



**SLOVENSKI STANDARD**  
**SIST EN 17705:2025**

**01-februar-2025**

**Nadomešča:**  
**SIST-TS CEN/TS 17705:2023**

---

**Rastlinski biostimulanti - Določanje fosfonatov**

Plant biostimulants - Determination of phosphonates

Pflanzen-Biostimulanzien - Bestimmung von Phosphonaten

Biostimulants des végétaux - Dosage des phosphonates

**Ta slovenski standard je istoveten z: EN 17705:2024**

---

<https://standards.iteh.ai/catalog/standards/sist/dfe109a4-78a8-4ff2-a02b-4899b437b843/sist-en-17705-2025>  
**ICS:** 65.080      Gnojila      Fertilizers

**SIST EN 17705:2025**      **en,fr,de**



EUROPEAN STANDARD

EN 17705

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2024

ICS 65.080

Supersedes CEN/TS 17705:2022

English Version

## Plant biostimulants - Determination of phosphonates

Biostimulants des végétaux - Dosage des phosphonates

Pflanzen-Biostimulanzien - Bestimmung von  
Phosphonaten

This European Standard was approved by CEN on 26 August 2024.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

Document Preview

[SIST EN 17705:2025](https://standards.iteh.ai/catalog/standards/sist/dfe109a4-78a8-4ff2-a02b-4899b437b843/sist-en-17705-2025)<https://standards.iteh.ai/catalog/standards/sist/dfe109a4-78a8-4ff2-a02b-4899b437b843/sist-en-17705-2025>

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

<b>Contents</b>	<b>Page</b>
<b>European foreword</b> .....	<b>3</b>
<b>Introduction</b> .....	<b>3</b>
<b>1 Scope</b> .....	<b>5</b>
<b>2 Normative references</b> .....	<b>5</b>
<b>3 Terms and definitions</b> .....	<b>5</b>
<b>4 Principle</b> .....	<b>5</b>
<b>5 Reagents</b> .....	<b>5</b>
<b>6 Apparatus</b> .....	<b>6</b>
<b>7 Sampling</b> .....	<b>7</b>
<b>8 Procedure</b> .....	<b>7</b>
<b>8.1 Sample preparation</b> .....	<b>7</b>
<b>8.2 Water extraction</b> .....	<b>7</b>
<b>8.3 Preparation of the calibration solutions</b> .....	<b>7</b>
<b>8.4 Measurement</b> .....	<b>8</b>
<b>8.4.1 Instrument conditions</b> .....	<b>8</b>
<b>8.4.2 IC-CD measurement</b> .....	<b>9</b>
<b>9 Calculation and expression of the results</b> .....	<b>9</b>
<b>9.1 Integration of peaks</b> .....	<b>9</b>
<b>9.2 Concentration of phosphonates in test solutions</b> .....	<b>9</b>
<b>10 Test report</b> .....	<b>10</b>
<b>Annex A (informative) Separation of phosphonates from other interfering ions in a mixture of standards</b> .....	<b>11</b>
<b>Annex B (informative) Results of the inter-laboratory study</b> .....	<b>12</b>
<b>B.1 Inter-laboratory tests</b> .....	<b>12</b>
<b>B.2 Statistical results for determination of phosphonates</b> .....	<b>12</b>
<b>Annex ZA (informative) Relationship of this European Standard and the essential requirements of Regulation (EU) 2019/1009 making available on the market of EU fertilising products aimed to be covered</b> .....	<b>14</b>
<b>Bibliography</b> .....	<b>15</b>

## European foreword

This document (EN 17705:2024) has been prepared by Technical Committee CEN/TC 455 “Plant Biostimulants”, the secretariat of which is held by AFNOR.

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 2025, and conflicting national standards shall be withdrawn at the latest by May 2025.

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

This document supersedes CEN TS 17705:2022.

In comparison with the previous edition no technical changes were applied in this document. The following main editorial changes have been made:

- Introduction;
- Scope – text regarding blends changed;
- Annex B – results of the interlaboratory study added;
- Annex ZA added;
- Bibliography reordered.

This document has been prepared under a Standardization Request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

## EN 17705:2024 (E)

### Introduction

The European Committee for Standardization (CEN) was requested by the European Commission (EC) to draft European Standards or European Standardization deliverables to support the implementation of Regulation (EU) 2019/1009 of 5 June 2019 [1] laying down rules on the making available on the market of EU fertilising products (“FPR” or “Fertilising Products Regulation”).

This standardization request, presented as SR M/564 and relevant amendments, also contributes to the Communication on “Innovating for Sustainable Growth: A Bio economy for Europe”. The interest in plant biostimulants has increased significantly in Europe as a valuable tool to use in agriculture. Standardization was identified as having an important role in order to promote the use of biostimulants. The work of CEN/TC 455 seeks to improve the reliability of the supply chain, thereby improving the confidence of farmers, industry, and consumers in biostimulants, and will promote and support commercialisation of the European biostimulant industry.

This document describes a procedure for the extraction and measurement for the determination of phosphonate (phosphite) in plant biostimulants. It is based on a water extraction of the phosphonate (phosphite) followed by ion chromatography with conductivity detection (IC-CD).

The ion chromatography with a conductivity detection (IC-CD) method can be used in well-equipped analytical laboratories for the determination of different ions. In the field of fertilizing products, the method is used and standardized for the determination of perchlorates in mineral fertilizers [2]. The IC-CD method can determine more ions simultaneously.

The other documents were studied as a basis for the preparation of this standard [3], [4], [5], [6], [7], [8].

The legislative limit for phosphonate content is 0,5 % (mass fraction) and the method described in this document was adapted to achieve this requirement and simultaneously to reduce interferences from other co-extracted anions as much as possible.

The definition of phosphonates is not clearly stated in Regulation (EU) 2019/1009 [1] and to avoid any misunderstanding, the results are expressed as a content of phosphorus (P) bound in the form of free water-soluble phosphonates (P-PO<sub>3</sub>).

The inter-laboratory study reflects the final statistical characteristics of the method for the determination of phosphonates content in plant biostimulants. The results are given in Annex B (informative).

**WARNING** — Persons using this document should be familiar with usual laboratory practice. This document does not purport to address all of the safety issues, if any, associated with its use. It is the responsibility of the user to establish appropriate health and safety practices and to ensure compliance with any national regulatory conditions.

**IMPORTANT** — It is absolutely essential that tests conducted according to this document are carried out by suitably trained staff.