

SVENSK STANDARD

SS-EN 15796:2010

Fastställt/Approved: 2010-02-11

Publicerad/Published: 2010-03-10

Utgåva/Edition: 1

Språk/Language: engelska/English

ICS: 71.100.80

Kemikalier för behandling av vatten för simbassänger – Kalciumhypoklorit

Chemicals used for treatment of swimming pool water – Calcium hypochlorite

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 15796

January 2010

ICS 71.100.80

English Version

Chemicals used for treatment of swimming pool water - Calcium hypochlorite

Produits chimiques utilisés pour le traitement de l'eau des piscines - Hypochlorite de calcium

Produkte zur Aufbereitung von Schwimm-und Badebeckenwasser - Calciumhypochlorit

This European Standard was approved by CEN on 4 December 2009.

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Foreword

This document (EN 15796:2010) 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of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

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Introduction

In respect of potential adverse effects on the quality of water for swimming pools, caused by the product covered by this standard:

- a) this 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 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.

1 Scope

This European Standard is applicable to calcium hypochlorite used directly, or for the production of formulations, for treatment of water for swimming pools. It describes the characteristics of calcium hypochlorite and specifies the requirements and the corresponding test methods for calcium hypochlorite. It gives information on its use in swimming pool water treatment. It also determines the rules relating to safe handling and use of calcium hypochlorite (see Annex B).

2 Normative reference

The following referenced document is indispensable for the application 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.

EN 900, *Chemicals used for treatment of water intended for human consumption — Calcium hypochlorite*

3 Description

For the identification, the commercial form, the physical properties and the chemical properties see the relevant subclauses of EN 900.

4 Purity criteria

4.1 General

This European Standard specifies the minimum purity requirements for calcium hypochlorite used for the treatment of water for swimming pools. Limits are given for impurities commonly present in the product. Depending on the raw material and the manufacturing process other impurities may be present and, if so, this shall be notified to the user and when necessary to relevant authorities.

NOTE Users of the product should check national regulations in order to clarify whether it is of appropriate purity for treatment of water for swimming pools, taking into account water quality, required dosage, and contents of other impurities and additives used in the product not stated in the product standard.

Limits have been given for impurities and chemical parameters where these are likely to be present in significant quantities from the current production process and raw materials. If the production process or raw materials lead to significant quantities of other impurities, by-products or additives being present, this shall be notified to the user.

4.2 Composition of commercial product

Calcium hypochlorite is available in powder, granular or tablet form with a minimum concentration of mass fraction 65,5 % calcium hypochlorite ($\text{Ca}(\text{ClO})_2$) (equivalent to an available active chlorine content in mass fraction of at least 65 %) at the time of delivery by the producer. The concentration of calcium hypochlorite shall be equal to or greater than the value specified by the manufacturer.

Dissolution quality, calculated as available chlorine which is obtainable within 1 min after dissolution in water, shall not be less than a mass fraction of 45,5 %.

4.3 Impurities and main by-products

The content of impurities and water-insoluble matter shall conform to the requirements specified in EN 900.

4.4 Chemical parameters

The contents of arsenic, cadmium, chromium, mercury, nickel, lead, antimony, selenium and bromate for each type of product shall conform to the requirements specified in EN 900.

5 Test methods

The methods for sampling and analysis are those specified in EN 900.

6 Labelling - Transportation - Storage

6.1 Means of delivery

Calcium hypochlorite shall be delivered in plastics-coated steel drums or polyethylene bottles.

In order that the purity of the product is not affected, the means of delivery shall not have been used previously for any different product or it shall have been specially cleaned and prepared before use.

6.2 Risk and safety labelling according to the EU Directives¹⁾

The following labelling requirements shall apply to calcium hypochlorite dry at the date of the publication of this standard.

- a) Symbols and indications of danger:
 - 1) O: Oxidizing;
 - 2) C: Corrosive;
 - 3) N: Dangerous for the environment;
- b) Nature of special risks attributed to dangerous substances:
 - 1) R 8: Contact with combustible material may cause fire;
 - 2) R22: Harmful if swallowed;
 - 3) R 31: Contact with acids liberates toxic gas;
 - 4) R 34: Causes burns;
 - 5) R 50: Very toxic to aquatic organisms;
- c) Safety advice concerning dangerous substances:
 - 1) S1/2: Keep locked up and out of the reach of children;
 - 2) S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice;
 - 3) S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection;

1) See Bibliography, [1].

- 4) S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible);
- 5) S 61: Avoid release to the environment. Refer to special instructions/Safety data sheets.

6.3 Transportation regulations and labelling

The following classification requirements shall apply to calcium hypochlorite dry at the date of the publication of this standard.

Calcium hypochlorite is listed as UN Number²⁾

- 1748 for granular, calcium hypochlorite mixture, dry;
- 1748 for tablets, calcium hypochlorite mixture, dry;

(The above products contain more than 39 % mass fraction available chlorine.)

- 2880 for granular, calcium hypochlorite, hydrated or calcium hypochlorite, hydrated mixture;
- 2880 for tablets, calcium hypochlorite, hydrated or calcium hypochlorite, hydrated mixture.

(The above products contain a minimum of 5,5 % mass fraction water but not more than 16 % mass fraction water.)

RID³⁾ ADR⁴⁾: class 5.1, classification code O2; packing group II (powder and granular) and packing group III (tablets).

IMDG⁵⁾: class 5.1.

IATA⁶⁾: class 5.1.

6.4 Marking

The marking shall include the following:

- the name "calcium hypochlorite", trade name, grade and type;
- the net mass;
- the name and address of supplier and/or manufacturer;
- the statement "This product conforms to EN 15796".

2) United Nations Number.

3) Regulations concerning International carriage of Dangerous goods by rail.

4) European Agreement concerning the international carriage of Dangerous goods by Road.

5) International Maritime transport of Dangerous Goods.

6) International Air Transport Association.