REGENESIS
REMEDIATION SERVICES
Technology-Based Solutions for the Environment

June 27, 2022

To:	Karen Peppin | AECOM | 257 West Genesee Street 400 Buffalo, NY 14202 | karen.peppin@aecom.com
Project #:	amill63089
Subject:	Proposal for Remediation Application Services of PlumeStop®, S-MicroZVI®, 3-D Microemulsion®, and BDI® Plus – Walgreens Store 02077, Kingston NY

REGENESIS Remediation Services (RRS) appreciates the opportunity to provide AECOM with this proposal for in situ remedial treatment of chlorinated solvents at the Walgreens Store 02077 Site in Kingston, NY (the Site). In this proposal we summarize our design and present our implementation scope of work including cost estimates.

RRS has successfully completed hundreds of similar remediation applications across the country and has the product knowledge and implementation expertise to actively manage this field application. RRS will provide custom built injection equipment and a team of experienced personnel who specialize in applying REGENESIS' remedial technologies. Our team will ensure a high probability of success, while minimizing risks with our institutional in-house knowledge. Our best-in-class remediation design team and application services ensures proper placement, distribution, and performance of the remedial technologies being applied. With the information provided by AECOM, RRS is estimating it will take a total of four (4) days on-site to safely complete this application. Please note this proposal assumes standard daylight working hours.

If you have any questions regarding the application details provided within this proposal, please contact Brian Henderson at 442.257.0062 (bhenderson@regenesis.com); for design questions please contact Alana Miller at 929.466.0300 (amiller@regenesis.com).

Sincerely,

REGENESIS

Alana Miller
Senior Northeast District Manager

Brian Henderson
RRS Proposal Manager

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Summary of Relevant Design Information

REGENESIS recommends using PlumeStop® (PlumeStop), S-MicroZVI® (S-MZVI), 3-D Microemulsion® (3DME), and BDI® Plus (BDI Plus) remediation technologies for in situ treatment at this site.

PlumeStop is an innovative groundwater remediation technology designed to rapidly remove and permanently degrade groundwater contaminants. PlumeStop is composed of very fine particles of activated carbon (1-2µm) suspended in water using unique organic polymer dispersion chemistry. Once in the subsurface, the material behaves as a colloidal biomatrix, binding to the aquifer matrix, rapidly removing contaminants from groundwater, and expediting permanent contaminant biodegradation. This unique remediation technology accomplishes treatment with the use of highly dispersible, fast-acting, sorption-based technology, capturing and concentrating dissolved-phase contaminants within its matrix-like structure. Once contaminants are sorbed onto the regenerative matrix, biodegradation processes achieve complete remediation at an accelerated rate.

S-MZVI is an In Situ Chemical Reduction (ISCR) reagent that promotes the destruction of many organic pollutants and is most commonly used with chlorinated hydrocarbons. It is engineered to provide an optimal source of micro-scale zero valent iron (ZVI) that is both easy to use and delivers enhanced reactivity with the target contaminants via multiple pathways. S-MZVI can destroy many chlorinated contaminants through a direct chemical reaction. S-MZVI will also stimulate anaerobic biological degradation by rapidly creating a reducing environment that is favorable for reductive dechlorination.

3DME is an injectable liquid material specifically designed for in situ remediation projects where the anaerobic biodegradation of chlorinated compounds through the enhanced reductive dechlorination (ERD) process is possible. ERD is the primary anaerobic biological process by which problematic chlorinated solvents such as tetrachloroethylene (PCE), trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride (VC) in groundwater are biologically transformed into less harmful end products. Due to its purposefully engineered structure, 3DME exhibits unique subsurface distribution characteristics which allow it to propagate widely within the subsurface. As a result, 3DME can treat a wide area around an individual injection point saving both time and money as it relates to the number of application points required.

BDI Plus is designed for use at sites where chlorinated contaminants are present and unable to be completely biodegraded via the existing microbial communities. BDI Plus is an enriched, natural microbial consortium containing species of Dehalococcoides sp. (DHC) which are capable of completely dechlorinating contaminants during in situ anaerobic bioremediation processes. BDI Plus has been shown to stimulate the rapid dechlorination of Chlorinated Volatile Organic Compounds (CVOCs) such as tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC). It also contains microbes capable of dehalogenating halomethanes (e.g. carbon tetrachloride and chloroform) and haloethanes (e.g. 1,1,1 TCA and 1,1, DCA) as well as mixtures of these halogenated contaminants.

A tabulated summary of pertinent design assumptions is provided in **Table 1** and **Table 2**. The injection area is delineated in **Figure 1**. Please note that the application volumes and injection points are estimated and may require in-field modification due to obstructions and/or limitations of volumetric acceptance in the treatment areas.

