
Alge in proizvodi iz alg - Izrazi in definicije

Algae and algae products - Terms and definitions

Algen und Algenprodukte - Begriffe

Algues et produits d'algues - Termes et définitions

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SIST EN 17399:2020**en,fr,de**

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This European Standard was approved by CEN on 3 February 2020.

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

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European foreword

This document (EN 17399:2020) 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of an identical text or by endorsement, at the latest by September 2020, and conflicting national standards shall be withdrawn at the latest by September 2020.

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 mandate given to CEN by the European Commission and the European Free Trade Association.

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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/547¹, 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.

This document has been developed with the aim to cover the horizontal definitions for algae and algae-based products or intermediates. Hence, other terms and definitions are given in the other standards developed by CEN/TC 454 “Algae and algae products”.

For food, feed and non-food, non-feed applications additional definitions may exist in other product specific standards.

¹ Available at <http://ec.europa.eu/growth/tools-databases/mandates/index.cfm?fuseaction=refSearch.search#>

1 Scope

This document defines the terms related to functions, products, and properties of algae and algae products. In order to better pack the methodologies, algae are regarded as a functional group of organisms consisting of microalgae, macroalgae, cyanobacteria and Labyrinthulomycetes.

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

3.1

algae biorefinery

facility that integrates algae biomass conversion processes and equipment to produce a spectrum of bio-based products (food, feed, chemicals, materials) and bioenergy (biofuels, power and/or heat)

[SOURCE: International Energy Agency Bioenergy. Task 42 – Biorefining in a Circular Economy.]

3.2

algae oil

glyceridic fraction of lipids derived from algae

3.3

algae strain

population of unicellular/pluricellular organisms of a single algae species, all descended from the entirety/or a part of an organism or several organisms, being synonymous with a monoclonal culture and a genetic representative of a single algae species

Note 1 to entry: This definition includes sexual and asexual reproduction.

3.4

amino acid

organic molecule that consist of a basic amino group ($-NH_2$), an acidic carboxyl group ($-COOH$), and an organic R group (or side chain) that is unique to each amino acid

Note 1 to entry: In this context the term amino acid is short for α -amino [alpha-amino] carboxylic acid. Each molecule contains a central carbon atom, called the α -carbon, to which both an amino and a carboxyl group are attached.

EN 17399:2020 (E)**3.5****artificial light**

photons from a source other than the sun

EXAMPLE fluorescent light and LEDs

Note 1 to entry: The energy to produce light could come from a mix of sources that can range from fossil fuels, nuclear plants and renewable and sustainable sources, such as wind, photovoltaics, biomass, etc.

Note 2 to entry: Energy consumed and emissions associated with this should be accounted for in the assessment of the sustainability.

3.6**bioenergy**

energy derived from biomass

Note 1 to entry: Biomass can be processed into solid, liquid or gaseous fuels or stored energy in biomass can be directly converted into other forms of energy (e.g. heat, light).

[SOURCE: ISO 13065:2015, definition 3.3]

3.7**biofuel**

liquid fuel for transport produced from biomass

[SOURCE: Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources]

3.8**bioliquid**

liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass

[SOURCE: Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources]

3.9**biomass**

material of biological origin excluding material embedded in geological formations and/or fossilized

EXAMPLE (Whole or parts of) plants, trees, algae, marine organisms, microorganisms, animals, etc.

[SOURCE: EN 16575:2014, definition 2.7]

3.10**biomass fuel**

gaseous and solid fuels produced from biomass

[SOURCE: Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources]

3.11**carbohydrate**

biomolecule consisting of Carbon, Hydrogen and Oxygen, characterizable, in a first approximation, by the formula $(CH_2O)_n$

Note 1 to entry: They include sugars, oligo and polysaccharides as well as polyols derived.

Note 2 to entry: "Gross composition": carbohydrates, lipids, polyols and proteins plus ashes should sum as close as possible to 100 % dry weight of algae biomass as a raw material for food, feed and other applications.

3.12**contamination**

presence of hazardous and/or undesired substances, materials or organisms that can result in physical, chemical and/or biological modifications of properties

3.13**cyanobacteria**

photoautotrophic, mixotrophic or heterotrophic prokaryotic organisms, able to obtain energy by using chromophores

3.14**deoxyribonucleic acid****DNA**

polymer of deoxyribonucleotides occurring in a double-stranded (dsDNA) or single-stranded (ssDNA) form

[SOURCE: EN ISO 22174:2005, definition 3.1.2]

3.15**DNA sequencing**

determining the order of nucleotide bases (adenine, guanine, cytosine, and thymine) in a molecule of DNA

Note 1 to entry: Sequence is generally described from the 5' end.

[SOURCE: ISO/TS 17822-1:2014, definition 3.20]

3.16**enzyme**

biologically produced protein catalyst that accelerates the conversion of one compound (or compounds) to another (or others)

[SOURCE: EN ISO 11074:2015, definition 6.4.15]

3.17**eukaryotes**

organisms with a cell structure in which the nucleus is surrounded by a nuclear membrane

[SOURCE: ISO 6107-8:1993, definition 18]