

INTERNATIONAL STANDARD

ISO
11266

First edition
1994-09-15

Soil quality — Guidance on laboratory testing for biodegradation of organic chemicals in soil under aerobic conditions

*Qualité du sol — Guide relatif aux essais en laboratoire pour la
biodégradation de produits chimiques organiques dans le sol sous
conditions aérobies*



Reference number
ISO 11266:1994(E)

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 11266 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

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Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Introduction

Organic chemicals may be introduced into the soil both intentionally and accidentally, after which they may, or may not, degrade biologically. For chemicals which do degrade, the rate of degradation can vary considerably, depending not only on the molecular structure of the chemical, but also on soil conditions such as temperature, water and oxygen availability which influence microbial activity. The activity of micro-organisms often plays a major role in degradative processes.

It is necessary to have laboratory tests available to estimate the rate and extent of biodegradation and thereby the persistence of organic chemicals in soil. Numerous laboratory methods are available for the estimation of aerobic biodegradation, but these differ considerably according to the specific circumstances, for example, soil type, temperature and incubation times.

This International Standard provides general guidelines for the selection and conduct of tests for determining the biodegradation of organic chemicals in aerobic soils.

At the time of writing, there is insufficient agreement on methodology for testing biodegradability in anaerobic soils for guidelines to be prepared.