SLOVENSKI STANDARD
oSIST prEN 17399:2019

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Alge in proizvodi iz alg ali vmesni proizvodi - Izrazi in definicije

Algae and algaebased products or intermediates - Terms and definitions

Algen und Algenbasierte Produkte oder Zwischenprodukte - Begriffe

Algues et produits à base d'algues ou intermédiaires - Termes et définitions

Ta slovenski standard je istoveten z: **prEN 17399**

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01.040.13	Okolje. Varovanje zdravja. Varnost (Slovarji)	Environment. Health protection. Safety (Vocabularies)
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English Version

Algae and algaebased products or intermediates - Terms and definitions

Algues et produits à base d'algues ou intermédiaires - Termes et définitions

Algen und Algenbasierte Produkte oder Zwischenprodukte - Begriffe

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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

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European foreword

This document (prEN 17399:2019) has been prepared by Technical Committee CEN/TC 454 “Algae and algae products”, the secretariat of which is held by NEN.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

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[1], 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 http://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 – Biorefineries.]

3.2
algae strain
population of unicellular/pluricellular organisms of a single algae species, all descended from the entirety/or a part of an unique organism or several organisms, being synonymous to a monoclonal culture and a genetic representative of a single algae species

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

3.3
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: The term amino acid is short for α-amino [alpha-amino] carboxylic acid. Each molecule contains a central carbon (C) atom, called the α-carbon, to which both an amino and a carboxyl group are attached.

3.4
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]

3.5
biofuel
liquid fuel for transport produced from biomass

[SOURCE: Council of the European Union. Final compromise text for proposal for the new Renewable Energy Directive (RED-II)]

3.6
bioliquid
liquid fuel for energy purposes other than for transport, including electricity and heating and cooling, produced from biomass

[SOURCE: Council of the European Union. Final compromise text for proposal for the new Renewable Energy Directive (RED-II)]

3.7
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]

3.8
biomass fuel
gaseous and solid fuels produced from biomass

[SOURCE: Council of the European Union. Final compromise text for proposal for the new Renewable Energy Directive (RED-II)]

3.9
carbohydrate
biomolecule of a molecular weight varying within wide limits consisting of Carbon, Hydrogen and Oxygen, characterizable, in a first approximation, by the formula (CH2O)n

Note 1 to entry: They include sugars, oligo and polysaccharides

Note 2 to entry: "Gross composition": carbohydrates, lipids 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.

3.10
contamination
presence of hazardous and/or undesired substances, materials or organisms that can result in physical, chemical and/or biological modifications of properties

3.11
cyanobacteria
photoautotrophic, mixotrophic or heterotrophic prokaryotic organisms, able to obtain energy by using chromophores

3.12
deoxyribonucleic acid
DNA
polymer of deoxyribonucleotides occurring in a double-stranded (dsDNA) or single-stranded (ssDNA) form

[SOURCE: ISO 22174:2005, definition 3.1.2]

3.13
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]

3.14
enzyme
biologically produced protein catalyst that accelerates the conversion of one compound (or compounds) to another (or others)

[SOURCE: ISO 11074:2015, definition 6.4.15]

3.15
eukaryotic
descriptive of organisms whose cells have a visible and definite nucleus

[SOURCE: ISO 6107-5:2004, definition 19]

3.16
fouling
non-target biological materials either on the surface or within algal biomass (epiphytes or endophytes), including macroalgae, microalgae, bacteria, cyanobacteria, fungi, or animals, including harmless organisms and pathogens

Note 1 to entry: This also includes such organisms within production systems not directly associated with algal biomass, but associated with tanks, ropes/nets, bioreactors and all cultivation surfaces; potentially compromising quality and value including purity and safety of target algal growth

3.17
genus
generic name of an organism

Note 1 to entry: When using taxonomy to name an organism, the genus is used to determine the first part of its two-part name (genus and species)

3.18
heterotrophy
form of metabolism that utilizes organic compounds as energy and carbon source

Note 1 to entry: Light is not required as an energy source.

3.19
identification
process for determining that an isolate belongs to one of the established taxa

[SOURCE: ISO 22174:2005, definition 3.1.9]

3.20
labyrinthulomycetes (or labyrinthulea)
class of protists that produce a network of filaments or tubes and includes the family Thraustochytriaceae

3.21
light from artificial sources
photons from a source other than the sun

EXAMPLE fluorescent light and LED.

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

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

3.22
light from the sun
photons that originate from the sun

Note 1 to entry: The light can be filtered (e.g. by wavelength) or can be redirected and focused (e.g. with mirrors and glass fibre)

3.23
lipid
class of natural organic substances characterized by very low water solubility, high organic solvents solubility, high carbon and hydrogen content, biosynthesized for energy storage and/or metabolic and structural functions

3.24
macroalgae
macroscopic eukaryotic organisms composed of single differentiated cells able to obtain energy using chromophores

3.25
microalgae
microscopic eukaryotic organisms composed of single differentiated cells able to obtain energy using chromophores

Note 1 to entry: Generally single celled, but can occur as filamentous or colonial.

3.26
mixotrophy
form of metabolism that utilizes simultaneously different sources of energy and carbon

Note 1 to entry: Used by those organisms that have the ability to utilize a combination of the phototrophic and heterotrophic metabolic pathway.