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Table 1: Remedial Design Summary for East Barrier

PlumeStop® Application Design Summary		
East Barrier		
PlumeStop + S-MZVI		**Technical Notes**
Treatment Type	**Barrier**	
Distance Perpendicular to Flow (ft)	75	Injection Radius for Soil Coverage (ft-est.avg.)
Spacing Within Rows (ft)	6	**3.8**
Number of Rows	1	
DPT Injection Points	**14**	PlumeStop Inject. Conc. (mg/L)
Top Application Depth (ft bgs)	7	**11,000**
Bottom Application Depth (ft bgs)	17	
PlumeStop to be Applied (lbs)	**2,800**	
PlumeStop to be Applied (gals)	311	
In Situ Chemical Reduction - S-MZVI		**Special Instructions:**
S-MZVI to be added to PlumeStop (lbs)	**2,000**	
S-MZVI to be added to PlumeStop (gals)	132	
PlumeStop + S-MZVI Volume Totals		
Mixing Water (gal)	5,790	
Total Application Volume (gals)	**6,250**	
Injection Volume per Point (gals)	446	

Table 2: Remedial Design Summary for West Area

3-D Microemulsion®, S-MZVI®, BDI® Plus Application Design Summary		
West Area		
Treatment Type	**Grid**	
Treatment Areal Extent (sq ft)	750	Input special application instructions here as needed.
Spacing Within Rows (ft)	12	
Spacing Between Rows (ft)	12	
DPT Injection Points	5	
Top Application Depth (ft bgs)	7	**Field Mixing Ratios**
Bottom Application Depth (ft bgs)	17	3DME Concentrate per Pt (gals)
3DME to be Applied (lbs)	**800**	19
3DME to be Applied (gals)	96	Mix Water per Pt (gals)
3DME Mix %	6%	329
Volume Water (gals)	**1,647**	3DME Mix Volume per Pt (gals)
3DME Mix Volume (gals)	1,743	349
S-MZVI to be Applied (lbs)	**1,000**	S-MZVI Volume per Pt (gals)
S-MZVI Volume (gals)	66	13
BDI Plus to be Applied (L)	**18**	BDI Volume per Pt (L)
BDI Plus Mix Water Volume (gals)	180	3.6
Total Application Volume (gals)	**1,994**	Volume per pt (gals)
Estimated Radius of Injection (ft)	3.4	399
		Volume per vertical ft (gals)
		40

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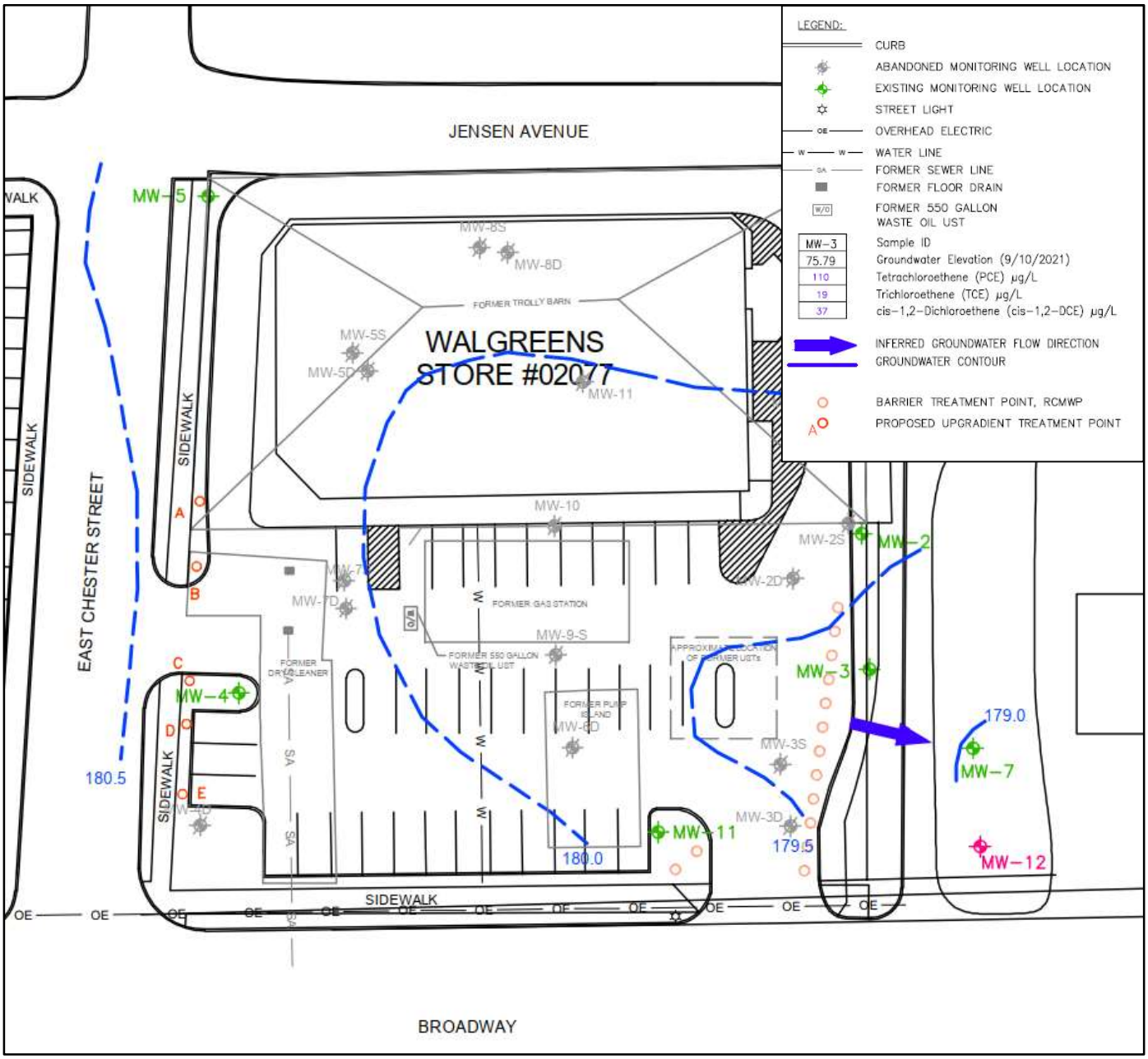
Figure 1: Injection Areas East Barrier and West Area



