

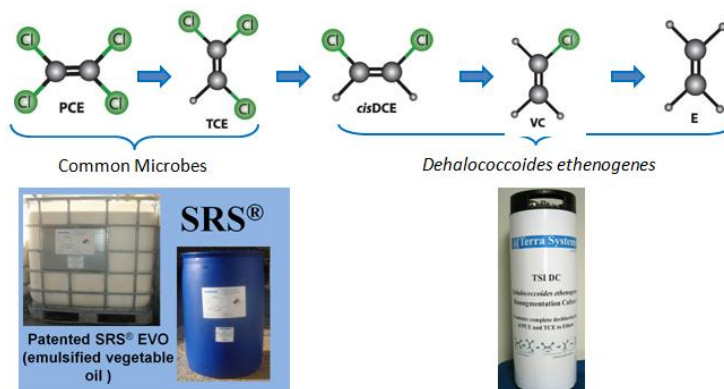
TSI TCA-DC *Dehalococcoides mccartyi* and *Dehalobacter* Bioaugmentation Culture[®]

>5 x 10¹⁰ *Dehalococcoides* cells/L
>5 x 10¹⁰ *Dehalobacter* cells/L

TSI TCA-DC *Dehalococcoides mccartyi* (formerly *ethenogenes*) and *Dehalobacter* Bioaugmentation Culture[®] is an enriched natural bacteria culture that contains *Dehalococcoides* and *Dehalobacter* species for bioaugmentation. This culture dechlorinates tetrachloroethene (PCE) and trichloroethene (TCE) to the non-toxic product ethene and 1,1,1-trichloroethane (1,1,1-TCA), 1,1,2-trichloroethane (1,1,2-TCA), 1,2-dichloroethane (1,2-DCA), and 1,1-dichloroethane (1,1-DCA) to chloroethane (CA). It also can biodegrade carbon tetrachloride and chloroform to methylene chloride and innocuous products. It can be used at sites where bacteria capable of complete reductive dechlorination are not present or there is a need to decrease the remediation time frame. It is estimated that *Dehalococcoides* and *Dehalobacter* are not present in 10 to 40 percent of chlorinated solvent contaminated sites.

Key Benefits of TSI DC *Dehalococcoides mccartyi* and *Dehalobacter* Bioaugmentation Culture[®]

The TSI TCA-DC[®] Bioaugmentation Culture has been proven to be effective with a growing body of laboratory and field data demonstrating that the *Dehalococcoides* group of microorganisms is solely responsible for the complete dechlorination of PCE and TCE to ethene and *Dehalobacter* can biodegrade 1,1,1-TCA and 1,1,2-TCA. At sites where *Dehalococcoides* or *Dehalobacter* microorganisms are not present or are found at low numbers, the process will often "stall" at cis-1,2-dichloroethene or 1,1-DCA. The TSI-TCA[®] Bioaugmentation Culture will promote the complete dechlorination of PCE or TCE. The TSI-TCA[®] Bioaugmentation Culture contains greater than 5 x 10¹⁰ *Dehalococcoides*/L and greater than 5 x 10¹⁰ *Dehalobacter*/L.





The TSI-TCA[®] Bioaugmentation Culture is cost effective and is typically a minor component of the total remediation project cost. At sites where the *Dehalococcoides* and *Dehalobacter* are present, but at low numbers or poorly distributed, bioaugmentation can be used to reduce the treatment time. Bioaugmentation can also reduce the time required to grow the *Dehalococcoides* and *Dehalobacter* populations to effective cell densities. Therefore, future costs can be reduced.

- The TSI-TCA[®] Bioaugmentation Culture is competitively priced at less than \$150 per liter of culture plus shipping depending on volume ordered.
- The TSI-TCA[®] Bioaugmentation Culture works with all commonly used electron donors.
- The TSI-TCA[®] Bioaugmentation Culture is not genetically modified or engineered.
- The TSI-TCA[®] Bioaugmentation Culture is certified to be free of known human pathogens.
- The TSI-TCA[®] Bioaugmentation Culture has rigorous quality control procedures in place to ensure that each shipment is of the highest quality, stable, safe, effective and free of chlorinated volatile organic compounds.
- The TSI-TCA[®] Bioaugmentation Culture is shipped overnight in specially designed stainless steel containers that prevent exposure to air and are safe & easy to handle.



Each purchase comes with free technical phone support from an experienced Terra Systems microbiologist. A senior level microbiologist is also available to be on-site to support the successful application at \$1,200 per day.