



SLOVENSKI STANDARD

SIST EN 16401:2013

01-december-2013

Kemikalije, ki se uporabljajo za pripravo bazenske vode - Elektrokemijsko pridobivanje klora iz natrijevega klorida

Chemicals used for treatment of swimming pool water - Sodium chloride used for electrochlorinator systems

Produkte zur Aufbereitung von Schwimm- und Badebeckenwasser - Natriumchlorid für den Einsatz in Anlagen zur elektrochemischen Erzeugung von Chlor

Produits chimiques utilisés pour le traitement de l'eau des piscines - Chlorure de sodium utilisé avec les systèmes d'électrochloration

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Ta slovenski standard je istoveten z: EN 16401:2013

ICS:

13.060.25	Voda za industrijsko uporabo	Water for industrial use
71.100.80	Kemikalije za čiščenje vode	Chemicals for purification of water

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EUROPEAN STANDARD

EN 16401

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2013

ICS 71.100.80

English Version

Chemicals used for treatment of swimming pool water - Sodium chloride used for electrochlorinator systems

Produits chimiques utilisés pour le traitement de l'eau des piscines - Chlorure de sodium utilisé avec les systèmes d'électrochloration

Produkte zur Aufbereitung von Schwimm- und Badebeckenwasser - Natriumchlorid für den Einsatz in Anlagen zur elektrochemischen Erzeugung von Chlor

This European Standard was approved by CEN on 14 September 2013.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 16401:2013) 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of an identical text or by endorsement, at the latest by April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

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.

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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 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.

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1 Scope

This European Standard is applicable only to sodium chloride used in electrochlorinator systems and not to mixtures with other chemicals used for treatment of swimming pool water. It describes the characteristics of sodium chloride used in electrochlorinator systems and specifies the requirements and the corresponding test methods for sodium chloride used in electrochlorinator systems. It gives information on its use in swimming water treatment. It also determines the rules relating to safe handling and use (see Annex A).

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 973, *Chemicals used for treatment of water intended for human consumption - Sodium chloride for regeneration of ion exchangers*

3 Description

3.1 Identification

3.1.1 Chemical name

Sodium chloride.

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3.1.2 Synonym or common name

Salt.

3.1.3 Relative molecular mass

58,45 for sodium chloride.

3.1.4 Empirical formula

NaCl.

3.1.5 Chemical formula

NaCl.

3.1.6 CAS Registry Number¹⁾

7647-14-5 for sodium chloride.

3.1.7 EINECS Reference²⁾

231-598-3 for sodium chloride.

1) Chemical Abstract Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

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3.2 Commercial forms

These products are available as rock salt, sea salt or evaporated salt, and it is supplied as free-flowing crystals or their compacted forms.

3.3 Physical properties

3.3.1 Appearance

The product is white and crystalline.

