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Standards

Irish Standard  
I.S. EN ISO 23753-1:2011

# Soil Quality - Determination of dehydrogenase activity in soil - Part 1: Method using triphenyltetrazolium chloride (TTC) (ISO 23753-1:2005)

## I.S. EN ISO 23753-1:2011

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*This document replaces:*

*This document is based on:*  
EN ISO 23753-1:2011

*Published:*  
21 July, 2011

This document was published  
under the authority of the NSAI  
and comes into effect on:  
21 July, 2011

**ICS number:**  
13.080.30

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I.S. EN ISO 23753-1:2011

EUROPEAN STANDARD

**EN ISO 23753-1**

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2011

ICS 13.080.30

English Version

**Soil Quality - Determination of dehydrogenase activity in soil -  
Part 1: Method using triphenyltetrazolium chloride (TTC) (ISO  
23753-1:2005)**

Qualité du sol - Détermination de l'activité des  
déshydrogénases dans les sols - Partie 1: Méthode au  
chlorure de triphényltétrazolium (CTT) (ISO 23753-1:2005)

Bodenbeschaffenheit - Bestimmung der  
Dehydrogenaseaktivität in Böden - Teil 1: Verfahren mit  
Triphenyltetrazoliumchlorid (TTC) (ISO 23753-1:2005)

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

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## **Foreword**

The text of ISO 23753-1:2005 has been prepared by Technical Committee ISO/TC 190 “Soil quality” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 23753-1:2011 by Technical Committee CEN/TC 345 “Characterization of soils” the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by January 2012, and conflicting national standards shall be withdrawn at the latest by January 2012.

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### **Endorsement notice**

The text of ISO 23753-1:2005 has been approved by CEN as a EN ISO 23753-1:2011 without any modification.

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I.S. EN ISO 23753-1:2011

# INTERNATIONAL STANDARD

**ISO**  
**23753-1**

First edition  
2005-11-01

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## **Soil quality — Determination of dehydrogenase activity in soils —**

### **Part 1: Method using triphenyltetrazolium chloride (TTC)**

*Qualité du sol — Détermination de l'activité des déshydrogénases dans  
les sols —*

*Partie 1: Méthode au chlorure de triphényltétrazolium (CTT)*



Reference number  
ISO 23753-1:2005(E)

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Published in Switzerland

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. 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.

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

ISO 23753-1 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

ISO 23753 consists of the following parts, under the general title *Soil quality — Determination of dehydrogenase activity in soils*:

- *Part 1: Method using triphenyltetrazolium chloride (TTC)*
- *Part 2: Method using iodotetrazolium chloride (INT)*

## **Introduction**

The soil microflora is responsible for the decomposition and conversion of organic substances, aggregation stability and the carbon, nitrogen, sulfur and phosphorus cycles. Dehydrogenases, as respiratory chain enzymes, play a major role in the energy production by organisms. They oxidize organic compounds by transferring two hydrogen atoms. Dehydrogenases are essential components of the enzyme system of microorganisms. Dehydrogenase activity can therefore be used as an indicator of biological redox systems and as a measure of microbial activity in the soil.

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