SLOVENSKI STANDARD
SIST EN 1421:2022

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Nadomešča:
SIST EN 1421:2013

Kemikalije, ki se uporabljajo za pripravo pitne vode - Amonijev klorid

Chemicals used for treatment of water intended for human consumption - Ammonium chloride

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Ammoniumchlorid

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

Ta slovenski standard je istoveten z: **EN 1421:2022**

ICS:

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

SIST EN 1421:2022 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1421

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ICS 71.100.80

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English Version

Chemicals used for treatment of water intended for human consumption - Ammonium chloride

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Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Ammoniumchlorid

This European Standard was approved by CEN on 13 March 2022.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (EN 1421:2022) 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of an identical text or by endorsement, at the latest by October 2022, and conflicting national standards shall be withdrawn at the latest by October 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1421:2012.

In comparison with the previous edition, the following technical modifications have been made:

a) modification of 7.3 on transportation regulations and labelling, adding the sentence “The user shall be aware of the incompatibilities between transported products.”;

b) modification of 7.4 on marking. The requirements of marking are also applied to the accompanying documents.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, 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 document:

a) this document 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 document 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 document is subject to regulation or control by National Authorities (see Annex A).

1 Scope

This document is applicable to ammonium chloride used for treatment of water intended for human consumption. It describes the characteristics and specifies the requirements of ammonium chloride 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 ammonium chloride (see Annex B).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1233, *Water quality - Determination of chromium - Atomic absorption spectrometric methods*

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

EN ISO 11885, *Water quality - Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (ISO 11885)*

EN ISO 12846, *Water quality - Determination of mercury - Method using atomic absorption spectrometry (AAS) with and without enrichment (ISO 12846)*

ISO 17378-2, *Water quality — Determination of arsenic and antimony — Part 2: Method using hydride generation atomic absorption spectrometry (HG-AAS)*

ISO 2762, *Hydrochloric acid for industrial use — Determination of soluble sulphates — Turbidimetric method*

ISO 3332, *Ammonium sulphate for industrial use — Determination of ammoniacal nitrogen content — Titrimetric method after distillation*

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

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

ISO 8288:1986, *Water quality — Determination of cobalt, nickel, copper, zinc, cadmium and lead — Flame atomic absorption spectrometric methods*

ISO/TS 17379-2, *Water quality — Determination of selenium — Part 2: Method using hydride generation atomic absorption spectrometry (HG-AAS)*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp/ui

— IEC Electropedia: available at https://www.electropedia.org/

4 Description

4.1 Identification

4.1.1 Chemical name

Ammonium chloride.

4.1.2 Synonym or common name

Sal-ammoniac.

4.1.3 Relative molecular mass

53,5 Mr.

4.1.4 Empirical formula

NH_4Cl.

4.1.5 Chemical formula

NH_4Cl.

4.1.6 CAS Registry Number [1]

12125-02-9.

4.1.7 EINECS reference [2]

235-186-4.

4.2 Commercial form

Ammonium chloride is available as a powder.

4.3 Physical properties

4.3.1 Appearance and odour

The product is a white powder or white crystals, without any odour.

4.3.2 Density

The density of the product is 1,53 g/cm^3 at 20 °C.

The bulk density is 0,6 g/cm^3 to 1 g/cm^3 depending on particle size.

[1] Chemical Abstracts Service Registry Number.

[2] European Inventory of Existing Commercial Chemical Substances.

4.3.3 Solubility in water

The solubility of the product in water at 20 °C is 374 g/L.

The solubility of the product in water at 50 °C is 504 g/L.

NOTE Dissolution of NH_4Cl in water is a strongly endothermic reaction and the resulting decrease in temperature can lead to crystallization.

4.3.4 Vapour pressure

100 Pa at 160 °C.

4.3.5 Boiling point at 100 kPa [3]

Not applicable.

4.3.6 Melting point

Sublimation at 338 °C.

4.3.7 Specific heat

Not known.

4.3.8 Viscosity

Not applicable.

4.3.9 Critical temperature

Not applicable.

4.3.10 Critical pressure

Not applicable.

4.3.11 Physical hardness

Not applicable.

4.4 Chemical properties

The pH value of an aqueous solution of mass fraction of 5 % is 4 to 6.

Ammonium chloride attacks metals, e.g. iron, copper, nickel, zinc.

Reaction with strong acids can generate hydrochloric acid gas; reaction with strong alkalis can generate ammonia gas.

[3] 100 kPa = 1 bar.