Injection Methods

RRS will apply all materials in situ using direct push technology (DPT) drilling techniques and specialized injection tooling designed to laterally distribute the remediation technology within the target treatment zone (TTZ). RRS will supply 1.5-inch diameter injection tools and contract a qualified DPT drilling operator.

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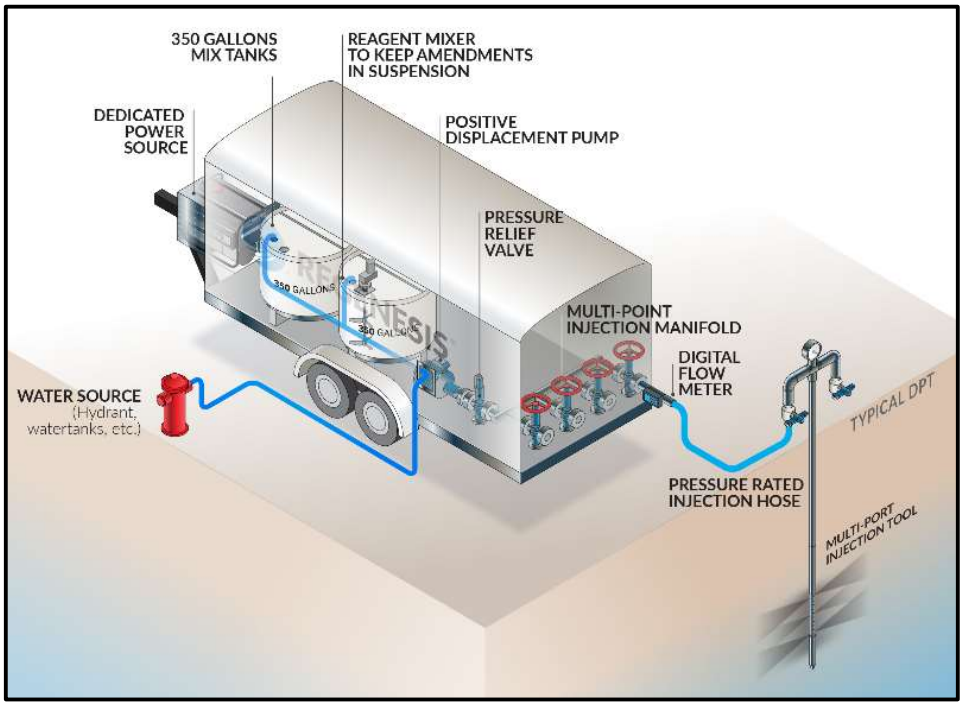
Work Plan Summary

RRS will work under the direction of AECOM to implement the field work associated with the application of the selected remediation technologies. Responsibilities for the implementation of this scope of work will be shared between RRS and AECOM. Responsibilities for each are outlined in this section and further under the Assumptions/Qualification section.

At the beginning of each day a safety tailgate meeting will be conducted and an overview of the procedures, responsibilities and goals for the day will be discussed. RRS will be equipped with multiple injection tool options to use with 1.5-inch diameter DPT rods. RRS will core through the concrete and hand-clear to five (5) feet at each location prior to drilling. The injection tool string will be advanced to the bottom of the TTZ and injections will be performed in a bottom-up method. The remediation technologies will be mixed in an injection trailer (**Figure 2**) with water in batches at the designated solution percentage and kept in constant suspension throughout the injection application. Pressures, flow rates and total volume will be monitored and digitally documented for each injection interval. Multiple injection points may be injected into simultaneously to increase efficiencies on-site. The injection points and surrounding areas will be monitored for any signs of surfacing and a spill response kit will be on standby.

Figure 2: RRS Application Trailer



During the application, real-time information will be collected and analyzed to help verify design assumptions and subsurface reagent distribution. Depending on the primary product applied, data collected and analyzed may consist of groundwater quality parameters (i.e., pH, conductivity, DO, ORP, etc.), depth to water measurements, visual indicators through groundwater or soil samples, and in-field injection concentration test kits. This information is typically collected during the application when within 10 feet of an appropriately screened monitoring well. Based on the information collected, the project team may choose to modify the remediation design to further optimize the injection application. This includes modification to injection concentrations, volume per vertical foot, injection intervals, etc.

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Once the injection event is completed, RRS will demobilize all equipment and personnel off-site. A detailed injection summary report which includes injection point data (interval depths, injection pressure/flow rates, reagent volume, time elapsed and if surfacing occurred), field observations and any other noteworthy information will be generated and made available to AECOM.

RRS Responsibilities

- **RRS** will provide and ship the specified quantities of the remediation reagents to the site address provided by AECOM. RRS shipping estimates assume all products will be shipped to the site at the same time. RRS will coordinate with AECOM prior to any shipment of product. Alternative shipping locations or phases could lead to an increase in freight costs.
- **RRS** will mobilize a 40-hour HAZWOPER certified crew experienced in the proper application of REGENESIS remediation technologies.
- **RRS** will provide a pallet jack to maneuver the product containers for the duration of the project.
- RRS will contract with a private utility locating service to mark utilities on the first day of the project.
- **RRS** will provide a water source (e.g. hydrant meter rental with local water utility) capable of producing at least 30 GPM for the duration of the project.
- **RRS** will contract a qualified, licensed DPT drilling operator equipped with the necessary tooling and materials to safely complete the application scope of work outlined within this proposal.
- **RRS** will coordinate for the drilling subcontractor to core through the concrete and hand clear to five (5) feet at each location prior to mechanized drilling.
- **RRS** will coordinate an 811 public utility locate with drilling firm.
- **RRS** will perform site reconnaissance and pre-application activities that include H&S orientation, sensitive receptor identification and protection, treatment area layout, point location placement assistance, and equipment staging.
- **RRS** will provide site safety equipment including cones and caution tape to delineate the work area (efforts will be made to limit the impact on business operations at the site).
- **RRS** will supply and operate a custom-built injection system (**Figure 2**) equipped with:
    - Self-sufficient, dedicated power
    - Onboard mixing tanks
    - Positive displacement pump (or similar) for injecting into the TTZ
    - Injection manifold and hosing capable of injecting into multiple points simultaneously
    - Pressure and flow gauges to monitor injection data for individual points
    - Adjustable pressure relief bypass valve for safe operations and precise fluid control
    - Diaphragm pump for fluid transfer operations
    - Site safety equipment and spill response kit (including wet vac)
- **RRS** will perform real-time reagent distribution diagnostics during injection activities to allow for field modifications, as needed, to ensure optimal results.
- **RRS** will work directly with our design team to fill any data gaps identified during the injection application to more effectively maintain the project objectives and goals.
- **RRS** will dispose of empty product containers at end of project.

AECOM Responsibilities

- **AECOM** will coordinate project schedule and reagent order with REGENESIS to ensure adequate shipping and mobilization time.
- **AECOM** will coordinate site access with property owner to coincide with project schedule and identify a secure product staging area.
- **AECOM** personnel will take delivery of the remediation chemistry prior to RRS mobilization and arrange for secure storage where the material will not be affected by inclement weather or freezing temperatures. During application activities, **AECOM** will locate the product in a nearby area that is accessible by the RRS-provided pallet jack.
- **AECOM** will procure any necessary permits needed to complete the project including right of way, UIC and municipal.
- **AECOM** is responsible for all soil, air and groundwater sampling and analysis.
- **AECOM** is responsible for transportation and disposal of any contaminated waste generated on-site during injection activities, though we do not anticipate generating any such waste during injection activities.
- **AECOM** will provide a depth to water meter and field water quality meter similar to a YSI 556 with a down- hole sensor capable of reaching the water table and well screen interval while on-site for injection activities.
- **AECOM** will provide access to a restroom during on-site hours.

Once an executed agreement has been established and a work schedule has been agreed upon, RRS will begin to implement the assigned responsibilities and work with Client accordingly.

Safety Program

REGENESIS is committed to providing a safe and healthy working environment for all employees, AECOMs and contractors on-site. Prior to mobilization RRS will develop a site-specific Health and Safety Plan (HASP) and designate an on-site safety officer. All personnel on-site are required to participate in daily safety tailgate meetings with the goal of proactively identifying potential hazards and mitigating risks to the full extent possible. In addition to the hours of rigorous safety training courses all personnel are required to complete, REGENESIS also incorporates a behavior-based safety program by utilizing our DoneSafe® mobile application (app) interface on every site. This app encourages our personnel to actively search for potential on-site risks and document mitigation actions taken. The effectiveness of our safety program can be seen in our industry leading EMR ratings listed in **Table 3**.

