

**Chemicals used for treatment of water intended for  
human consumption - Copper sulfate**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 12386:2012 sisaldab Euroopa standardi EN 12386:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 12386:2012 consists of the English text of the European standard EN 12386:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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## English Version

## Chemicals used for treatment of water intended for human consumption - Copper sulfate

Produits chimiques utilisés pour le traitement de l'eau destinée à la consommation humaine - Sulfate de cuivre

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Kupfersulfat

This European Standard was approved by CEN on 23 September 2012.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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## Foreword

This document (EN 12386:2012) 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of an identical text or by endorsement, at the latest by April 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.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.

This document supersedes EN 12386:2005.

The significant technical differences between this edition and EN 12386:2005 are as follows:

- Modification of 6.2 on labelling, deletion of the reference to EU Directive 80/778/EEC of 15 July 1980 in order to take account of the latest Directive in force.

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.

## Introduction

In respect of potential adverse effects on the quality of water intended for human consumption 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 1 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.

NOTE 2 This product is a biocide and will need to comply with the relevant legislation in force. In the European Union, at the time of publication, this legislation is Directive 98/8/EC [1].

## 1 Scope

This European Standard is applicable to copper (II) sulfate pentahydrate used for treatment of water intended for human consumption. It describes the characteristics and specifies the requirements of copper (II) sulfate pentahydrate and refers to the corresponding analytical methods. It gives information for its use in water treatment. It also determines the rules relating to safe handling and use of copper (II) sulfate pentahydrate (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 ISO 3696, *Water for analytical laboratory use — Specification and test methods (ISO 3696)*

ISO 3165, *Sampling of chemical products for industrial use — Safety in sampling*

ISO 4793, *Laboratory sintered (fritted) filters — Porosity grading, classification and designation*

ISO 5993, *Sodium hydroxide for industrial use — Determination of mercury content — Flameless atomic absorption spectrometric method*

ISO 6206, *Chemical products for industrial use — Sampling — Vocabulary*

ISO 6332, *Water quality — Determination of iron — Spectrometric method using 1,10-phenanthroline*

ISO 6353-1, *Reagents for chemical analysis — Part 1: General test methods*

ISO 8213, *Chemical products for industrial use — Sampling techniques — Solid chemical products in the form of particles varying from powders to coarse lumps*

## 3 Description

### 3.1 Identification

#### 3.1.1 Chemical name

Copper (II) sulfate pentahydrate.

#### 3.1.2 Synonym or common names

Copper vitriol, blue vitriol, cupric sulfate.

#### 3.1.3 Relative molecular mass

For pentahydrate: 249,69.

#### 3.1.4 Empirical formula

$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ .