

Cascade Chemistries

COLLOIDAL iZVI™



WHAT IS COLLOIDAL iZVI?

Colloidal iZVI is a colloidal injectable zero valent iron (iZVI) amendment specifically developed for remediating chlorinated solvents (CVOCs) in soil and groundwater. It's part of the Cascade Chemistries line of amendments for in situ groundwater remediation, designed to help you reach site closure faster and cost-effectively.

HOW DOES IT WORK?

Colloidal iZVI is a precisely blended liquid-suspension that is injected, via direct push and other methods, to address CVOCs and heavy metal contaminants such as hexavalent chromium, arsenic, and selenium. The unique formulation promotes broad dispersion in the subsurface at low injection pressures, which accelerates treatment. Through processes known as reductive dechlorination (for solvents) and chemical reduction (for metals), the contaminants are degraded upon contact with the ZVI.

Advantages for distribution, contact & residence time

- Direct injection into wells or DPT injection points at sub-fracture pressures
- Rapid dispersion in the subsurface
- Minimized potential for daylighting
- Flexible chemistry that allows up to 80:1 dilution to customize distribution & residence time for specific project needs

Benefits of ZVI biotic/abiotic reactions and...

- Up to 2 years of persistence in the subsurface to overcome back diffusion issues
- Neat, pre-blended colloidal ZVI suspension that eliminates clumping and blending issues in the field
- Simple mixing and dilution without the need for further suspension chemistry
- Easily integrated as a combined remedy with other remediation chemistries and amendments



For more information, visit
www.cascade-env.com/
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TURNKEY SOLUTIONS

While effective chemistries are a key part of successful remediation solutions, Cascade's turnkey solution meets the overall in situ remediation objective "to make contact with contaminant mass for a long enough period of time to achieve destruction." Cascade adds significant value to the application of Colloidal iZVI by providing:

- High resolution design optimization through our MiHPT subsurface technologies to identify target zones based on mass, lithology, and hydraulic conductivity.
- Client design support for dosing and critical injection parameters, including spacing and injection volumes and concentrations based on geology and hydraulic conductivity. Bench-scale and field design optimization services are available.