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Table 3: REGENESIS EMR Rating 2017-2021

Year	Total Hours	EMR
2021	125,592	0.71
2020	162,037	0.64
2019	169,964	0.66
2018	144,600	0.70
2017	140,706	0.70

Health and Safety Plan

RRS safety tailgate meetings and HASP will include the following:

- Site map with entrance and exit points and best possible muster points depending on conditions.
- List of personnel and contact information for employees on-site and supporting the project.
- Route to the nearest occupational treatment facility and hospital along with contact information.
- Job Hazard Analysis (JHA) detailing each job task on-site with its potential hazards and best practices to avoid those hazards.
- COVID-19 precautions will be discussed, and personnel will be equipped with face coverings.
- Description and hazards of the contaminants of concern (COC) with appropriate Personal Protection Equipment (PPE) requirements.
- List and description of REGENESIS chemicals on-site including a Safety Data Sheet (SDS) for each chemical.
- Checklist of site safety equipment including fire extinguishers, eyewash station, first aid kit, spill prevention kit and any site-specific equipment needed.
- Daily Tailgate safety meeting sheet with identified hazards and risks associated with the site and job tasks for that day, along with shared learning observations from the previous day.

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Appendix A

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PlumeStop® Liquid Activated Carbon™ Technical Description

PlumeStop Liquid Activated Carbon is an innovative groundwater remediation technology designed to rapidly remove and permanently degrade groundwater contaminants. PlumeStop is composed of very fine particles of activated carbon (1-2µm) suspended in water through the use of unique organic polymer dispersion chemistry. Once in the subsurface, the material behaves as a colloidal biomatrix, binding to the aquifer matrix, rapidly removing contaminants from groundwater, and expediting permanent contaminant biodegradation.

This unique remediation technology accomplishes treatment with the use of highly dispersible, fast-acting, sorption-based technology, capturing and concentrating dissolved-phase contaminants within its matrix-like structure. Once contaminants are sorbed onto the regenerative matrix, biodegradation processes achieve complete remediation at an accelerated rate.

Distribution of PlumeStop in water

To see a list of treatable contaminants with the use of PlumeStop, view the Range of Treatable Contaminants Guide.

Chemical Composition

- Water - CAS# 7732-18-5
- Colloidal Activated Carbon ≤2.5 - CAS# µm 7440-44-0
- Proprietary Additives

Properties

- Physical state: Liquid
- Form: Aqueous suspension
- Color: Black
- Odor: Odorless
- pH: 8 - 10

Storage and Handling Guidelines

Storage
Store in original tightly closed container
Store away from incompatible materials
Protect from freezing

Handling
Avoid contact with skin and eyes
Avoid prolonged exposure
Observe good industrial hygiene practices
Wash thoroughly after handling
Wear appropriate personal protective equipment

PlumeStop® Liquid Activated Carbon™ Technical Description

Applications

PlumeStop is easily applied into the subsurface through gravity-feed or low-pressure injection.

Health and Safety

Wash hands after handling. Dispose of waste and residues in accordance with local authority requirements. Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: PlumeStop SDS.

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S-MicroZVI Specification Sheet

S-MicroZVI Technical Description

S-MicroZVI® is an *In Situ* Chemical Reduction (ISCR) reagent that promotes the destruction of many organic pollutants and is most commonly used with chlorinated hydrocarbons. It is engineered to provide an optimal source of micro-scale zero valent iron (ZVI) that is both easy to use and delivers enhanced reactivity with the target contaminants via multiple pathways. S-MicroZVI can destroy many chlorinated contaminants through a direct chemical reaction (**see Figure 1**). S-MicroZVI will also stimulate anaerobic biological degradation by rapidly creating a reducing environment that is favorable for reductive dechlorination.

Sulfidated ZVI

S-MicroZVI is composed of colloidal, sulfidated zero-valent iron particles suspended in glycerol using proprietary environmentally acceptable dispersants. The passivation technique of sulfidation, completed using proprietary processing methods, provides unparalleled reactivity with chlorinated hydrocarbons like PCE and TCE and increases its stability and longevity by minimizing undesirable side reactions.

S-MicroZVI is Best in Class For

- ☑ Longevity
- ☑ Reactivity
- ☑ Transport

In addition to superior reactivity, S-MicroZVI is designed for easy handling that is unmatched by any ZVI product on the market. Shipped as a liquid suspension, S-MicroZVI requires no powder feeders, no thickening with guar, and pneumatic or hydraulic fracturing is not mandatory. When diluted with water prior to application, the resulting suspension is easy to inject using either direct push or permanent injection wells.

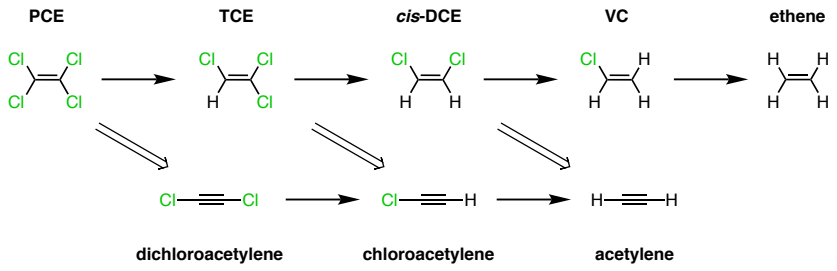

Figure 1: *Chlorinated ethene degradation pathways and products. The top pathway with single line arrows represent the reductive dechlorination (hydrogenolysis) pathway. The lower pathway with downward facing double line arrows represent the beta-elimination pathway.*

To see a list of treatable contaminants, view the S-MicroZVI treatable contaminants guide.

