KB-1 plus®

KB-1® Plus for Remediation of Low pH Sites

SiREM has developed a KB-1® Plus culture acclimated to dechlorinate chlorinated ethenes at lower pH

Contact SiREM for a quotation or more information on our line of leading bioaugmentation cultures.

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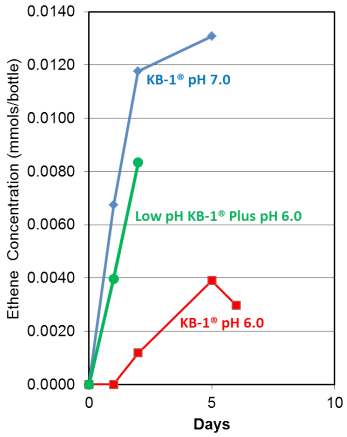
Bioremediation of chlorinated ethenes (PCE, TCE, cDCE, VC) at low pH presents unique challenges due to the inhibitory effect of acidic conditions in groundwater aquifers. Many sites have an intrinsic pH below the optimum range for dechlorination (pH 6.8-7.8). At pH's below 6.0, slow and incomplete dechlorination is often observed, leading to accumulation of cDCE and VC. Moreover, dechlorination and the fermentation of electron donors (both acid producing processes) can further reduce pH to inhibitory conditions.

In order to mitigate the effects of lower pH, SiREM has developed a KB-1® Plus culture acclimated to these conditions which demonstrates complete dechlorination at a pH as low as 5.8. This culture exhibits dechlorination rates at pH 6.0 that compare favorably with KB-1® grown at pH 7.0 and may be part of an overall remediation solution, including aquifer buffering, for low pH sites.



Performance (ethene production rate) of low pH acclimated KB-1® Plus grown on TCE at pH 6.0 (green) compared to KB-1® at pH 7.0 (blue) and 6.0 (red). The ethene production rate of low pH acclimated KB-1® Plus (green) is 5 times higher than standard KB-1® at pH 6.0

Consider–Low pH Acclimated KB-1® Plus

- Where aquifer pH is 5.8-6.3
- In combination with aquifer neutralization to maximize dechlorination performance and/or reduce buffering needs
- To maximize performance in poorly buffered aquifers where pH declines are likely due to dechlorination and fermentation of electron donors (both acid producing processes)

All KB-1 ® Plus Purchases Include:

- KB-1® Plus Guarantee*
- Technical support to ensure a successful application at your site
- Complimentary Gene-Trac® Tests to verify the successful delivery growth and persistence of KB-1® Plus microbes in site groundwater

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*some conditions apply

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