SLOVENSKI STANDARD
SIST EN ISO 19679:2020

01-september-2020

Nadomešča:
SIST EN ISO 19679:2018

Polimerni materiali - Določanje aerobne biorazgradljivosti neplavajočih polimernih materialov v vmesnem predelu med morsko vodo in peščenim sedimentom - Metoda z analizo sproščenega ogljikovega dioksida (ISO 19679:2020)

Plastics - Determination of aerobic biodegradation of non-floating plastic materials in a seawater/sediment interface - Method by analysis of evolved carbon dioxide (ISO 19679:2020)

Kunststoffe - Bestimmung des aeroben Bioabbaus von nicht-schwimmenden Kunststoffmaterialien in einer Meerwasser/Sediment-Schnittstelle - rüfverfahren mittels Analyse des freigesetzten Kohlenstoffdioxids (ISO 19679:2020)

Plastiques - Détermination de la biodégradation aérobie des matières plastiques non-flottantes dans une interface eau de mer/sédiments - Méthode par analyse du dioxyde de carbone libéré (ISO 19679:2020)

Ta slovenski standard je istoveten z: **EN ISO 19679:2020**

ICS:

83.080.01	Polimerni materiali na splošno	Plastics in general

SIST EN ISO 19679:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 19679

July 2020

ICS 83.080.01

Supersedes EN ISO 19679:2017

English Version

Plastics - Determination of aerobic biodegradation of non-floating plastic materials in a seawater/sediment interface - Method by analysis of evolved carbon dioxide (ISO 19679:2020)

Plastiques - Détermination de la biodégradation aérobie des matières plastiques non-flottantes dans une interface eau de mer/sédiments - Méthode par analyse du dioxyde de carbone libéré (ISO 19679:2020)

Kunststoffe - Bestimmung des aeroben Bioabbaus von nicht-schwimmenden Kunststoffmaterialien in einer Meerwasser/Sediment-Schnittstelle - Prüfverfahren mittels Analyse des freigesetzten Kohlenstoffdioxids (ISO 19679:2020)

This European Standard was approved by CEN on 7 June 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 ISO 19679:2020) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 “Plastics” the secretariat of which is held by NBN.

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 January 2021, and conflicting national standards shall be withdrawn at the latest by January 2021.

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.

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Endorsement notice

The text of ISO 19679:2020 has been approved by CEN as EN ISO 19679:2020 without any modification.

INTERNATIONAL STANDARD

ISO 19679

Second edition
2020-06

Plastics — Determination of aerobic biodegradation of non-floating plastic materials in a seawater/sediment interface — Method by analysis of evolved carbon dioxide

Plastiques — Détermination de la biodégradation aérobie des matières plastiques non-flottantes dans une interface eau de mer/sédiments — Méthode par analyse du dioxyde de carbone libéré

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 14, *Environmental aspects*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 19679:2016), which has been technically revised.

The main changes compared to the previous edition are as follows:

— in Annex A: Density of O_2 in air at 1 atm, 28 °C and a relative humidity of 100 % has been corrected and the subsequent calculations have been adapted accordingly.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Products made with biodegradable plastics are designed to be recovered by means of organic recycling in composting plants or in anaerobic digesters. The uncontrolled dispersion of biodegradable plastics in natural environments is not desirable. The biodegradability of products cannot be considered as an excuse to spread wastes that should be recovered and recycled. However, test methods to measure rate and level of biodegradation in natural environments (such as soil or the marine environment) are of interest in order to better characterize the behaviour of plastics in these very particular environments. As a matter of fact, some plastics are used in products that are applied in the sea (e.g. fishing gear) and sometimes they can get lost or put willingly in the marine environment. The characterization of biodegradable plastic materials can be enlarged by applying specific test methods that enable the quantitative assessment of biodegradation of plastics exposed to marine sediment and seawater. Plastic products are directly littered or arrive with fresh waters in the pelagic zone (free water). From there, and depending on density, tides, currents, and marine fouling plastics can sink to the sublittoral, and reach the seafloor surface. Many biodegradable plastics have a density higher than 1 and therefore tend to sink. The sediment passes from aerobic to anoxic and finally anaerobic conditions going from the surface (the interface with seawater) into deeper layers, displaying a very steep oxygen gradient.