S-Micro ZVI
Sulfidated Zero-Valent Iron

S-MicroZVI Specification Sheet

Chemical Composition

Iron, powders CAS 7439-89-6
Iron (II) sulfide CAS 1317-37-9
Glycerol CAS 56-81-8

Properties

Physical State: Liquid
Form: Viscous metallic suspension
Color: Dark gray
Odor: Slight
pH: Typically 7-9 as applied
Density: 15 lb/gal

Storage and Handling Guidelines

Storage:

- Use within four weeks of delivery
- Store in original containers
- Store at temperatures below 95F°
- Store away from incompatible materials

Handling:

- Never mix with oxidants or acids
- Wear appropriate personal protective equipment
- Do not taste or swallow
- Observe good industrial hygiene practices

Applications

S-MicroZVI is diluted with water on site and easily applied into the subsurface through low-pressure injections. S-MicroZVI can also be mixed with products like 3-D Microemulsion® or PlumeStop® prior to injection.

Health and Safety

The material is relatively safe to handle; however, avoid contact with eyes, skin and clothing. OSHA Level D personal protection equipment including: vinyl or rubber gloves and eye protection are recommended when handling this product. Please review the Safety Data Sheet for additional storage, and handling requirements here: S-MicroZVI SDS.

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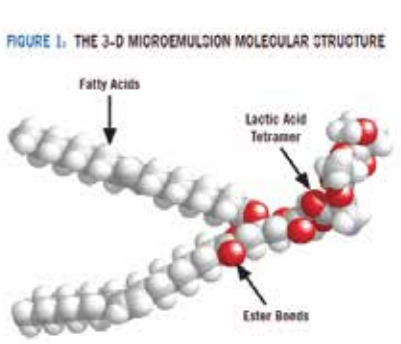
3-D Microemulsion® Factory Emulsified Technical Description

3-D Microemulsion (3DME®) is comprised of a patented molecular structure containing oleic acids (i.e., oil component) and lactates/polylactates, which are molecularly bound to one another (figure 1). The 3DME molecule contains both a soluble (hydrophilic) and in-soluble (lipophilic) region. These two regions of the molecule are designed to be balanced in size and relative strength. The balanced hydrophilic/lipophilic regions of 3DME result in an electron donor with physical properties allowing it to initially adsorb to the aquifer material in the area of application, then slowly redistribute via very small 3DME "bundles" called micelles. These 3DME micelles spontaneously form within sections of the aquifer where concentrations of 3DME reach several hundred parts per million. The micelles' small size and mobility allow it to move with groundwater flow through the aquifer matrix, passing easily through the pore throats in between soil grains resulting in the further redistribution of 3DME within the aquifer. This allows for advective distribution of the oleic acids which are otherwise insoluble and unable to distribute in this manner, allowing for increased persistence of the lactate/polylactates component due to their initial attachment to the oleic acids.

Example of 3-D Microemulsion



Due to its patented molecular structure, 3DME offers far greater transport when compared to blended emulsified vegetable oil (EVO) products, which fail to distribute beyond the limits of pumping. 3DME also provides greater persistence when compared to soluble substrates such as lactates or simple sugars. The 3DME molecular structures capitalize on the best features of the two electron-donor types while at the same time, minimize their limitations. 3DME is delivered to the site as a ready-to-apply emulsion that is simply diluted with water to generate a large volume of a 3DME colloidal suspension.

Suspension of 3DME generated by this mixing range from micelles on the order of .02 microns to .05 microns in diameter, to "swollen" micelles, (termed "microemulsions") which are on the order of .05 to 5 microns in diameter. Once injected into the subsurface in high volumes, the colloidal suspension mixes and dilutes in existing pore waters. The micelles/microemulsions on the injection front will then begin to sorb onto the surfaces of soils as a result of zeta potential attraction and organic matter within the soils themselves. As the sorption continues, the 3DME will "coat" pore surfaces developing a layer of molecules and in some cases a bilayer. This sorption process continues as the micelles/microemulsion moves outward and disassociates into their hydrophilic/hydrophobic components. The specialized chemistry of 3DME results in a staged release of electron donors: free lactate (immediate); polylactate esters (mid-range) and free fatty acids & fatty acid esters (long-term). Material longevity of three years or greater has been seen at most sites as determined from biogeochemical analyses.

