

## MicroZVI Specification Sheet

### MicroZVI Technical Description

MicroZVI™ is an *In Situ* Chemical Reduction (ISCR) reagent that is comprised of colloidal ZVI particles suspended in glycerol and environmentally acceptable, proprietary dispersants. MicroZVI is especially effective for promoting the rapid biological degradation of chlorinated ethenes and other volatile organic compounds (CVOCs). Zero valent iron (ZVI) stimulates anaerobic biological degradation by creating a strongly reducing and hydrogen rich environment for reductive dechlorination. MicroZVI also reacts with and destroys CVOCs through a direct abiotic chemical reaction.

The small ZVI particle size is a key feature of MicroZVI. With an average diameter of a few micrometers, MicroZVI particles are small enough to be suspended in water and injected directly into contaminated aquifers at low pressures. This particle size, however, is still large enough to provide long-acting reactivity without requiring the mechanical mixing, thickening, high injection pressures, and fracking needed to inject larger ZVI products. This includes the ability of MicroZVI to be injected using direct push technology and through horizontal and vertical screened wells. MicroZVI can also be mixed with and co-injected along with other organic remediation amendments (ex. 3-D Microemulsion®), pH modifiers, and anaerobic microbes (ex. Bio-Dechlor Inoculum® Plus).



#### MicroZVI is Best in Class For

- Longevity
- Kinetics
- Transport



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## Chemical Composition

Glycerol - CAS 56-81-5  
Iron powders - CAS 7439-89-6

## Properties

**Appearance:** Viscous metallic suspension  
**Viscosity:** Similar to paint  
**Color:** Dark grey  
**Odor:** Slight  
**pH:** Typically 7-9 as applied  
**Density:** About 14 lb/gal

## Storage and Handling Guidelines

### Storage:

- Use within two weeks of delivery
- Store in original closed container
- 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 ingest
- Observe standard industrial hygiene practices
- The material is slippery and will stain clothes

## Applications

MicroZVI is diluted with water on-site and easily applied into the sub-surface using low pressure injections. MicroZVI is compatible with and can be co-applied with products like 3-D Microemulsion and Bio-Dechlor Inoculum Plus.

## Health and Safety

MicroZVI 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, usage, and handling requirements here: [MicroZVI SDS](#).



[www.regenesis.com](http://www.regenesis.com)

Corporate Headquarters  
1011 Calle Sombra, San Clemente CA 92673 USA  
Tel: +1 949.366.8000

European Offices (UK, Ireland, Belgium and Italy)  
Email: [europe@regenesisc.com](mailto:europe@regenesisc.com)  
Tel: +44 (0)1225 61 81 61