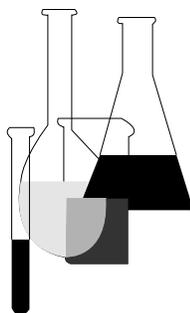




Product Properties Test Guidelines

OPPTS 830.7000 pH



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.*).

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(a) **Scope—(1) Applicability.** This guideline is intended to meet testing requirements of both the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136, *et seq.*) and the Toxic Substances Control Act (TSCA) (15 U.S.C. 2601).

(2) **Background.** The source materials used in developing this harmonized OPPTS test guideline are the OPPT guideline under 40 CFR 796.1450 pH of water solutions or suspensions and OPP guideline 63–12 pH (Pesticide Assessment Guidelines, Subdivision D: Product Chemistry, EPA Report 540/9–82–018, October 1982).

(b) **Purpose.** This test guideline references methodology to develop data on the pH of aqueous solutions and suspensions of chemical substances and mixtures. The data may be used to calculate the degree of acidity or basicity of aqueous solutions or suspensions that will be formed by a chemical substance and to evaluate the resulting effects the substance will have on human health and the environment. The pH may be used in the design of other tests.

(c) **Test Procedures.** (1) The electrometric method is recommended for determining the pH of an aqueous solution or suspension. The recommended apparatus should consist of a pH meter and electrodes, meeting performance standards and specifications as described, for example, in ANSI/ASTM E 70–7700 and in ASTM D 1293–78 (see paragraph (d)(1) of this guideline) or the method as described in CIPAC MT 75 (see paragraph (d)(2) of this guideline)).

(2) It is recommended that the water used in preparing solutions or suspensions meet the standards for type I or type II reagent water specified by ANSI/ASTM D 1193–77 and be free of CO₂ (see paragraph (d)(1) of this guideline). For chemical substances that are readily soluble in water, the test guideline recommends that a solution of 1 percent by mass be used. For chemical substances that are soluble in water to an extent of less than 1 percent by mass at 25 °C, an aqueous suspension of the chemical substance should be tested.

(d) **References.** The following references should be consulted for additional background material on this test guideline.

(1) American Society for Testing and Materials, “Annual Book of ASTM Standards,” ASTM, 1916 Race St., Philadelphia, PA, (latest edition).

(2) *Collaborative International Pesticide Analytical Council, Ltd. (CIPAC) Handbook*, “MT 75 Determination of pH,” CIPAC, Hatching Green, Harpenden, Hertfordshire, England (1970).