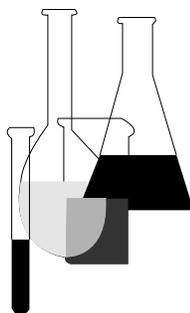




Microbial Pesticide Test Guidelines

OPPTS 885.4750

Aquatic Ecosystem Test



INTRODUCTION

This guideline is one of a series of test guidelines that have been developed by the Office of Prevention, Pesticides and Toxic Substances, United States Environmental Protection Agency for use in the testing of pesticides and toxic substances, and the development of test data that must be submitted to the Agency for review under Federal regulations.

The Office of Prevention, Pesticides and Toxic Substances (OPPTS) has developed this guideline through a process of harmonization that blended the testing guidance and requirements that existed in the Office of Pollution Prevention and Toxics (OPPT) and appeared in Title 40, Chapter I, Subchapter R of the Code of Federal Regulations (CFR), the Office of Pesticide Programs (OPP) which appeared in publications of the National Technical Information Service (NTIS) and the guidelines published by the Organization for Economic Cooperation and Development (OECD).

The purpose of harmonizing these guidelines into a single set of OPPTS guidelines is to minimize variations among the testing procedures that must be performed to meet the data requirements of the U. S. Environmental Protection Agency under the Toxic Substances Control Act (15 U.S.C. 2601) and the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 136, *et seq.*).

Final Guideline Release: This guideline is available from the U.S. Government Printing Office, Washington, DC 20402 on *The Federal Bulletin Board*. By modem dial 202-512-1387, telnet and ftp: fedbbs.access.gpo.gov (IP 162.140.64.19), internet: <http://fedbbs.access.gpo.gov>, or call 202-512-0132 for disks or paper copies. This guideline is also available electronically in ASCII and PDF (portable document format) from the EPA Public Access Gopher (gopher.epa.gov) under the heading "Environmental Test Methods and Guidelines."

OPPTS 885.4750 Aquatic ecosystem test.

(a) **Scope**—(1) **Applicability.** This guideline is intended to meet testing requirements of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136, *et seq.*).

(2) **Background.** The source material used in developing this harmonized OPPTS test guideline is OPP guideline 154A–29.

(b) **Test standards.** Specific requirements will be established on a case-by-case basis. Data sufficient to satisfy the general test standards in OPPTS 885.0001, and following:

(1) **Test substance.** The actual form of the material to be tested is described in OPPTS 885.0001. In addition, any substances used to enhance virulence should be tested along with the test substance.

(2) **Test system.** The microbial pest control agent (MPCA) will be tested in a complex, realistic microcosm which should be designed in consultation with the Agency. The microcosm should contain members from all trophic levels found in natural aquatic ecosystems.

(3) **Test organisms.** (i) Following consultation with the Agency, the registration applicant shall choose a combination of the following species that reflects the species diversity of the target ecosystem:

(A) A typical bottom-feeding fish (e.g. catfish or carp).

(B) A cold-water fish, a warm-water fish, or a marine fish (e.g. brook trout, rainbow trout, bass, bluegill, northern pike, walleye, or sheepshead minnow).

(C) Mollusks (e.g. oyster or freshwater clams).

(D) Crustaceans (e.g. *Daphnia* spp., shrimp, or crayfish).

(E) Nymphs (e.g. mayfly).

(c) **Reporting and evaluation of data.** In addition to the information required by OPPTS 885.0001, specific data reporting and evaluation requirements will be established on a case-by-case basis following consultation with the Agency.

(d) **Tier progression.** If pathogenic effects are observed, simulated and actual field testing may be required and, additional testing may be required.

(e) **References.** The following contain useful background information for developing acceptable protocols.

(1) Johnson, B.T. and R.A. Schoettger. A biological model for estimating the uptake, transfer, and degradation of xenobiotics in an aquatic food chain. FEDERAL REGISTER 40(123):26906–26909 (June 25, 1975).

(2) Macek, K.J. et al. Bioconcentration of C14-pesticides exposure. Pp. 119–142 in *Structure-activity correlations in studies of toxicity and bioconcentration with aquatic organisms*. G.D. Veith and D.E. Konasevich, eds. Proceedings of a Symposium, Burlington, Ontario, March 11–13, 1975. Sponsored by Standing Committees on Scientific Basis for Water Control Criteria of the International Joint Commission's Research Advisory Board (1975).

(3) Schimmel, S.C. et al. Acute toxicity to and bioconcentration of endosulfan by estuarine animals. Pp. 241–252 in *Aquatic Toxicology and Hazard Evaluation*. F.L. Mayer and J.L. Hamelink, eds. STP #634, American Society for Testing and Materials, Philadelphia, PA.