



SLOVENSKI STANDARD
SIST EN 16038:2012

01-september-2012

Kemikalije, ki se uporabljajo za pripravo vode v bazenih - Natrijev hidrogen sulfat

Chemicals used for treatment of water for swimming pools - Sodium hydrogen sulfat

Produkte zur Aufbereitung von Schwimm- und Badebeckenwasser -
Natriumhydrogensulfat

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

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Ta slovenski standard je istoveten z: EN 16038:2012

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ICS:

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71.100.80	Kemikalije za čiščenje vode	Chemicals for purification of water

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EUROPEAN STANDARD

EN 16038

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2012

ICS 71.100.80

English Version

Chemicals used for treatment of water for swimming pools - Sodium hydrogen sulfate

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

Produkte zur Aufbereitung von Schwimm- und
Badebeckenwasser - Natriumhydrogensulfat

This European Standard was approved by CEN on 24 May 2012.

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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.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 16038:2012) 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 January 2013, and conflicting national standards shall be withdrawn at the latest by January 2013.

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.

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

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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 to sodium hydrogen sulfate used for treatment of swimming pool water. It describes the characteristics of sodium hydrogen sulfate and specifies the requirements and the corresponding test methods for sodium hydrogen sulfate. It gives information on its use in water treatment for swimming pools.

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 16037, *Chemicals used for treatment of water intended for human consumption — Sodium hydrogen sulfate*.

3 Description

3.1 Identification

3.1.1 Chemical name

Sodium hydrogen sulfate.

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3.1.2 Synonym or common name

Sodium bisulfate.

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3.1.3 Relative molecular mass

120,06 g/mol.

3.1.4 Empirical formula

NaHSO₄.

3.1.5 CAS-Registry-Number¹⁾

7681-38-1.

3.1.6 EINECS-Number²⁾

231-665-7.

3.2 Commercial form

Powder or beads, free flowing.

1) Chemical Abstracts Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

EN 16038:2012 (E)**3.3 Physical properties****3.3.1 Appearance and odour**

White to slightly yellow, odourless.

3.3.2 Density

The bulk density of the product is approximately between 1 400 kg/m³ and 1 450 kg/m³.

3.3.3 Solubility in water

Approximately 1 080 g/l at 25 °C.

3.3.4 Vapour pressure

Not applicable.

3.3.5 Boiling point

Not applicable.

3.3.6 Melting point at 100 kPa³⁾

Approximately 180 °C.

Note 1 to entry: The product decomposes at higher temperatures to sodium disulfate and water.

3.3.7 Specific heat

Not applicable.

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3.3.8 Viscosity (dynamic)

Not applicable.

3.3.9 Critical temperature

Not applicable.

3.3.10 Critical pressure

Not applicable.

3.3.11 Physical hardness

Not applicable.

3.4 Chemical properties

Sodium hydrogen sulfate is hygroscopic.

3) 100 kPa = 1 bar.

Aqueous solutions of the product exhibit an acid reaction and are corrosive to metals:

- acid constant $pK_s = 1,99$;
- a solution with a mass fraction of 20 % has a pH value between 1 and 1,2 at 25 °C.

4 Purity criteria

4.1 General

This European Standard specifies the minimum purity requirements for sodium hydrogen sulfate 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 the relevant authorities.

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

Limits have been given for impurities and chemicals 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.

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4.2 Composition of commercial product

The commercial product shall contain a mass fraction of sodium hydrogen sulfate greater than 92 %.

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4.3 Impurities and by-products

The content of impurities and by-products shall be in accordance with Table 1.

Table 1 — Impurities and by-products

Parameter		Limit in % (mass fraction)
Sodium Sulfate	max.	8
Water	max.	0,8
Water insoluble substances	max.	0,05
Iron	max.	0,01