SLOVENSKI STANDARD
SIST EN 12126:2005

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Nadomešča:
SIST EN 12126:2000

Kemikalije, ki se uporabljajo za pripravo pitne vode - Salmiak

Chemicals used for treatment of water intended for human consumption - Liquefied ammonia

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Ammoniak, flüssig

Produits chimiques utilisés pour le traitement de l'eau destinée a la consommation humaine - Ammoniac liquéfié

Ta slovenski standard je istoveten z: **EN 12126:2005**

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13.060.20	Pitna voda	Drinking water
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EUROPEAN STANDARD

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English Version

Chemicals used for treatment of water intended for human consumption - Liquefied ammonia

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

Produkte zur Aufbereintung von Wasser für den menschlichen Gebrauch - Ammoniak, flüssig

This European Standard was approved by CEN on 12 May 2005.

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.

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

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Foreword

This European Standard (EN 12126:2005) 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of an identical text or by endorsement, at the latest by December 2005, and conflicting national standards shall be withdrawn at the latest by December 2005.

This document supersedes EN 12126:1998.

Significant technical differences between this edition and EN 12126:1998 are as follows:

— deletion of the reference to EU Directive 80/778/EEC of 15 July 1980 in order to take account of the latest Directives in force (see [1])

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and 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 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.

1 Scope

This European Standard is applicable to liquefied ammonia used for treatment of water intended for human consumption. It describes the characteristics and specifies the requirements of liquefied ammonia and refers to the corresponding analytical methods. It gives information for its use in water treatment. It also determines the rules relating to the safe handling and use of liquefied ammonia (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 reference document (including any amendments) applies.

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

ISO 7103, *Liquefied anhydrous ammonia for industrial use - Sampling - Taking a laboratory sample.*

ISO 7105, *Liquefied anhydrous ammonia for industrial use - Determination of water content - Karl Fischer Method.*

ISO 7106, *Liquefied anhydrous ammonia for industrial use- Determination of oil content - Gravimetric and infra-red spectrometric methods*

3 Description

3.1 Identification

3.1.1 Chemical name

Ammonia liquefied, anhydrous.

3.1.2 Synonym or common name

Ammonia.

3.1.3 Relative molecular mass

17,03.

3.1.4 Empirical formula

NH_3.

3.1.5 Chemical formula

NH_3.

3.1.6 CAS Registry Number[1)]

7664-41-7.

3.1.7 EINECS reference[2)]

231-635-3.

3.2 Commercial form

The product is available as liquefied gas.

3.3 Physical properties

3.3.1 Appearance and odour

The product is colourless liquid with a characteristic pungent odour.

3.3.2 Density

The density of the gas is 0,771 g/l at 101,3 kPa[3)] and 0 °C.

The density of the liquid is 0,682 g/ml at 101,3 kPa and - 34 °C, and 0,61 g/ml at 850 kPa and 20 °C.

3.3.3 Solubility (in water)

The solubility of the product in water is 900 g/l at 0 °C, 520 g/l at 20 °C, and 407 g/l at 30 °C.

3.3.4 Vapour pressure

The vapour pressure of the product is 400 kPa at 0 °C, 850 kPa at 20 °C and 2 035 kPa at 50 °C.

3.3.5 Boiling point at 100 kPa[3)]

The boiling point of the product is -33,4 °C at 101,3 kPa.

3.3.6 Melting point

The melting point of the product is -77,7 °C at 101,3 kPa.

3.3.7 Specific heat

The specific heat of the product is 4,61 kJ/(kg K) at 0 °C and 4,86 kJ/(kg K) at 40 °C.

3.3.8 Viscosity, dynamic

The viscosity of the product is 0,254 mPa.s at 33 °C and 101,3 kPa.

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1) Chemical Abstracts Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

3) 100 kPa = 1 bar.

3.3.9 Critical temperature

132,4 °C.

3.3.10 Critical pressure

11 450 kPa.

3.3.11 Physical hardness

Not applicable.

3.4 Chemical properties

Ammonia reacts violently with halogens, acids, acid halides, acid anhydrides and oxidizing agents. It reacts with zinc, copper, tin and their alloys. Mixtures of volume fraction of 15 % to 30 % of ammonia with air are explosive.

4 Purity criteria

4.1 General

This European Standard specifies the minimum purity requirements for liquefied ammonia used for the treatment of water intended for human consumption. Limits are given for impurities commonly present in the product. 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 this product should check the national regulations in order to clarify whether it is of appropriate purity for treatment of water intended for human consumption, taking into account raw water quality, required dosage, contents of other impurities and additives used in the product not stated in this product standard.

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 leads to significant quantities of impurities, by-products or additives being present, this shall be notified to the user.

4.2 Composition of commercial product

Liquefied ammonia shall not contain less than a mass fraction of 99,8 % of NH_3.

4.3 Impurities and main by-products

The product shall conform to the requirements specified in Table 1.

Table 1 - Impurities

Impurity		Limit
Water	max.	Mass fraction 0,1 %
Permanent gases and methane	max.	Volume fraction 0,1 %
Oil	max.	5 mg/kg