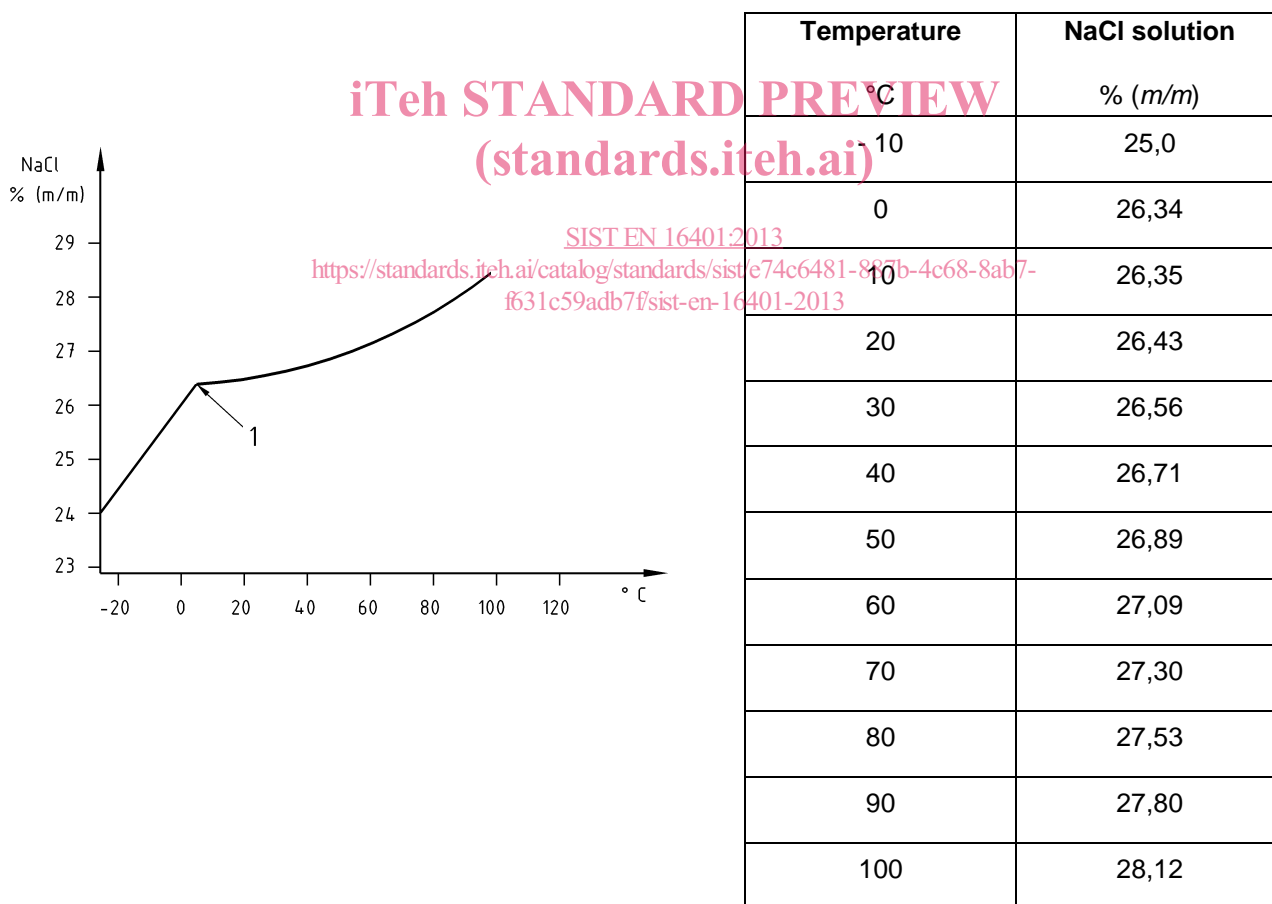
3.3.2 Density

The density of the solid crystal is 2,16 g/cm³ at 20 °C.

The bulk density depends on the particle size distribution.

3.3.3 Solubility (in water)

The solubility of the product depends on the temperature as given in Figure 1.



Key

- 1 Transition point
NaCl → NaCl·2H₂O

Figure 1 - Solubility curve for sodium chloride in water

3.3.4 Vapour pressure

Not applicable.

3.3.5 Boiling point at 100 kPa³⁾

Not applicable.

3.3.6 Melting point

802 °C for sodium chloride.

3.3.7 Specific heat

Approximately 850 J/(kg·K) at 25 °C for the solid.

3.3.8 Viscosity (dynamic)

The viscosity of the saturated solution at 20 °C is approximately 1,9 mPa·s.

3.3.9 Critical temperature

Not applicable.

3.3.10 Critical pressure

Not applicable.

3.3.11 Physical hardness

The hardness of solid salt is given as 2 to 2,5 on the Mohs' scale of hardness.

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3.4 Chemical properties

Sodium chloride is stable, non-volatile and aqueous solutions have good electrical conductivity.

Sodium chloride is decomposed by a number of acids. It reacts with sulfuric acid, phosphoric acid and strong oxidizing agents. The reactions are often complex and require heat for completion.

Under certain conditions, a sodium chloride solution can cause corrosion of metallic surfaces.

4 Purity criteria**4.1 General**

This European Standard specifies the minimum purity requirements for sodium chloride for swimming-pool chlorine generators. 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.

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 impurities, by-products or additives being present, this shall be notified to the user.

3) 100 kPa = 1 bar.