For a list of treatable contaminants with the use of 3DME, view the Range of Treatable Contaminants Guide

Chemical Composition

- Hydrogen Release Compound Partitioning Electron Donor – CAS #823190-10-9
- Sodium Lactate – CAS# 72-17-3
- Water – CAS# – 7732-18-5

3-D Microemulsion® Factory Emulsified Technical Description

Properties

- Density – Approximately 1.0 grams per cubic centimeter (relative to water)
- pH – Neutral (approximately 6.5 to 7.5 standard units)
- Solubility – Soluble in Water
- Appearance – White emulsion
- Odor – Not detectable
- Vapor Pressure – None
- Non-hazardous

Storage and Handling Guidelines

Storage
Store in original tightly closed container
Store in a cool, dry, well-ventilated place
Store away from incompatible materials
Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass

Handling
Avoid contact with eyes, skin, and clothing
Provide adequate ventilation
Wear appropriate personal protective equipment
Observe good industrial hygiene practices

Applications

- 3DME is diluted with water prior to application. Resulting emulsion has viscosity similar to water.
- Easily injects into formation through direct push injection points, injection wells or other injection delivery systems.

Application instructions for this product are contained here 3DME FE Application Instructions.

Health and Safety

Material is food grade and relatively safe to handle. We recommend avoiding contact with eyes and prolonged contact with skin. OSHA Level D personal protection equipment including vinyl or rubber gloves, and eye protection are recommended when handling this product. Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: SDS-3DME FE.

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BDI PLUS® Technical Description

Bio-Dechlor INOCULUM Plus (BDI PLUS®) is an enriched natural consortium containing species of Dehalococcoides sp. (DHC). BDI PLUS has been shown to simulate the rapid and complete dechlorination of chlorinated solvents such as tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride (VC) to non-toxic end products, ethene, carbon dioxide and water.

The culture also contains microbes capable of dehalogenating halomethanes (e.g., carbon tetrachloride and chloroform) and haloethanes (e.g., 1,1,1-TCA and 1,1-DCA) as well as mixtures of these contaminants.

Species of Dehalococcoides sp. (DHC)

For a list of treatable contaminants with the use of BDI PLUS, view the Range of Treatable Contaminants Guide

Chemical Composition

- Non-hazardous, naturally-occurring, non-altered anaerobic microbes and enzymes in a water-based medium.

Properties

- Appearance – Murky, yellow to grey water
- Odor – Musty
- pH 6.0 to 8.0
- Density – Approximately 1.0 grams per cubic centimeter (0.9 to 1.1 g/cc)
- Solubility – Soluble in Water
- Vapor Pressure – None
- Non-hazardous

Storage and Handling Guidelines

Storage
Store in original tightly closed container
Store away from incompatible materials
Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass
Store in a cool, dry area at 4-5°C (39 - 41°F)
Material may be stored for up to 3 weeks at 2-4°C without aeration

Handling
Avoid prolonged exposure
Observe good industrial hygiene practices
Wear appropriate personal protective equipment

BDI PLUS® Technical Description

Applications

- BDI PLUS is delivered to the site in liquid form and is designed to be injected directly into the saturated zone requiring treatment.
- Most often diluted with de-oxygenated water prior to injection into either hydraulic push injection points or properly constructed injection wells.
- The typical dilution rate of the injected culture is 10 gallons of deoxygenated water to 1 liter of standard BDI PLUS culture.

Application instructions for this product are contained here BDI PLUS Application Instructions.

Health and Safety

Material is non-hazardous and relatively safe to handle; however avoid contact with eyes and prolonged contact with skin. OSHA Level D personal protection equipment including: vinyl or rubber gloves and safety goggles or a splash shield are recommended when handling this product. An eyewash station is recommended. Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: BDI PLUS SDS.

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Appendix B

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Terms and Conditions
Products and Services

1. PAYMENT TERMS. Net 30 Days. Accounts outstanding after 30 days will be assessed 1.5% monthly interest. Volume discount pricing will be rescinded on all accounts outstanding over 90 days. An early payment discount of 1.5% Net 10 is available for cash or check payments only. We accept Master Card, Visa and American Express.

2. **RETURN POLICY.** A 15% re-stocking fee will be charged for all returned goods. All requests to return product must be pre-approved by seller. Returned product must be in original condition and no product will be accepted for return after a period of 90 days.

3 FORCE MAJEURE. Seller shall not be liable for delays in delivery or services or failure to manufacture or deliver due to causes beyond its reasonable control, including but not limited to acts of God, acts of buyer, acts of military or civil authorities, fires, strikes, flood, epidemic, war, riot, delays in transportation or car shortages, or inability to obtain necessary labor, materials, components or services through seller's usual and regular sources at usual and regular prices. In any such event Seller may, without notice to buyer, at any time and from time to time, postpone the delivery or service dates under this contract or make partial delivery or performance or cancel all or any portion of this and any other contract with buyer without further liability to buyer. Cancellation of any part of this order shall not affect Seller's right to payment for any product delivered or service performed hereunder.

4. LIMITED WARRANTY. Seller warrants the product(s) sold and services provided as specified on face of invoice, solely to buyer. Seller makes no other warranty of any kind respecting the product and services, and expressly DISCLAIMS ALL OTHER WARRANTIES OF WHATEVER KIND RESPECTING THE PRODUCT AND SERVICES, INCLUDING ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE AND NON-INFRINGEMENT.

