

KB-1® Plus Bioaugmentation Culture

For use at Mixed Chlorinated Solvent Sites



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

Email: contactsirem@siremlab.com
Toll free: 1-866-251-1747
Phone: (519) 822-2265

KB-1® Plus bioaugmentation cultures are custom-blended microbial formulations capable of biodegradation of chlorinated solvents including complex contaminant mixtures. These cultures have been developed by SiREM in collaboration with the University of Toronto^{1,2} and the United States Geological Survey³.

KB-1® Plus Cultures are used for the Remediation of:

- Chlorinated ethanes (1,1,1-trichloroethane and 1,1-dichloroethane to chloroethane) (1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane and 1,2-dichloroethane to ethene)
- Chlorinated methanes (carbon tetrachloride, chloroform and dichloromethane to non-chlorinated end products)
- Chlorinated propanes (1,2,3-trichloropropane and 1,2-dichloropropane to allyl alcohol and propene)
- Chlorofluorocarbons (1,1,2-trichloro-1,2,2-trifluoroethane)
- Explosives (RDX)
- Chlorinated ethenes (tetrachloroethene, trichloroethene, dichloroethene isomers and vinyl chloride to ethene)

A key benefit of KB-1® Plus cultures is their effectiveness on contaminant mixtures. First, specialized microbes degrade inhibitory compounds (e.g., 1,1,1-TCA/chloroform/CFCs), followed by the complete degradation of the remaining chlorinated compounds (e.g., chlorinated ethenes).

SiREM's bioremediation culture capabilities are always growing. If you have a site with compounds not on this list and are interested in advanced bioremediation approaches, please contact SiREM to enquire about our expanding culture capabilities and latest innovations in groundwater remediation.

Benefits of KB-1® Plus Include:

- First rate technical support ensures a successful bioaugmentation application
- Custom blended formulations optimize biodegradation for chlorinated VOC mixtures
- Only a single application required
- Works with all commonly used electron donors
- Natural microbial culture (not genetically modified)
- Pathogen free
- Rigorous quality control ensures each shipment is effective, stable and safe
- Shipped overnight in specially designed stainless-steel vessels that prevent exposure to air and are safe and easy to handle

All KB-1® Plus Purchases Include:

- KB-1® Plus Guarantee*
- Complimentary Gene-Trac® *Dehalococcoides*, *Dehalobacter*, and *Dehalogenimonas* tests to verify the successful delivery, growth, and persistence of KB-1® Plus microbes in site groundwater. Targets to be determined based on site compounds.

References

¹Groster, A. and E. A. Edwards. 2006. Growth of *Dehalobacter* and *Dehalococcoides* spp. during Degradation of Chlorinated Ethanes. *Appl. Environ. Microbiol.* 72: 428–436.

²Groster, A., M. Duhamel, S. Dworatzek and E. A. Edwards. 2010. Chloroform respiration to dichloromethane by a *Dehalobacter* population. *Environmental Microbiology*. 12: 1053–1060.

³Jones E. J. P., M. A. Voytek, M.M. Lorah, J. D. Kirshtein. 2006. Characterization of a Microbial Consortium Capable of Rapid and Simultaneous Dechlorination of 1,1,2,2-Tetrachloroethane and Chlorinated Ethane and Ethene Intermediates. *Bioremediation Journal*, Volume 10: 153-168.

*Some conditions apply

