

This document is a preview generated by EVS

Chemicals used for treatment of water intended for human consumption - Chlorine

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

| | |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| See Eesti standard EVS-EN 937:2016 sisaldab Euroopa standardi EN 937:2016 ingliskeelset teksti. | This Estonian standard EVS-EN 937:2016 consists of the English text of the European standard EN 937:2016. |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.05.2016. | Date of Availability of the European standard is 25.05.2016. |
| Standard on kättesaadav Eesti Standardikeskusest. | The standard is available from the Estonian Centre for Standardisation. |

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 71.100.80

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

EN 937

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2016

ICS 71.100.80

Supersedes EN 937:2009

English Version

Chemicals used for treatment of water intended for human consumption - Chlorine

Produits chimiques utilisés pour le traitement de l'eau destinée à la consommation humaine - Chlore

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Chlor

This European Standard was approved by CEN on 18 March 2016.

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, 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: Avenue Marnix 17, B-1000 Brussels

| Contents | Page |
|--------------------------------------------------------------------------------------------------------------|-------------|
| European foreword | 3 |
| Introduction | 4 |
| 1 Scope | 5 |
| 2 Normative references | 5 |
| 3 Description | 5 |
| 3.1 Identification | 5 |
| 3.2 Commercial form | 6 |
| 3.3 Physical properties | 6 |
| 3.4 Chemical properties | 7 |
| 4 Purity criteria | 7 |
| 4.1 General | 7 |
| 4.2 Composition of commercial product | 7 |
| 4.3 Impurities and main by-products | 7 |
| 4.4 Chemical parameters | 8 |
| 5 Test methods | 8 |
| 5.1 General | 8 |
| 5.2 Sampling | 8 |
| 5.3 Analysis | 8 |
| 6 Labelling - Transportation - Storage | 8 |
| 6.1 Means of delivery | 8 |
| 6.2 Labelling in accordance with EU legislation | 9 |
| 6.3 Transportation regulations and labelling | 10 |
| 6.4 Marking | 11 |
| 6.5 Storage | 11 |
| Annex A (informative) General information on chlorine | 12 |
| A.1 Origin | 12 |
| A.2 Use | 12 |
| Annex B (informative) General rules relating to safety | 13 |
| B.1 Rules for safe handling and use | 13 |
| B.2 Emergency procedures | 13 |
| Annex C (informative) Determination of nitrogen trichloride (molecular absorption spectrometry) | 14 |
| C.1 General | 14 |
| C.2 Principle | 14 |
| C.3 Reaction | 14 |
| C.4 Reagents | 14 |
| C.5 Apparatus | 15 |
| C.6 Sampling and samples | 16 |
| C.7 Procedure | 16 |
| C.8 Calculation and expression of the results | 19 |
| Bibliography | 21 |

European foreword

This document (EN 937:2016) has been prepared by Technical Committee CEN/TC 164 "Water supply", 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 November 2016 and conflicting national standards shall be withdrawn at the latest by November 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 937:2009.

Differences between this edition and EN 937:2009 are editorial in order to harmonize the text with other standards in this series:

- a) deletion of reference to Directive 67/548/EEC of 27th June 1967 in order to take into account the latest Regulation in force (see [2]);
- b) amendment of subclause 6.2 according to [2];
- c) deletion of reference to Directive 98/8/EC of 16 February 1998 in order to take into account the latest Regulation in force (see [3]).

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this European Standard:

- a) this European Standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;
- b) it should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

NOTE Conformity with this European Standard does not confer or imply acceptance or approval of the product in any of the Member States of the EU or EFTA. The use of the product covered by this European Standard is subject to regulation or control by National Authorities.

This product is a biocide and needs to comply with the relevant legislation in force. In the European Union, at the time of publication, this legislation is Regulation (EU) No 528/2012 [3].

1 Scope

This European Standard is applicable to chlorine used for treatment of water intended for human consumption. It describes the characteristics of chlorine and specifies the requirements and the corresponding test methods for chlorine. It gives information on its use in water treatment.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696)*

ISO 1552, *Liquid chlorine for industrial use - Method of sampling (for determining only the volumetric chlorine content)*

ISO 2120, *Liquid chlorine for industrial use - Determination of the content of chlorine by volume in the vaporized product*

ISO 2121, *Liquid chlorine for industrial use - Determination of water content - Gravimetric method*

ISO 6206, *Chemical products for industrial use - Sampling - Vocabulary*

3 Description

3.1 Identification

3.1.1 Chemical name

Chlorine.

3.1.2 Synonym or common name

Liquid chlorine.

3.1.3 Relative molecular mass

70,91.

3.1.4 Empirical formula

Cl₂.

3.1.5 Chemical formula

Cl₂.

3.1.6 CAS Registry Number ¹⁾

7782-50-5.

¹⁾ Chemical Abstracts Service Registry Number.