

DoD Environmental Program Awards \$869K to RegenesiS, URS and Lawrence Berkeley Labs

An \$869,000 grant from the Defense Department's Environmental Security Technology Certification Program (ESTCP) was awarded to RegenesiS, URS Corporation, and Lawrence Berkeley National Laboratory to evaluate the utility of geophysical imaging tools for investigating the performance of bioremediation soil amendments. RegenesiS will administer the grant and will manage transfer of the technology, if successful. [Read Complete Story.](#)

Recent Site Closures using RegenOx™

Hollywood, CA

Chlorinated solvent contamination was detected in fill material throughout a 2-acre industrial property. Before a pending real estate transaction could be finalized, approximately 1-acre of the site required treatment for perchloroethene (PCE) in vadose zone soil. To achieve this, the engineering firm selected chemical oxidation using RegenOx™. The first phase of remediation was performed using a direct-push application of RegenOx. As a result, PCE declined by approximately 86%. However, it was determined that this method was too slow and inefficient for treatment of the entire site. A different, more aggressive approach was implemented using soil mixing equipment. Maximum contact between the RegenOx solution and the soil was achieved using this method and approximately twice as much soil was treated per day. These two remediation approaches treated nearly 18,000 cubic yards of soil within 30 days at a cost of approximately \$34 per cubic yard and allowed the real estate transaction to proceed on time. [Read Complete Story.](#)

Culver City, CA

Four leaking underground storage tanks (USTs) ranging in size from 12,000 to 20,000 gallons were discovered at a former service station during a site investigation in 1998. A resulting contaminant plume covered more than 6,000 square feet and reached concentrations of 52,000 parts per billion (ppb) TPHg, 10,000 ppb BTEX and 7,000 ppb MTBE. In 2000, excavation activities removed a total of 312 tons of impacted soil. In December 2005, a pilot test using RegenOx™ was performed and resulted in reductions in TPHg, BTEX, and MTBE ranging from 62% – 99%. A full-scale application was completed in December 2006 and a No Further Action letter was awarded in August 2007. [Read Complete Story.](#)

RegenOx™ Technical Bulletin 11.0 – Contaminated Soil Treatment via Ex-Situ and In-Situ Mixing Methods

The treatment of contaminated soils by chemical oxidation processes can offer significant cost savings when compared to other treatment alternatives such as incineration or excavation and disposal. While often more expensive than biological soil treatment techniques such as landfarming, in-situ and ex-situ chemical oxidation techniques offer the advantage of expediency, which is often favored in today's real estate transaction-driven remediation market. RegenOx, a more user friendly, yet powerful chemical oxidant has been deployed in many such situations. [Read Complete Story.](#)

3-D Microemulsion (3DMe)™ – Frequently Asked Questions

Why is it called 3-D Microemulsion or 3DMe?

RegenesiS named it as such because 3DMe is a completely new formulation (patent pending) which has been engineered to provide 3 different electron donor release profiles in one easy to use and distribute product. Once applied to the contaminated subsurface, an immediate supply of lactic acid is released to initiate reductive dechlorination. After a month or so, a polylactate component provides a mid-term release of lactic acid that can last up to several years. Finally, the fatty acids within 3DMe degrade at a slower rate producing an additional source of hydrogen after a year or so and proceeding for periods up to 5 years. This beneficial variance in electron donor release profiles provides the optimal environment for microbes capable of reductive dechlorination to flourish and effectively metabolize contaminants in the immediate, mid and long-term. 3DMe also provides a mechanism for maximum subsurface distribution unlike any electron donor on the market today. [Read more.](#)

Why does 3DMe perform better than emulsified oils?

3DMe is very different from emulsified oils in that it provides the following: an advantageous three stage electron donor release profile, enhanced, wide-area, subsurface distribution and in many cases lower cost. To elaborate, the three stage release profile provides immediate, mid-range and long-term performance to optimize reductive dechlorination. 3DMe was engineered to provide advantageous, wide-area distribution properties that allow it to move greater distances in the subsurface than neat or emulsified oils. In addition and in the light of rising commodity prices (soybeans), 3DMe costs less than emulsified oil-based products and offers better overall performance. For more information on these topics [click here for a detailed technical paper](#)

How is 3DMe typically applied to the subsurface?

Like most of RegenesiS' products, 3DMe is easily applied through permanent wells and/or temporary direct-injection points. 3DMe is delivered on-site as a concentrate, then mixed with on-site water using a high-shear pump to create the injectable microemulsion (typical water to 3DMe mixing ratios are 10 parts water to 1 part 3DMe concentrate but may vary with the specifics of your site).

For more information [click here to read a copy of the 3-D Microemulsion Installation Instructions](#)