



Designation: E 2122 – 01²

Standard Guide for Conducting In-situ Field Bioassays With ~~Marine, Estuarine,~~ and Freshwater Caged Bivalves¹

This standard is issued under the fixed designation E 2122; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide describes procedures for conducting controlled experiments with caged bivalves under field conditions. The purpose of this approach is to facilitate the simultaneous collection of field data to help characterize chemical exposure and associated biological effects in the same organism under environmentally realistic conditions. This approach of characterizing exposure and effects is consistent with the US EPA ecological risk assessment paradigm. Bivalves are useful test organisms for in-situ field bioassays because they (1) concentrate and integrate chemicals in their tissues and have a more limited ability to metabolize most chemicals than other species, (2) exhibit measurable sublethal effects associated with exposure to those chemicals, (3) provide paired tissue chemistry and response data which can be extrapolated to other species and trophic levels, (4) provide tissue chemistry data which can be used to estimate chemical exposure from water or sediment, and (5) facilitate controlled

¹ This guide is under the jurisdiction of ASTM Committee E47 on Biological Effects and Environmental Fate and is the direct responsibility of Subcommittee E47.08 on Biological Field Testing.

Current edition approved ~~January~~ May 10, 2004². Published ~~M~~ September 2002. Originally published as E 2122 – 01. Last previous edition E 2122 – 01.