



**SLOVENSKI STANDARD**  
**SIST EN 1197:2001**  
**01-december-2001**

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**Kemikalije, ki se uporabljajo za pripravo pitne vode - Rastopina monocinkfosfata**

Chemicals used for treatment of water intended for human consumption - Monozinc phosphate solution

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Monozinkphosphat-Lösung

Produits chimiques pour le traitement de l'eau destinée à la consommation humaine - Bis-dihydrogénophosphate de zinc en solution

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**ICS:**

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EUROPEAN STANDARD

EN 1197

NORME EUROPÉENNE

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English version

## Chemicals used for treatment of water intended for human consumption - Monozinc phosphate solution

Produits chimiques pour le traitement de l'eau destinée à la consommation humaine - Bis-dihydrogénophosphate de zinc en solution

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Monozinkphosphat-Lösung

This European Standard was approved by CEN on 9 September 2000.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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## Foreword

This European Standard 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 March 2001, and conflicting national standards shall be withdrawn at the latest by March 2001.

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

Annex A is informative.

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## Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this Standard :

This 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 ;

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.

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## 1 Scope

This European standard is applicable to monozinc phosphate solution used for treatment of water intended for human consumption. It describes the characteristics of monozinc phosphate solution and specifies the requirements and the corresponding test methods for monozinc phosphate solution. It gives information on its use in water treatment.

## 2 Normatives reference

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1483, *Water quality – Determination of mercury.*

EN 26595, *Water quality - Determination of total arsenic - Silver diethyldithiocarbamate spectrophotometric method (ISO 6595:1982).*

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods (ISO 3696 : 1987).*

ISO 2997, *Phosphoric acid for industrial use - Determination of sulphate content - Method by reduction and titrimetry.*

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

ISO 3360, *Phosphoric acid and sodium phosphates for industrial use (including foodstuffs) - Determination of fluorine content - Alizarin complexone and lanthanum nitrate photometric method.*

ISO 3706, *Phosphoric acid for industrial use (including foodstuffs) determination of total phosphorus (V) oxide content – Quinoline phosphomolybdate gravimetric method.*

ISO 5961, *Water quality - Determination of cadmium by atomic absorption spectrometry.*

ISO 6206, *Chemical products for industrial use - Sampling – Vocabulary.*

ISO 6703-1, *Water quality - Determination of cyanide - Part 1 : Determination of total cyanide.*

ISO 8288, *Water quality - Determination of cobalt, nickel, copper, zinc, cadmium and lead - Flame atomic absorption spectrometric methods.*

ISO 9174, *Water quality - Determination of total chromium - Atomic absorption spectrometric methods.*

ISO 9965, *Water quality - Determination of selenium - Atomic absorption spectrometric method (hydride technique).*

ISO 11885, *Water quality - Determination of 33 elements by inductively coupled plasma atomic emission spectroscopy.*

### 3 Description

#### 3.1 Identification

##### 3.1.1 Chemical name

Monozinc phosphate solution.

##### 3.1.2 Synonym or common name

Not applicable.

##### 3.1.3 Relative molecular mass

Not applicable.

##### 3.1.4 Empirical formula

$\text{Zn}(\text{H}_2\text{PO}_4)_2$  (Solution).

##### 3.1.5 Chemical formula

$\text{Zn}(\text{H}_2\text{PO}_4)_2$  (Solution).

##### 3.1.6 CAS Registry Number <sup>1)</sup>

13598-37-3.

##### 3.1.7 EINECS reference <sup>2)</sup>

237-067-2.

#### 3.2 Commercial form

Monozinc phosphate is available as a solution ; commonly used concentration is 500 g/l.

#### 3.3 Physical properties

##### 3.3.1 Appearance

The product is a clear solution.

##### 3.3.2 Density

The density at 20 °C is 1,7 g/ml for a concentration of 500 g/l.

##### 3.3.3 Solubility in water

Miscible in any proportion.

##### 3.3.4 Vapour pressure

Not applicable.

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<sup>1)</sup> Chemical Abstracts Service Registry Number

<sup>2)</sup> European Inventory of Existing Commercial Chemical Substances



### 3.3.5 Boiling point at 100 kPa <sup>3)</sup>

Not applicable.

### 3.3.6 Melting point

Not applicable.

### 3.3.7 Specific heat

Not known.

### 3.3.8 Viscosity (dynamic)

180 mPa.s for a concentration of 500 g/l at 20 °C.

### 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

Solutions of monozinc phosphate have acidic reactions.

The pH value of a solution containing 5 g/l of Zn (H<sub>2</sub>PO<sub>4</sub>)<sub>2</sub> is approximately 2,1.

## 4 Purity criteria

Limits have been given for impurities and toxic substances where these are likely to be present in significant quantities from the current production process and raw materials. If a change in the production process or raw materials leads to significant quantities of other impurities or by-products being present, this shall be notified to the user.

### 4.1 Composition of commercial product

The product shall conform to the following requirements for the solution :

- Phosphate content expressed as P<sub>2</sub>O<sub>5</sub> : (39 ± 2,0) percent by mass (% (m/m)) ;
- Zinc oxide content expressed as ZnO : (15 ± 1,0) percent by mass (% (m/m)).

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<sup>3)</sup> 100 kPa = 1 bar