

BS EN 16087-1:2011



BSI Standards Publication

Soil improvers and growing media — Determination of the aerobic biological activity

Part 1: Oxygen uptake rate (OUR)

bsi.

...making excellence a habit.
AVA Documents™
Document Sharing Hub

National foreword

This British Standard is the UK implementation of EN 16087-1:2011.

BSI, as a member of CEN, is obliged to publish EN 16087-1:2011 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval as a European Standard.

The UK committee voted against the publication of this standard because it considered that the reproducibility obtained in inter-laboratory evaluation was not an adequate basis on which to establish a reference method. This could cause problems in the event of dispute or litigation.

The standard deviations of reproducibility in the inter-laboratory validation trials of this method were poor and there is a low probability of getting the same result from two laboratories analysing the same sample. In the worst cases the standard deviation of reproducibility was nearly the same as the mean analysis (after rejection of outliers). For example, for the peat based growing medium no. 2, the mean was OUR 15.49 mmol O₂/kg OM · h, S_R 12.84; for Compost 2 the mean was OUR 14.29 mmol O₂/kg OM · h, S_R 12.79.

Technical Committee AW/20 advises that this standard will not reliably discriminate between the stability of growing media and soil improvers or constituents thereof.

The UK participation in its preparation was entrusted to Technical Committee AW/20, Top soil and other growing media.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© BSI 2011

ISBN 978 0 580 70566 3

ICS 65.080

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2011.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 16087-1

November 2011

ICS 65.080

English Version

**Soil improvers and growing media - Determination of the aerobic
biological activity - Part 1: Oxygen uptake rate (OUR)**

Amendements du sol et supports de culture -
Détermination de l'activité biologique aérobie - Partie 1:
Cinétique d'absorption de l'oxygène (OUR)

Bodenverbesserungsmittel und Kultursubstrate -
Bestimmung der aeroben biologischen Aktivität - Teil 1:
Sauerstoffaufnahme (OUR)

This European Standard was approved by CEN on 17 September 2011.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2011 CEN All rights of exploitation in any form and by any means reserved
worldwide for CEN national Members.

Ref. No. EN 16087-1:2011: E

Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Principle.....	4
4 Apparatus	4
4.1 Testing facility.....	4
4.2 Pressure transducer.....	4
4.3 CO ₂ -absorbent containing unit.....	4
4.4 Reaction vessel.....	4
4.5 Mixing device	4
4.6 Balance	5
4.7 pH meter	5
4.8 Dispenser.....	5
4.9 Glassware	5
4.10 Sieve.....	5
5 Reagents.....	5
5.1 Water of class 3.....	5
5.2 pH buffer	5
5.3 Macro nutrient solution	5
5.4 Micro nutrient solution	5
5.5 Complete nutrient solution	5
5.6 Nitrification inhibitor	5
5.7 CO ₂ -absorbant.....	6
5.8 NaOH (0,5 mol/l)	6
5.9 HCl (0,5 mol/l).....	6
6 Procedure	6
6.1 Sample preparation	6
6.2 Determination of moisture content and organic matter content	6
6.3 Starting the procedure	6
6.4 Respiration measurement.....	7
7 Calculations.....	7
7.1 Theoretical background	7
7.2 Calculations.....	7
8 Test report	8
Annex A (informative) Validation	9
Annex B (informative) Specific information on the OUR-test.....	10
Bibliography	12

Foreword

This document (EN 16087-1:2011) has been prepared by Technical Committee CEN/TC 223 “Soil improvers and growing media”, the secretariat of which is held by ASI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

SAFETY PRECAUTIONS – Care should be taken when handling substances of caustic nature or samples that may contain sharps or is of a dusty nature.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.