

SLOVENSKI STANDARD
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Kemikalije, ki se uporabljajo za pripravo bazenske vode - Natrijev karbonat

Chemicals used for treatment of swimming pool water - Sodium carbonate

Produkte zur Aufbereitung von Schwimm- und Badebeckenwasser - Natriumcarbonat

Produits chimiques utilisés pour le traitement de l'eau des piscines - Carbonate de sodium

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Produits chimiques utilisés pour le traitement de l'eau des piscines - Carbonate de sodium

Produkte zur Aufbereitung von Schwimm- und Badebeckenwasser - Natriumcarbonat

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

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Foreword

This document (FprEN 15362:2013) has been prepared by Technical Committee CEN/TC 164 “Water supply”, the secretariat of which is held by AFNOR.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 15362:2007.

The significant technical difference between this edition and EN 15362:2007 is as follows:

- updating of 6.2 in line with current legislation.

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Introduction

In respect of the potential adverse effects on the quality of swimming pool water caused by the product covered by this document:

- a) this document 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 document 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 document is subject to regulation or control by National Authorities.

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1 Scope

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

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 897, *Chemicals used for treatment of water intended for human consumption — Sodium carbonate*

3 Description

3.1 Identification

3.1.1 Chemical name

Sodium carbonate.

3.1.2 Synonym or common name

Soda ash, anhydrous sodium carbonate, light soda ash, heavy soda ash.

3.1.3 Relative molecular mass

105,99.

3.1.4 Empirical formula

Na_2CO_3 .

3.1.5 Chemical formula

Na_2CO_3 .

3.1.6 CAS Registry Number¹⁾

497-19-8.

3.1.7 EINECS reference²⁾

207-838-8.

1) Chemical Abstracts Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

3.2 Commercial forms

The product is available as dry powder or fine granules and is described as light soda or heavy soda according to bulk density (see 3.3.2).

3.3 Physical properties

3.3.1 Appearance

The product is a white powder or crystals, slightly hygroscopic.

3.3.2 Density

The density of this product is 2,53 g/cm³.

The bulk density is:

- ranging from 0,5 kg/dm³ to 0,65 kg/dm³ (light soda ash);
- ranging from 0,8 kg/dm³ to 1,2 kg/dm³ (heavy soda ash).

3.3.3 Solubility in water

The product is soluble at 212 g/l at 20 °C.

3.3.4 Vapour pressure

Not applicable.

3.3.5 Boiling point at 100 kPa³⁾

Not applicable.

3.3.6 Melting point

851 °C.

3.3.7 Specific heat

1,043 J/(kg. K).

3.3.8 Viscosity (dynamic)

Not applicable.

3.3.9 Critical temperature

Not applicable.

3.3.10 Critical pressure

Not applicable.

3) 100 kPa = 1 bar.

FprEN 15362:2013 (E)**3.3.11 Physical hardness**

The hardness of solid sodium carbonate is given as 1 to 2 on the Mohs' scale of hardness.

3.4 Chemical properties

Sodium carbonate reacts exothermically with acids with the formation of carbon dioxide.

Sodium carbonate is slightly hygroscopic and dissolution in water is an exothermic reaction.

4 Purity criteria**4.1 General**

This European Standard specifies the minimum purity requirements for sodium carbonate used for the treatment of swimming pool water. 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.

Users of this product should check the national regulations in order to clarify whether it is of appropriate purity for treatment of swimming pool water, taking into account raw water quality, required dosage, contents of other impurities and additives used in the products not stated in this 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 leads to significant quantities of impurities, by-products or additives being present, this shall be notified to the user.

4.2 Composition of commercial product

The product shall contain not less than a mass fraction of 99 % of Na_2CO_3 .

4.3 Impurities and main by-products

The product shall conform to the requirements specified in Table 1.

The concentration limits refer to pure Na_2CO_3 .

Table 1 — Impurities

Impurity		Limit in mg/kg of Na_2CO_3
Iron (II) ^a	max.	20
Insoluble matters ^b	max.	200
^a Iron(II) can cause organoleptic problems.		
^b Indicate the presence of foreign matter.		

4.4 Chemical parameters

The product shall conform to the requirements specified in Table 2.