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Standard Guide for Conducting Sexual Reproduction Tests with Seaweeds[1]

This standard is issued under the fixed designation E 1498; 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 covers procedures for obtaining laboratory data concerning the adverse effects of a test material added to dilution water on sexual reproduction by seaweeds. The exposure duration is species dependent and is followed by a period of development to allow the evidence of sexual reproduction to appear. There is no exposure to toxicants during the development period. This restricts the tests primarily to the events surrounding egg fertilization, and it minimizes any timelag effects on development that might interfere with correct enumeration of the number of sexual events that occurred. These procedures will probably be useful for conducting sexual reproduction toxicity tests with a variety of species of seaweeds, although modifications might be necessary.

1.2 Other modifications of these procedures might be justified by special needs or circumstances. Although using appropriate procedures is more important than following prescribed procedures, the results of tests conducted using unusual procedures are not likely to be comparable to those of many other tests. Comparison of the results obtained using modified and unmodified versions of these procedures might provide useful information concerning new concepts and procedures for conducting sexual reproduction tests with seaweeds.

1.3 These procedures are applicable to most chemicals, either individually or in formulations, commercial products, and known mixtures or whole effluents, as well as for use in testing surface waters. With appropriate modifications, these procedures can be used to study the effects of temperature, dissolved oxygen, pH, and such materials as leachates, oils, particulate matter, and sediments.

1.4 The values stated in SI units are to be regarded as the standard.

1.5 This guide is arranged as follows:

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1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* For specific hazards statements, see 6.4 and Section 7.

2. Referenced Documents

2.1 *ASTM Standards:* [2]

E 380 Practice for Use of the International System of Units (SI) (the Modernized Metric System)[3]

E 729 Guide for Conducting Acute Toxicity Tests on Test Materials with Fishes, Macroinvertebrates, and Amphibians

E 943 Terminology Relating to Biological Effects and Environmental Fate

[1] This guide is under the jurisdiction of ASTM Committee E47 on Biological Effects and Environmental Fate and is the direct responsibility of Subcommittee E47.01 on Aquatic Assessment and Toxicology.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Withdrawn.

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