



NSAI
Standards

Irish Standard
I.S. EN 17090:2018

Fertilizers - Determination of nitrification inhibitor DMPSA in fertilizers - Method using high-performance liquid chromatography (HPLC)

I.S. EN 17090:2018

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National Foreword

I.S. EN 17090:2018 is the adopted Irish version of the European Document EN 17090:2018, Fertilizers - Determination of nitrification inhibitor DMPSA in fertilizers - Method using high-performance liquid chromatography (HPLC)

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EUROPEAN STANDARD

EN 17090

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2018

ICS 65.080

English Version

**Fertilizers - Determination of nitrification inhibitor DMPSA
in fertilizers - Method using high-performance liquid
chromatography (HPLC)**

Engrais - Dosage de l'inhibiteur de nitrification DMPSA
dans les engrais - Méthode par chromatographie
liquide haute performance (HPLC)

Düngemittel - Bestimmung des
Nitrifikationshemmstoffs DMPSA in Düngemitteln -
Verfahren mit Hochleistungs-Flüssigchromatographie
(HPLC)

This European Standard was approved by CEN on 25 June 2018.

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EN 17090:2018 (E)

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European foreword

This document (EN 17090:2018) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by May 2019, and conflicting national standards shall be withdrawn at the latest by May 2019.

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EN 17090:2018 (E)

1 Scope

This document specifies a method for the determination of nitrification inhibitor 2-(3,4-dimethyl-pyrazol-1-yl)-succinic acid (DMPSA) using high-performance liquid chromatography (HPLC), which is applicable to all mineral fertilizers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1482-2, *Fertilizers and liming materials - Sampling and sample preparation - Part 2: Sample preparation*

EN 12944-1, *Fertilizers and liming materials and soil improvers - Vocabulary - Part 1: General terms*

EN 12944-2, *Fertilizers and liming materials and soil improvers - Vocabulary - Part 2: Terms relating to fertilizers*

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12944-1 and EN 12944-2 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Principle

The fertilizer sample is solved in water or extracted with water. The solved DMPSA is determined with HPLC/UV-detector.

5 Reagents

- 5.1 **Water**, grade 3 according to EN ISO 3696.
- 5.2 **Acetonitrile**, HPLC grade.
- 5.3 **Phosphoric acid**, $w = 85\%$ for analysis.
- 5.4 **DMPSA**, CAS-Nr 940-877-5, purity $> 99\%$.

6 Apparatus

- 6.1 **Analytical balance**, with an accuracy of $\pm 0,1$ mg.
- 6.2 **Volumetric flasks**, capacity 100 ml and 1 000 ml.
- 6.3 **Micro filter**, pore size 0,45 μm .

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