PD CEN/TS 17804:2022

BSI Standards Publication

# Organic, organo-mineral and inorganic fertilizers — Detection of *Enterococcaceae*



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# National foreword

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The UK participation in its preparation was entrusted to Technical Committee CII/37, Fertilisers and related chemicals.

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

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# CEN/TS 17804

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English Version

# Organic, organo-mineral and inorganic fertilizers - Detection of *Enterococcaceae*

Engrais organiques, organo-minéraux et inorganiques - Recherche des *Enterococcaceae*

Organische, organisch-mineralische und anorganische Düngemittel - Nachweis von *Enterococcaceae*

This Technical Specification (CEN/TS) was approved by CEN on 13 April 2022 for provisional application.

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## European foreword

This document (CEN/TS 17804:2022) has been prepared by Technical Committee CEN/TC 260 “Fertilizers and liming materials”, the secretariat of which is held by DIN.

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This document has been prepared under a standardization request given to CEN by the European Commission and the European Free Trade Association.

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# Introduction

This methodology has been developed to detect and enumerate *Enterococcaceae* in organic, organo-mineral and inorganic fertilizers in order to be able to control certain hygienic requirements in Regulation (EU) 2019/1009 [1].

*Enterococcaceae* in the sense of this document include several species of the genus *Enterococcus* (3.7, 3.8) with a faecal origin. Consequently, it can be used as an indicator of faecal contamination. It can also be used to monitor the effectiveness of pasteurization or disinfection treatments. Compared to *E.coli*, they have a higher tenacity and can therefore better reflect the behaviour of all pathogens in fertilizers.

Because of the large variety of fertilizers, this method is not appropriate in every detail for certain products. In this case, different methods which are specific to these products can be used if absolutely necessary for justified technical reasons. Nevertheless, every attempt should be made to apply this method as far as possible.

Mineral components in fertilizers can have a negative impact on the survivability of microorganisms when they go into solution. In addition to an unfavourable shift in the pH value, the products can have a strong osmotic effect or be toxic to cells themselves (e.g. copper). Therefore, it can be necessary to test the inhibitory effect of the fertilizers to be investigated in a pre-test.

The method is validated in an interlaboratory study for the following products (*Enterococcaceae* were investigated in both native and spiked test material):

**Table 1 — Product groups and matrices for which the methods described in this method are applicable and tested in a validation trial**

| Product group | matrix |
|---|---|
| Organic fertilizers | to be determined at an international ring trial |
| Organo-mineral fertilizers | to be determined at an international ring trial |
| Inorganic fertilizers | to be determined at an international ring trial |

International ring trials will be conducted on the basis of this document.

# 1 Scope

This document specifies a method for the detection and enumeration of *Enterococcaceae* in fertilizers of the following Product Function Categories (PFCs) of EU fertilizing products, as described in Regulation (EU) 2019/1009 [1]:

- PFC 1(A): Organic fertilizer;
- PFC 1(B): Organo-mineral fertilizer;
- PFC 1(C): Inorganic fertilizer, which contains more than 1 % by mass of organic carbon, other than organic carbon from chelating or complexing agents, nitrification inhibitors, denitrification inhibitors or urease inhibitors, coating agents, urea or calcium cyanamide. The present method was validated on products known as present on the market in April 2021 and conform to Regulation (EU) 2019/1009 [1] that are inorganic fertilizers with more than 1 % of organic carbon such as poultry manure and struvite with low level of organic matter. In case that other products would be developed having other physical and chemical characteristics, it might become necessary to develop different methods to correctly account for pathogens they might contain.

This document specifies a colony-count technique on selective media, Slanetz Bartley agar or Bile Esculin Azide agar, respectively. The method is based on EN ISO 7899-2:2000.

# 2 Normative references

There are no normative references in this document.

# 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

**3.1**
**laboratory sample**
sample intended for laboratory inspection or testing

**3.2**
**test sample**
sample prepared from the laboratory sample (3.1) and from which test portions (3.3) will be taken

**3.3**
**test portion**
quantity of material taken from the test sample (or if both are the same, from the laboratory sample) and on which the test is carried out