
Kemikalije, ki se uporabljajo za pripravo bazenske vode - Strjevanje na osnovi železa

Chemicals used for the treatment of swimming pool water - Iron based coagulants

Produkte zur Aufbereitung von Schwimm-und Badebackenwasser - Flockungsmittel auf Eisenbasis

Produits chimiques utilisés pour le traitement de l'eau des piscines - Coagulants à base de fer

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Ta slovenski standard je istoveten z: EN 15797:2010

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 15797:2010

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 15797

January 2010

ICS 71.100.80

English Version

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based coagulants**

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piscines - Coagulants à base de fer

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Badebassinwasser - Flockungsmittel auf Eisenbasis

This European Standard was approved by CEN on 28 November 2009.

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Foreword

This document (EN 15797:2010) 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of an identical text or by endorsement, at the latest by July 2010, and conflicting national standards shall be withdrawn at the latest by July 2010.

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 products covered by this European Standard:

- a) this document provides no information as to whether the products 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 these products remain in force.

NOTE Conformity with the document does not confer or imply acceptance or approval of the products in any of the Member States of the EU or EFTA. The use of these products 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 iron based coagulants (iron (III) chloride, iron (III) chloride sulfate and iron (III) sulfate liquid) used directly or for the production of formulations for treatment of water for swimming pools.

It describes the characteristics of iron based coagulants and specifies the requirements and the corresponding test methods for iron based coagulants. It gives information on their use in swimming pool water treatment. General information on iron based coagulants is given in Annex A.

It also determines the rules relating to safe handling and use (see Annex B).

2 Normative references

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 888, *Chemicals used for treatment of water intended for human consumption — Iron (III) chloride*

EN 890, *Chemicals used for treatment of water intended for human consumption — Iron (III) sulfate liquid*

EN 891, *Chemicals used for treatment of water intended for human consumption — Iron (III) chloride sulfate*

3 Description

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For the identification, the commercial form, the physical properties and the chemical properties see the relevant subclauses of EN 888, EN 890 and EN 891.

4 Purity criteria

4.1 General

This document specifies the minimum purity requirements for iron based coagulants used for the treatment of water for swimming pools. Limits are given for impurities commonly present in the products. 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 these products should check the national regulations in order to clarify whether they are 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 these products not stated in these product standards.

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

The concentration of active matter in the product expressed as mass fraction in % of FeCl_3 , $\text{Fe}_2(\text{SO}_4)_3$ or FeClSO_4 shall be within ± 3 % of the manufacturer's declared values.

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NOTE The concentration of iron active matter in commercial products varies. Typical values are given in Table 1.

Table 1 – Typical values for the concentration of iron active matter in commercial products

Product	Commercial form	Concentration
		Mass fraction in %
Iron (III) chloride	Solid	99 in FeCl ₃
	Solid hexahydrate	59 in FeCl ₃
	Solution	40 in FeCl ₃
Iron (III) sulfate	Solution	30 in Fe ₂ (SO ₄) ₃
Iron (III) chloride sulfate	Solution	36,9 in FeClSO ₄

4.3 Impurities and main by-products

The content of manganese, iron (II) and insoluble matters shall conform to the requirements specified in EN 888, EN 890 and EN 891.

4.4 Chemical parameters

The content of arsenic, cadmium, chromium, mercury, nickel, lead, antimony and selenium for each grade and type of products shall conform to the requirements specified in EN 888, EN 890 and EN 891.

5 Test methods

The methods for sampling and analysis are those specified respectively in EN 888, EN 890 and EN 891.

6 Labelling - Transportation - Storage

6.1 Means of delivery

Solids: the products shall be delivered in suitable packages, paper or plastics bags

Liquids: the products shall be delivered in containers of corrosion-resistant materials suitable for the purpose.

NOTE The manufacturer can provide advice on suitable materials.

In order that the purity of the products 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 in accordance with the EU Directives¹⁾

Iron (III) chloride is not subject to labelling regulations.

¹⁾ See [1].

The following labelling requirements shall apply to the following iron based coagulants at the date of the publication of this document:

Iron (III) sulfate liquid:

- a) symbols and indications of danger:

C: Corrosive;

- b) nature of special risks attributed to dangerous substances:

R 36/38: Irritating to eyes and skin;

- c) safety advice concerning dangerous substances:

- 1) S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice;
- 2) S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

Iron (III) chloride sulfate:

- d) Symbols and indications of danger:

C: Corrosive;

- e) Nature of special risks attributed to dangerous substances:

- 1) R 21/22: Harmful in contact with skin and if swallowed;

- 2) R 34: Causes burns;

- 3) R 36/38: Irritating to eyes and skin;

- f) Safety advice concerning dangerous substances:

- 1) S 24/25: Avoid contact with skin and eyes;
- 2) S 37/39: Wear suitable gloves and eye/face protection.

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 listed in that 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

6.3.1 General

The following classification requirements shall apply to the following iron based coagulants at the date of the publication of this document.