# SLOVENSKI STANDARD
# SIST EN 18207:2026

**01-julij-2026**

---

**Alge in izdelki iz alg - Ugotavljanje vsebnosti uronskih kislin v rjavih morskih algah in alginatnih izdelkih**

Algae and algae products - Determination of the uronic acids content of brown seaweed and alginate products

Algen und Algenprodukte - Bestimmung des Uronsäuregehalts von braunem Seetang und Alginatprodukten

Algues et produits d'algues - Détermination de la teneur en acides uroniques des algues brunes et des produits à base d'alginate



**Ta slovenski standard je istoveten z:** **EN 18207:2026**

---

**ICS:**

| | | |
|---|---|---|
| 13.020.55 | Biološki izdelki | Biobased products |

**SIST EN 18207:2026** **en,fr,de**

# EUROPEAN STANDARD
# NORME EUROPÉENNE
# EUROPÄISCHE NORM

**EN 18207**

May 2026

ICS 13.020.55

English Version

# Algae and algae products - Determination of the uronic acids content of brown seaweed and alginate products

Algues et produits d'algues - Détermination de la teneur en acides uroniques des algues brunes et des produits à base d'alginate

Algen und Algenprodukte - Bestimmung des Uronsäuregehalts von braunem Seetang und Alginatprodukten

This European Standard was approved by CEN on 13 April 2026.

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.



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

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



Ref. No. EN 18207:2026 E

# Contents

Page

## European foreword

This document (EN 18207:2026) has been prepared by Technical Committee CEN/TC 454 “Algae and algae products”, 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 November 2026, and conflicting national standards shall be withdrawn at the latest by November 2026.

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 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.

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.

# Introduction

This document has been prepared by the experts of CEN/TC 454 'Algae and algae products'.

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 Article 3 of Directive 2009/28/EC for algae and algae-based products or intermediates.

This request, presented as Mandate M/547, also contributes to the Communication on “Innovating for Sustainable Growth: A Bio economy for Europe”.

The former working group CEN Technical Board Working Group 218 “Algae”, was created in 2016 to develop a work programme as part of this Mandate. The technical committee CEN/TC 454 'Algae and algae products' was established to carry out the work programme that will prepare a series of standards.

The interest in algae and algae-based products or intermediates has increased significantly in Europe as a valuable source including but not limited to, carbohydrates, proteins, lipids, and several pigments. These materials are suitable for use in a wide range of applications from food and feed purposes to other sectors, such as textile, cosmetics, biopolymers, biofuel and fertilizer/biostimulants. Standardization was identified as having an important role in order to promote the use of algae and algae products.

The work of CEN/TC 454 should improve the reliability of the supply chain, thereby improving the confidence of industry and consumers in algae, which include macroalgae, microalgae, cyanobacteria, Labyrinthulomycetes, algae-based products or intermediates and will promote and support commercialisation of the European algae industry.

The goal of this document is to give algae producers and algae products industries a recommendation for an analysis method for uronics which can be utilized for algae.

# 1 Scope

This document specifies a method for the quantitative determination of total uronic acids by High Performance Anion Exchange Chromatography coupled with Pulsed Amperometric Detection (HPAEC-PAD) after acid hydrolysis of the samples for algae and algae products. It specifies a method for the determination in one single analysis of mannuronic, glucuronic and guluronic acids in brown seaweed, and mannuronic and guluronic acids in alginate products. The sum of the individual uronic acid values is used for determining the total uronic acid content.

# 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 17605, *Algae and algae products — Methods of sampling and analysis — Sample treatment*

EN 17399, *Algae and algae products — Vocabulary*

# 3 Terms and definitions

For the purposes of this document, the terms and definitions in EN 17399 apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp/

— IEC Electropedia: available at https://www.electropedia.org/



# 4 Principle



Polysaccharides are hydrolysed under acidic conditions at 50 °C. Hydrolysis duration depends on the matrix to analyse (Table 2). Hydrolysates are then diluted according to the sample type before injection to the chromatographic system.

# 5 Reagents

## 5.1 General

Before using chemicals, refer to the safety data sheets and ensure that the safety precautions are applied.

**5.2 Trifluoroacetic acid,** CAS Registry Number®[1] 76-05-1, HPLC grade

**5.3 Formic acid**, CAS 64-18-6, HPLC grade

**5.4 Sulfuric acid 18 M**, CAS 7664-93-9, HPLC grade

**5.5 Sodium Tetraborate decahydrate**, CAS 1303-96-4

[1] CAS Registry Number® is a trademark of CAS corporation. This information is given for the convenience of users of this document and does not constitute an endorsement by CEN of the product named. Equivalent products may be used if they can be shown to lead to the same results.