



# SLOVENSKI STANDARD

## SIST EN 886:2002

01-december-2002

---

### Kemikalije, ki se uporabljajo za pripravo pitne vode – Polialuminijev hidroksid silikat sulfat

Chemicals used for treatment of water intended for human consumption - Polyaluminium hydroxide silicate sulfate

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Polyaluminiumhydroxidsilikatsulfat

Produits chimiques utilisés pour le traitement de l'eau destinée a la consommation humaine - Polyhydroxysulfatesilicate d'aluminium

<https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002>

Ta slovenski standard je istoveten z: EN 886:2001

---

#### ICS:

13.060.20	Pitna voda	Drinking water
71.100.80	Kemikalije za čiščenje vode	Chemicals for purification of water

**SIST EN 886:2002**

**en**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN 886:2002

<https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002>

EUROPEAN STANDARD

EN 886

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2001

ICS 71.100.80

English version

## Chemicals used for treatment of water intended for human consumption - Polyaluminium hydroxide silicate sulfate

Produits chimiques utilisés pour le traitement de l'eau destinée à la consommation humaine - Polyhydroxysulfatesilicate d'aluminium

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Polyaluminiumhydroxidsilikatsulfat

This European Standard was approved by CEN on 29 September 2001.

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 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 Management Centre 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.

[SIST EN 886:2002](https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002)

<https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

## Contents

	page
Foreword.....	3
Introduction .....	4
1 Scope .....	5
2 Normative references .....	5
3 Description .....	5
3.1 Identification.....	5
3.2 Commercial form.....	6
3.3 Physical properties.....	6
3.4 Chemical properties .....	7
4 Purity criteria.....	7
4.1 General.....	7
4.2 Composition of commercial product.....	7
4.3 Impurities and main by-products .....	7
4.4 Toxic substances.....	8
5 Test methods.....	8
5.1 Sampling.....	8
5.2 Analyses .....	9
6 Labelling - Transportation - Storage.....	9
6.1 Means of delivery.....	9
6.2 Risk and safety labelling according to the EU-Directives.....	9
6.3 Transportation regulations and labelling.....	10
6.4 Marking .....	10
6.5 Storage.....	10
Annex A (informative) General information on polyaluminium hydroxide silicate sulfate.....	11
Annex B (normative) General rules relating to safety .....	13
Bibliography .....	14

iTech STANDARD PREVIEW  
(standards.itech.ai)

## 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 April 2002, and conflicting national standards shall be withdrawn at the latest by April 2002.

This European Standard refers to the EU Directive 80/778/EEC (see [1]) of 15 July 1980, however it will be revised in future in order to take account of the new EU Directive 98/83/EEC (see [3]).

Annex A is informative.

Annex B is normative.

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.

(standards.iteh.ai)

SIST EN 886:2002

<https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002>

## Introduction

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

- 1) 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 ;
- 2) 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.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 886:2002](https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002)

<https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002>

## 1 Scope

This European Standard is applicable to polyaluminium hydroxide silicate sulfate used for treatment of water intended for human consumption. It describes the characteristics of polyaluminium hydroxide silicate sulfate and specifies the requirements for polyaluminium hydroxide silicate sulfate and refers to the analytical methods. It also gives information on its use in water treatment.

## 2 Normative references

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 (including amendments).

EN 1302, *Chemicals used for treatment of water intended for human consumption – Aluminium-based coagulants - Analytical methods.*

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

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

# iTeh STANDARD PREVIEW (standards.iteh.ai)

## 3 Description

### 3.1 Identification

[SIST EN 886:2002](https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002)

**3.1.1 Chemical name** <https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002>

Polyaluminium hydroxide silicate sulfate.

### 3.1.2 Synonym or common names

Polyaluminium silicate sulfate, PASS.

### 3.1.3 Relative molecular mass

Variable (see 3.1.4).

### 3.1.4 Empirical formula

$\text{Al(OH)}_a(\text{SO}_4)_b(\text{SiOx})_c$  with  $a + 2b + 2c(x - 2) = 3$

and

$a = 1,05$  to  $2,0$

$b = 0,30$  to  $1,12$

$c = 0,005$  to  $0,10$

$x = 2,0$  to  $4,0$

## EN 886:2001 (E)

### 3.1.5 Chemical formula

Variable (see 3.1.4).

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

(Aluminium hydroxide silicate sulfate) : 131148-05-5.

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

The following is a list of EINECS reference numbers for products or their starting materials.

Basic aluminium sulfate, PAS : 259-881-7

Aluminosilicate : 215-475-1

Sodium sulfate : 231-820-9

## 3.2 Commercial form

The product is available as a liquid.

## 3.3 Physical properties

### 3.3.1 Appearance

Polyaluminium hydroxide silicate sulfate is a colourless, slightly opalescent liquid.

### 3.3.2 Density

The density depends on the particular composition, especially the aluminium ion content, expressed as percentage by mass (%(m/m)) of aluminium.

Typical value is 1,25 g/ml for Al 4,2 % (m/m).

### 3.3.3 Solubility in water

Polyaluminium hydroxide silicate sulfate is fully miscible with water.

NOTE Depending on the particular product, dilute solutions can hydrolyze and form a precipitate.

### 3.3.4 Vapour pressure at 20 °C

Not known.

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

100 °C.

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

[SIST EN 886:2002](#)

<https://standards.iteh.ai/catalog/standards/sist/9861079a-d0d1-4e56-ac70-026b54c1497e/sist-en-886-2002>

---

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

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

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



### 3.3.6 Crystallization point

Typical value is 0 °C for Al 4,2 % (m/m).

### 3.3.7 Specific heat

Not known.

### 3.3.8 Viscosity (dynamic)

Typical value is 11 mPa·s for Al 4,2 % (m/m) at 25 °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

Polyaluminium hydroxide silicate sulfate is a mildly acidic liquid which hydrolyzes and forms a precipitate of aluminium hydroxide when diluted beyond a particular concentration.

NOTE Since aluminium compounds are amphoteric in nature, the solubility of aluminium depends on the pH value and the product should be used within an appropriate pH range.

## 4 Purity criteria

### 4.1 General

Limits have been given for impurities and toxic substances where these are likely to be present in significant quantities from the current production processes 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.

### 4.2 Composition of commercial product

The concentration of active matter expressed as grams of aluminium per kilogram of product (Al g/kg) shall be not less than 40 g/kg.

The content of aluminium shall be within  $\pm 3$  % of the manufacturer's declared value.

The relative basicity expressed as the mole ratio OH/3Al shall be greater than 0,35.

### 4.3 Impurities and main by-products

The content of insoluble matter shall not exceed 25 g/kg Al.