5. DISCLAIMER. Where warranties to a person other than buyer may not be disclaimed under law, seller extends to such a person the same warranty seller makes to buyer as set forth herein, subject to all disclaimers, exclusions and limitations of warranties, all limitations of liability and all other provisions set forth in the Terms and Conditions herein. Buyer agrees to transmit a copy of the Terms and Conditions set forth herein to any and all persons to whom buyer sells, or otherwise furnishes the products and/or services provided buyer by seller and buyer agrees to indemnify seller for any liability, loss, costs and attorneys' fees which seller may incur by reason, in whole or in part, of failure by buyer to transmit the Terms and Conditions as provided herein.

6. LIMITATION OF SELLER'S LIABILITY AND LIMITATION OF BUYER'S REMEDY. Seller's liability on any claim of any kind, including negligence, for any loss or damage arising out of, connected with, or resulting from the manufacture, sale, delivery, resale, repair or use of any goods or performance of any services covered by or furnished hereunder, shall in no case exceed the lesser of (1) the cost of repairing or replacing goods and repeating the services failing to conform to the forgoing warranty or the price of the goods and/or services or part thereof which gives rise to the claim. IN NO EVENT SHALL SELLER BE LIABLE FOR SPECIAL INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, OR FOR DAMAGES IN THE NATURE OF PENALTIES.

7. INDEMNIFICATION. Buyer agrees to defend and indemnify seller of and from any and all claims or liabilities asserted against seller in connection with the manufacture, sale, delivery, resale or repair or use of any goods, and performance of any services, covered by or furnished hereunder arising in whole or in part out of or by reason of the failure of buyer, its agents, servants, employees or customers to follow instructions, warnings or recommendations furnished by seller in connection with such goods and services, by reason of the failure of buyer, its agents, servants, employees or customers to comply with all federal, state and local laws applicable to such goods and services, or the use thereof, including the Occupational Safety and Health Act of 1970, or by reason of the negligence or misconduct of buyer, its agents, servants, employees or customers.

8. EXPENSES OF ENFORCEMENT. In the event seller undertakes any action to collect amounts due from buyer, or otherwise enforce its rights hereunder, Buyer agrees to pay and reimburse Seller for all such expenses, including, without limitation, all attorneys and collection fees.

9. TAXES. Liability for all taxes and import or export duties, imposed by any city, state, federal or other governmental authority, shall be assumed and paid by buyer. Buyer further agrees to defend and indemnify seller against any and all liabilities for such taxes or duties and legal fees or costs incurred by seller in connection therewith.

10. ASSISTANCE AND ADVICE. Upon request, seller in its discretion will furnish as an accommodation to buyer such technical advice or assistance as is available in reference to the goods and services. Seller assumes no obligation or liability for the advice or assistance given or results obtained, all such advice or assistance being given and accepted at buyer's risk.

11. SITE SAFETY. Buyer shall provide a safe working environment at the site of services and shall comply with all applicable provisions of federal, state, provincial and municipal safety laws, building codes, and safety regulations to prevent accidents or injuries to persons on, about or adjacent to the site.

12. INDEPENDENT CONTRACTOR. Seller and Buyer are independent contractors and nothing shall be construed to place them in the relationship of partners, principal and agent, employer/employee or joint ventures. Neither party will have the power or right to bind or obligate the other party except as may be expressly agreed and delegated by other party, nor will it hold itself out as having such authority.

13. REIMBURSEMENT. Seller shall provide the products and services in reliance upon the data and professional judgments provided by or on behalf of buyer. The fees and charges associated with the products and services thus may not conform to billing guidelines, constraints or other limits on fees. Seller does not seek reimbursement directly from any government agency or any governmental reimbursement fund (the "Government"). In any circumstance where seller may serve as a supplier or subcontractor to an entity which seeks reimbursement from the Government for all or part of the services performed or products provided by seller, it is the sole responsibility of the buyer or other entity seeking reimbursement to ensure the products and services and associated charges are in compliance with and acceptable to the Government prior to submission. When serving as a supplier or subcontractor to an entity which seeks reimbursement from the Government, seller does not knowingly present or cause to be presented any claim for payment to the Government.

14. APPLICABLE LAW/JURISDICTION AND VENUE. The rights and duties of the parties shall be governed by, construed, and enforced in accordance with the laws of the State of California (excluding its conflict of laws rules which would refer to and apply the substantive laws of another jurisdiction). Any suit or proceeding hereunder shall be brought exclusively in state or federal courts located in Orange County, California. Each party consents to the personal jurisdiction of said state and federal courts and waives any objection that such courts are an inconvenient forum.

15. ENTIRE AGREEMENT. This agreement constitutes the entire contract between buyer and seller relating to the goods or services identified herein. No modifications hereof shall be binding upon the seller unless in writing and signed by seller's duly authorized representative, and no modification shall be effected by seller's acknowledgment or acceptance of buyer's purchase order forms containing different provisions. Trade usage shall neither be applicable nor relevant to this agreement, nor be used in any manner whatsoever to explain, qualify or supplement any of the provisions hereof. No waiver by either party of default shall be deemed a waiver of any subsequent default.