



SLOVENSKI STANDARD
SIST EN 1019:2005

01-september-2005

Nadomešča:
SIST EN 1019:1999

Kemikalije, ki se uporabljajo za pripravo pitne vode – Žveplov dioksid

Chemicals used for treatment of water intended for human consumption - Sulfur dioxide

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Schwefeldioxid

iTeh STANDARD PREVIEW
Produits chimiques pour le traitement de l'eau destinée à la consommation humaine -
Dioxyde de soufre
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 1019:2005
SIST EN 1019:2005
http://www.sist.si/log/standards/SIST/1019/2005/53c0-47ef-9992-78437cbb56c6/sist-en-1019-2005

ICS:

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

SIST EN 1019:2005 **en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1019

June 2005

ICS 71.100.80

Supersedes EN 1019:1995

English version

Chemicals used for treatment of water intended for human consumption - Sulfur dioxide

Produits chimiques pour le traitement de l'eau destinée à la consommation humaine - Dioxyde de soufre

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Schwefeldioxid

This European Standard was approved by CEN on 25 April 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.

CEN members are the national standards bodies of 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.

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Foreword

This document (EN 1019:2005) 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 1019:1995.

Significant technical differences between this edition and EN 1019:1995 are as follows:

deletion of the reference to EU Directive 80/778/EEC of July, 15 1980 in order to take into account the latest Directive. (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.

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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 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 document is subject to regulation or control by National Authorities.

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1 Scope

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

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

ISO 760, *Determination of water-Karl Fischer method. (General method)*

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

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

3 Description

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3.1 Identification

3.1.1 Chemical name

Sulfur dioxide.

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3.1.2 Synonym or common name

Sulfurous acid anhydride.

3.1.3 Relative molecular mass

64.

3.1.4 Empirical formula

SO₂.

3.1.5 Chemical formula

SO₂.

3.1.6 CAS Registry Number¹⁾

7446-09-5.

1) Chemical Abstracts Service Registry Number.

EN 1019:2005 (E)**3.1.7 EINECS reference²⁾**

231-195-2.

3.2 Commercial form

The product is available as a liquefied gas

3.3 Physical properties**3.3.1 Appearance**

The product is ,at ambient temperature and normal pressure, a colourless gas with a pungent characteristic odour .

3.3.2 Density

The liquid density of this product is 1,4 g/ml at 10 °C.

The vapour density is 2,7 g/l at 0 °C.

3.3.3 Solubility in water

The product is soluble at 110 g/l at 20 °C.

3.3.4 Vapour pressure

320 kPa at 20 °C.

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3.3.5 Boiling point at 100 kPa³⁾

-9,4 °C.

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3.3.6 Melting point

-75,5 °C.

3.3.7 Specific heat

Liquid : 1,337 J/(g.K) at 0 °C

3.3.8 Viscosity (dynamic)

Gas: 11,40 x 10⁻³ mPa.s at 20 °C.

Liquid: 0,76 mPa.s at -50 °C

3.3.9 Critical temperature

157,5 °C

2) European Inventory of Existing Commercial Chemical Substances.

3) 100 kPa = 1 bar.

3.3.10 Critical pressure

7 780 kPa

3.3.11 Physical hardness

Not applicable.

3.4 Chemical properties

Sulfur dioxide is an acidic gas and a reducing agent. The pH value of an aqueous solution is about 1,5.

Sulfur dioxide reacts violently with oxidizing agents, e.g. peroxides, permanganates.

4 Purity criteria**4.1 General**

This document specifies the minimum purity requirements for sulfur dioxide 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 products 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

The product shall contain not less than a mass fraction of 99,9 % of sulfur dioxide

4.3 Impurities and main by-products

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

The concentration limits refer to pure sulfur dioxide

Table 1 — Impurities

Impurity		Limit
		in mass fraction in % of sulfur dioxide
Water	max.	0,01
Sulfuric acid	max.	0,005

4.4 Chemical parameters

The chemical parameters defined in the UE Water Directive are not found in liquid sulfur dioxide. Pesticides and polycyclic aromatic Hydrocarbons are not by-products of the manufacturing process.