



Shaw's 4000-L Fermentor and Cell Concentrator

Simply Available

Shaw maintains the largest and most advanced fermentation facility in the environmental industry and is staffed with the industry's most experienced fermentation scientists. SDC-9™ cultures can be produced in volumes up to 4000 L per batch for treatment of even the largest contaminated sites. Typical lead times for large cultures (>200 L) are only 2 weeks, and smaller cultures are often available on even shorter notice.

About Shaw Environmental, Inc.

From restoring contaminated sites like the Fernald Closure Project in Ohio, a former uranium processing facility, to devising innovative solutions to complex environmental issues, such as the removal of MTBE and perchlorate, to designing modern, safe solid waste landfills, Shaw is a worldwide leader in environmental protection and remediation.

Using our engineering, design, and construction expertise, we work with our clients to:

- Remediate contamination and restore land to a usable state
- Safely dispose of hazardous and toxic waste, including high-level waste
- Develop modern solid waste landfills and transfer stations
- Keep the air and water contaminant-free
- Respond quickly and efficiently to emergency situations

Shaw's broad experience and multidisciplinary approach provide the expertise and flexibility to meet your environmental project needs.

Contact

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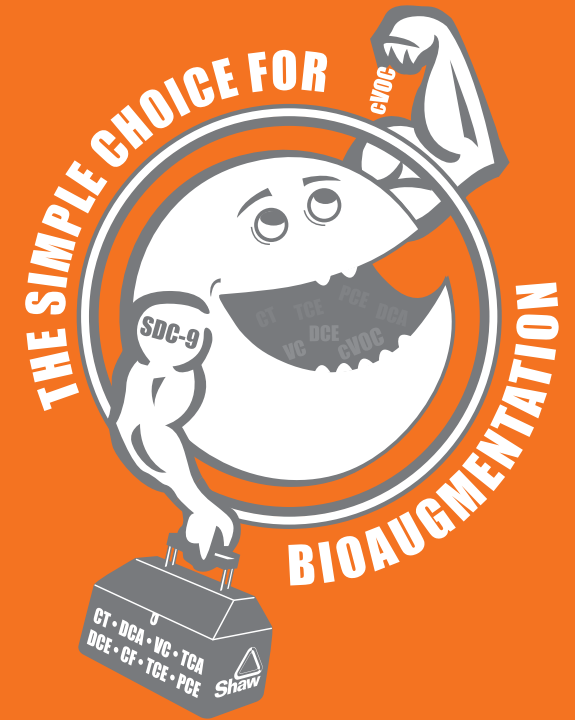
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The Simple Choice
for Bioaugmentation™
Shaw's Dechlorinating Culture, SDC-9™

 **Shaw**® a world of **Solutions**™

Shaw's Dechlorinating Culture—SDC-9™

The Simple Choice for Bioaugmentation™

Simply Better

- Degrades mixed chlorinated solvents (PCE, TCE, cDCE, VC, TCA, CT, CF)
- Not inhibited by Chloroform like other commercially available cultures
- Rapid and complete degradation of cDCE and Vinyl Chloride
- Degrades high concentrations of contaminants

Simply More for Your Money

- Lowest per-liter prices
- Highest DHC concentrations
- 10-fold cell concentration available to reduce shipping costs
- SDC-9 delivery kegs allow inexpensive and flexible culture injection
- No requirement for a Shaw technician to be on-site for injection

Simply Available

- 4000 L fermentation capacity
- Typical lead times only 2 weeks
- Affordable overnight UPS shipping

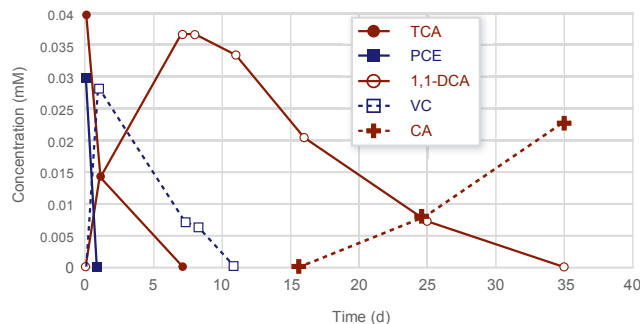
Simply Guaranteed

- Guaranteed lowest price!
- Guaranteed DHC concentrations
- Guaranteed highest activity
- Guaranteed lowest overnight shipping cost
- Cell concentration guarantees lowest culture impurities

Simply Better

Shaw Environmental, Inc., a Shaw Group Company (Shaw) developed SDC-9™ specifically to treat chlorinated solvent contaminated aquifers. The culture contains Dehalococcoides sp. (DHC) bacteria that degrade a wide range of chlorinated contaminants via dehalorespiration. In addition to degrading highly chlorinated ethenes like PCE and TCE, the culture rapidly dechlorinates cDCE and vinyl chloride to non-toxic ethene, making it well suited for treating sites where remediation of PCE and TCE has stalled at these intermediates. In addition, SDC-9™ contains microbes capable of dehalogenating halomethanes (e.g., carbon tetrachloride and chloroform) and haloethanes (e.g. 1,1,1-TCA and 1,1-DCA), as well as mixtures of these halogenated contaminants. SDC-9™ is not inhibited by chloroform like other commercially available cultures. The culture has been successfully applied at sites throughout the United States, including some of the largest in situ bioaugmentation projects performed to date. The culture works effectively with any electron donor known to support reductive dehalogenation (e.g., vegetable oil, lactate, molasses, whey, etc.).

Degradation of Mixed Chlorinated Solvents (PCE and 1,1,1-TCA) by SDC-9



Simply More for Your Money

Shaw is the only company that concentrates its bacterial cultures before shipment to your site. The cell concentration process removes >90% of the fermentation by-products that accumulate during the fermentation process. This ensures that injection of SDC-9™ does not create unnecessary water quality issues. It also reduces shipping volume to ensure rapid and cost-effective delivery of SDC-9™ cultures. 180 L of SDC-9™ can be shipped overnight to your site in a single cooler. Overnight shipping allows your cultures to have their greatest activity when they arrive at your site.



Kegs are shipped on ice in coolers and supplied with 2 quick connects (one for gas and one for liquid) that are fitted with hose barbs for attaching 1/4" ID tubing.

Biodegradation of Carbon Tetrachloride by SDC-9

