Reductive Dechlorination Of Persistent Compounds In Groundwater And Source Zones Using Controlled Release Carbon With Soluble Iron

EHC-A® is a cold-water soluble formulation of EHC that is specially designed for injection via existing wells or hydraulic injection networks for the treatment of a wide range of groundwater contaminants. It is composed of primarily controlled-release food-grade organic carbon and dissolved iron.

Application of EHC-A will greatly enhance the *in situ* reduction of persistent compounds such as chlorinated solvents, chlorinated pesticides, and energetics through a combination of biostimulation and chemical reduction resulting in very low redox levels. Its unique mode of action does not require the presence of specialty microorganisms. The molecular structure of the complex carbohydrates in EHC-A ensures that they adhere to soil particle in the saturated zone, thereby ensuring a long effective life in the reactive zone. After 230 days of continuous operation at room temperature, aquifer material enriched with EHC-A continues to support complete destruction of carbon tetrachloride in flow-through columns where the retention time is only 2 days (**Figure 1**).

EHC-A is shipped as a dry, flowable powder, in either 50 lb bags (23 kg) or 1 ton (909 kg) super-sacs. Preparation of the required solution can be easily accomplished in the field using simple mixing equipment. The percent solids of the prepared solution can vary between 5% and 30% to allow for different injection methods and remediation designs. More dilute solutions should be used to inject the product into a greater subsurface volume.

Physical Properties of Prepared Solution:

- Low viscosity
- Relative density of 1.0 to 1.2 compared to water
- Easy to inject at common pressures and temperatures
- Long lasting (excellent source of hydrogen)

Price (excluding delivery):

Dry EHC-A: US$2.00/lb (US$4.40/kg)

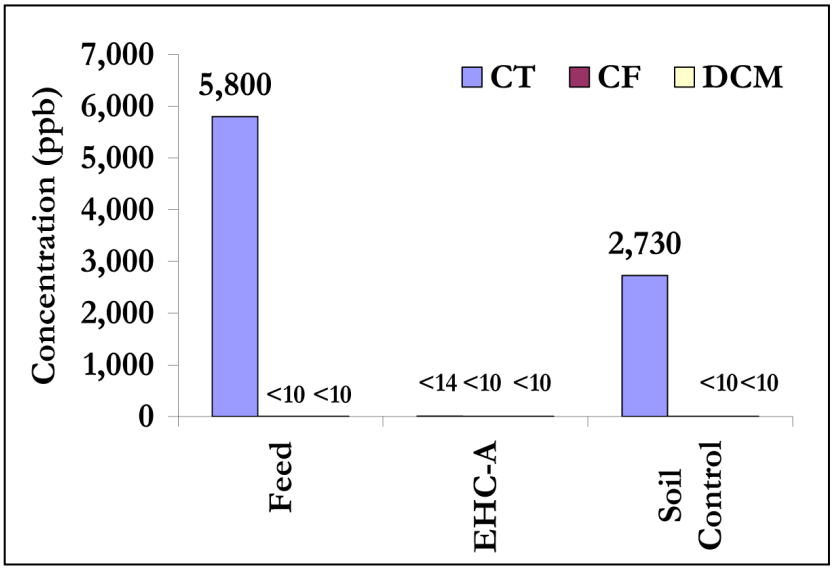

Figure 1. Influence of EHC-A on carbon tetrachloride in groundwater of flow-through columns.