

Sediment Toxicity Testing

EnviroScience biologists have extensive experience with culturing and examining many different species of freshwater, saltwater, and sediment organisms. Our toxicologists can customize study plans to meet numerous requirements for specialty projects meeting the needs of each individual client. Contact our Bioassay Laboratory about developing a special toxicity test for you.

Sediment Toxicity Testing

Aquatic sediments at the bottom of lakes, streams and rivers can act as sinks for chemical compounds such as nutrients, metals, PAHs (polynuclear aromatic hydrocarbons) and PCBs (polychlorinated biphenyls). Sediments from many streams and rivers have received high concentrations of chemical contaminants, which over time present unacceptable risks to humans and aquatic biota. Many aquatic organisms are benthic (bottom-dwelling), meaning that they dwell in or on top of the sediments, and therefore come in direct contact with contaminants bound in the substrate. Whole sediment toxicity testing can be used as a tool to predict whether sediments will have adverse effects on benthic biota.

Whole sediment testing utilizes the sediment-dwelling organisms, *Chironomus dilutus* and *Hyalella Azteca*, to establish sediment quality from areas of ecological concern. These test organisms are exposed to field-collected sediments in the laboratory under controlled conditions. Artificial sediment is used as a laboratory control, thereby creating a standard against which test quality and test organism response can be compared.

The behavior of the organisms, including sediment avoidance and mortality, is monitored on a daily basis (USEPA 2000). In order to measure toxicity, a specific biological endpoint

(e.g., mortality, reduction in growth) is used to assess the response of the organisms to contaminants in the sediments. Whole sediment testing integrates the effects of all sediment contaminants and any synergistic, additive or antagonistic interactions that occur between them.

EnviroScience provides high quality environmental services to hundreds of satisfied municipal, industrial, and private sector clients throughout the Midwest and Northeast. We have clients in Ohio, Pennsylvania, West Virginia, Illinois, New York, Michigan, Indiana, Tennessee, and many other states. Our company has an excellent reputation with regulatory agencies on both the state and federal level. Our confidence in our methodology and the professionalism of our experienced biologists allows us to guarantee that our procedures and reported data will meet all acceptance criteria.

In Action





Need help with your project?

Our experts are here to discuss your needs and how we can help you move your project forward. Fill out the form below for more information on our services or to request a quote and we'll get back to you within 24 hours. If you need a response within an hour or less, please call us at 888-866-8540.

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