

<b>STN</b>	<b>Zapaľovače</b> <b>Bezpečnostné požiadavky (ISO 9994: 2018)</b>	<b>STN</b> <b>EN ISO 9994</b>  94 5201
------------	--	---

Lighters - Safety specification (ISO 9994:2018)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 06/19

Obsahuje: EN ISO 9994:2019, ISO 9994:2018

Oznámením tejto normy sa ruší  
STN EN ISO 9994 (94 5201) z januára 2007

**128896**

EUROPEAN STANDARD

**EN ISO 9994**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2019

ICS 97.180

Supersedes EN ISO 9994:2006

English Version

**Lighters - Safety specification (ISO 9994:2018)**

Briquets - Spécifications de sécurité (ISO 9994:2018)

Feuerzeuge - Festlegungen für die Sicherheit (ISO 9994:2018)

This European Standard was approved by CEN on 19 December 2018.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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**

**EN ISO 9994:2019 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **European foreword**

This document (EN ISO 9994:2019) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 355 "Lighters" the secretariat of which is held by AFNOR.

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 July 2019, and conflicting national standards shall be withdrawn at the latest by July 2019.

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 supersedes EN ISO 9994:2006.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 9994:2018 has been approved by CEN as EN ISO 9994:2019 without any modification.

# INTERNATIONAL STANDARD

# ISO 9994

Fifth edition  
2018-12

---

---

## Lighters — Safety specifications

*Briquets — Spécifications de sécurité*



Reference number  
ISO 9994:2018(E)

© ISO 2018

**ISO 9994:2018(E)****COPYRIGHT PROTECTED DOCUMENT**

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

<b>Foreword</b> .....	<b>v</b>
<b>Introduction</b> .....	<b>vi</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Functional requirements</b> .....	<b>3</b>
4.1 Flame generation.....	3
4.2 Flame heights.....	3
4.2.1 Non-adjustable lighters.....	4
4.2.2 Adjustable lighters.....	4
4.3 Flame-height adjustment.....	6
4.4 Resistance to spitting or sputtering and flaring.....	7
4.5 Flame extinction.....	7
4.6 Volumetric displacement of fuel.....	8
4.7 Mass of fuel.....	8
<b>5 Structural integrity requirements</b> .....	<b>8</b>
5.1 External finish.....	8
5.2 Compatibility with fuel.....	8
5.3 Resistance to fuel loss.....	8
5.4 Resistance to dropping.....	9
5.5 Resistance to elevated temperature.....	9
5.6 Resistance to internal pressure.....	9
5.7 Burning behaviour.....	9
5.8 Resistance to cyclic burning.....	10
5.9 Resistance to continuous burning.....	10
<b>6 Test methods</b> .....	<b>11</b>
6.1 Test specimens and test sequencing.....	11
6.1.1 Test specimens.....	11
6.1.2 Test sequencing.....	11
6.2 Flame height measurement.....	11
6.2.1 Apparatus.....	11
6.2.2 Procedure.....	11
6.3 Spitting, sputtering and flaring tests.....	11
6.3.1 General.....	11
6.3.2 Procedure.....	11
6.4 Flame extinction test.....	12
6.4.1 Apparatus.....	12
6.4.2 Procedure.....	12
6.5 Fuel compatibility test.....	13
6.5.1 General.....	13
6.5.2 Apparatus.....	13
6.5.3 Procedure.....	13
6.6 Refilling test.....	15
6.6.1 General.....	15
6.6.2 Apparatus.....	15
6.6.3 Procedure.....	15
6.7 Volumetric fuel-displacement test.....	16
6.7.1 General.....	16
6.7.2 Test specimens.....	16
6.7.3 Apparatus.....	16
6.7.4 Procedure.....	16
6.8 Drop test.....	17

**ISO 9994:2018(E)**

6.8.1	General.....	17
6.8.2	Apparatus.....	17
6.8.3	Procedure.....	18
6.9	Elevated-temperature test.....	19
6.9.1	General.....	19
6.9.2	Apparatus.....	19
6.9.3	Procedure.....	19
6.10	Internal-pressure test.....	20
6.10.1	General.....	20
6.10.2	Test specimens.....	20
6.10.3	Apparatus.....	20
6.10.4	Procedure.....	20
6.11	Cyclic-burning-time test.....	21
6.11.1	General.....	21
6.11.2	Procedure.....	21
6.12	Continuous-burning-time test.....	22
6.12.1	General.....	22
6.12.2	Apparatus.....	22
6.12.3	Procedure.....	22
<b>7</b>	<b>Instructions and warnings.....</b>	<b>23</b>
7.1	General.....	23
7.2	Location.....	23
7.3	Content.....	23
7.4	Safety signs.....	24
7.5	Refilling instructions.....	25
7.5.1	General.....	25
7.5.2	Fluid lighters.....	25
7.5.3	Gas lighters.....	25
<b>8</b>	<b>Product marking.....</b>	<b>25</b>
	<b>Annex A (normative) Test sequencing.....</b>	<b>26</b>



## 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 4, *Burning behaviour*.

This fifth edition cancels and replaces the fourth edition (ISO 9994:2005), which has been technically revised.

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

- [Clause 2](#), [3.22](#), [3.23](#), [subclause 4.2.2.4](#), [subclause 4.2.3](#), [subclause 4.2.4](#), [subclause 4.7](#), [subclause 6.1.2](#), [subclause 6.11.2.2.9](#) and [subclause 6.11.2.2.10](#) have been added.
- term number [3.6](#), [subclause 4.2.2.3](#), [subclause 4.5](#), [subclause 5.1](#), [subclause 5.7](#), [Figure 4](#), [subclause 6.3.2.7](#), [subclause 6.7.4](#), [subclause 6.9.3.3](#), [subclause 6.10.4](#), [subclause 6.12.3](#), [subclause 7.3.1](#), [subclause 7.4](#), [Figure 5](#), [Figure 7](#) and [Annex A](#) have been modified.
- Bibliography has been deleted.

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](http://www.iso.org/members.html).

**ISO 9994:2018(E)****Introduction**

Lighters, being flame-producing devices, can, as do all flame sources, present a potential hazard to users. The safety specifications given in this document cannot eliminate all hazards, but are intended to reduce potential hazards to users.

This document is intended to be revised periodically to consider flame height reduction for the various technologies in line with technological progress.

# Lighters — Safety specifications

**WARNING** — Persons using this document should be familiar with normal laboratory practice, if applicable. This document does not purport to address all the safety concerns, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to determine the applicability of any other restrictions.

## 1 Scope

This document specifies requirements for lighters to ensure a reasonable degree of safety for normal use or reasonably foreseeable misuse of such lighters by users.

This document applies to all flame-producing products commonly known as cigarette lighters, cigar lighters and pipe lighters.

It does not apply to matches and flame-producing products intended solely for igniting materials other than cigarettes, cigars, and pipes.

## 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.

ISO 7941, *Commercial propane and butane — Analysis by gas chromatography*

UL 1439, *Tests for Sharpness of Edges on Equipment*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**