



CVOC degrading bacteria

Problem

Chlorinated volatile organic compounds (CVOC) belong to the most abundant groundwater pollutants. Due to leaks and spills in the past, these compounds are found at a significant number of sites of the dry cleaning, metal and chemical industry. As a result of the chemical and physical properties of CVOC, traditional remediation techniques like pump and treat, often do not offer a cost efficient solution for the removal of these pollutants. In contrast, in situ biodegradation provides a sustainable remediation technique for groundwater and soil contaminated with CVOC. Hereby, the pollutants are degraded by bacteria, growing on these contaminants. If the site itself does not have the appropriate bacterial strains for the degradation, the addition of safe and specialised bacteria to the soil can be applied. This process is called bioaugmentation.

Solution

Avecom developed a robust microbial culture 'Multidechlorobac' for the sustainable remediation of soil and groundwater polluted with CVOC. The culture contains a team of anaerobic bacterial strains capable of the complete dechlorination of chloroethenes and chloroethanes in a reasonable timespan.

Advantages

- ◆ In situ degradation of CVOC into harmless products without the accumulation of toxic intermediates
- ◆ Safe handling and application (no aggressive chemicals, ...) not interfering with normal industrial practices
- ◆ Widely applicable: broad pH range, high salt tolerance, different soil types
- ◆ Cost saving technology: no excavation or pump and treat (in situ degradation), no transport of contaminated soil, low energy demand
- ◆ Proven and sustainable technology

Application

- ◆ In situ bioremediation (injection filters, direct push, ...)
- ◆ Ex situ bioremediation (bioreactor)



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