



# SLOVENSKI STANDARD

## SIST EN 15078:2006

01-oktober-2006

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### **Kemikalije, ki se uporabljajo za pripravo bazenske vode – Žveplova kislina**

Chemicals used for treatment of swimming pool water - Sulfuric acid

Produkte zur Aufbereitung von Schwimm- und Badebeckenwasser - Schwefelsäure

Produits chimiques utilisés pour le traitement de l'eau des piscines - Acide sulfurique

**Ta slovenski standard je istoveten z: EN 15078:2006**

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#### **ICS:**

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

**SIST EN 15078:2006**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 15078**

May 2006

ICS 71.100.80

English Version

## Chemicals used for treatment of swimming pool water - Sulfuric acid

Produits chimiques utilisés pour le traitement de l'eau des piscines - Acide sulfurique

Produkte zur Aufbereitung von Schwimm- und Badebeckenwasser - Schwefelsäure

This European Standard was approved by CEN on 13 April 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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## Foreword

This document (EN 15078:2006) 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 2006, and conflicting national standards shall be withdrawn at the latest by November 2006.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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## Introduction

In respect of potential adverse effects on the quality of water intended 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 sulfuric acid used directly or for the production of formulations for the treatment of water for swimming pools. It describes the characteristics and specifies the requirements and the corresponding test methods for sulfuric acid. It gives information on its use for treatment of water for swimming pools. It also determines the rules relating to safe handling and use (see annex B).

## 2 Normative reference

The following referenced documents are 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 899, *Chemicals used for treatment of water intended for human consumption - Sulfuric acid*

## 3 Description

The identification, the commercial form, the physical properties and the chemical properties are given in the relevant subclauses of EN 899.

## 4 Purity criteria iTeh STANDARD PREVIEW (standards.iteh.ai)

### 4.1 General

This European Standard specifies the minimum purity requirements for sulfuric acid 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 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 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 trace elements 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.

### 4.2 Composition of commercial product

Sulfuric acid sold as concentrated acid has a mass fraction between 96 % and 98 %.

Other concentrations of sulfuric acid are also commercially available.

The concentration of sulfuric acid shall be within a mass fraction of  $\pm 1$  % of the manufacturer's declared values.

### 4.3 Chemical parameters and indicator parameters

The content of sulfur dioxide, iron, arsenic, cadmium, chromium, mercury, nickel, lead, antimony and selenium of the product shall conform to the requirements specified in EN 899.

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NOTE Cyanide (CN<sup>-</sup>) which does not exist in a strong oxidizing medium such as sulfuric acid is not a relevant chemical parameter. Pesticides and polycyclic aromatic hydrocarbons are not relevant since the raw materials used in the manufacturing process are free of them.

**5 Test methods**

The sampling and the analytical methods are those described in EN 899.

**6 Labelling - Transportation – Storage****6.1 Means of delivery**

Sulfuric acid shall be delivered in containers made of, or lined with, one of the materials given in EN 899, depending on the temperature and concentration of the acid.

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 Directives <sup>1)</sup>**

The following labelling requirements apply to sulfuric acid at the date of the publication of this European Standard.

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For sulfuric acid of mass concentration greater than a mass fraction of 15 %:

— Symbols and indications of danger:

— C: Corrosive.

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— Nature of special risks attributed to dangerous substances:

— R 35. Causes severe burns.

— Safety advice concerning dangerous chemical substances:

— S 2: Keep out of reach of children.

— S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

— S 30: Never add water to this product.

— S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

For sulfuric acid of mass concentrations between a mass fraction of 5 % and 15 % H<sub>2</sub>SO<sub>4</sub>:

— Symbols and indications of danger:

— Xi: Irritating.

— Nature of special risks attributed to dangerous substances:

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<sup>1)</sup> See [1].

- R 36/38: Irritating to eyes and skin.
- Safety advice concerning dangerous chemical substances:
  - S 2: Keep out of reach of children.
  - S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - S 30: Never add water to this product.
  - S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**NOTE** Annex I of the Directive 67/548/EEC on Classification, packaging and labelling of dangerous substances and its amendments and adaptations in the European Union contains a list of substances classified by the EU. Substances not in this annex I should be classified on the basis of their intrinsic properties according to the criteria in the Directive by the person responsible for the marketing of the substance.

### 6.3 Transportation regulations and labelling

Sulfuric acid of concentration greater than a mass fraction of 51 % is listed as UN number <sup>2)</sup> 1830.

RID <sup>3)</sup> /ADR <sup>4)</sup> : class 8, classification code C1, packing group II.

IMDG <sup>5)</sup> : class 8, packing group II.

IATA <sup>6)</sup> : class 8, packing group II.

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### 6.4 Marking

The marking shall include the following information:

- name "sulfuric acid", trade name and mass fraction;
- net mass ;
- name and address of supplier and/or manufacturer;
- statement "this product conforms to EN 15078".

### 6.5 Storage

**NOTE** There is a risk of concentrated sulfuric acid freezing at temperatures below 10 °C.

#### 6.5.1 Long term stability

The product is stable if the container is made of suitable material (see EN 899) and tightly closed

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<sup>2)</sup> United Nations Number.

<sup>3)</sup> Regulations concerning International carriage of Dangerous goods by rail.

<sup>4)</sup> European Agreement concerning the international carriage of Dangerous goods by Road.

<sup>5)</sup> International Maritime transport of Dangerous Goods.

<sup>6)</sup> International Air Transport Association.