

Chemicals used for treatment of water intended for human consumption — Sodium chlorate

ICS 13.060.20, 71.100.80

National foreword

This British Standard is the UK implementation of EN 15028:2006.

The UK participation in its preparation was entrusted to Technical Committee CII/59, Chemicals for drinking water treatment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Chemicals used for treatment of water intended for human
consumption - Sodium chlorate**

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

Produkte zur Aufbereitung von Wasser für den
menschlichen Gebrauch - Natriumchlorat

This European Standard was approved by CEN on 3 February 2006.

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Foreword

This European Standard (EN 15028:2006) 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of an identical text or by endorsement, at the latest by September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

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, Romania, 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 sodium chlorate used for treatment of water intended for human consumption. It describes the characteristics of sodium chlorate and specifies the requirements and the corresponding test methods for sodium chlorate. It gives information on its use in water treatment. It also determines the rules relating to safe handling and use of sodium chlorate (see Annex B) and gives the environmental, health and safety precautions within chemical laboratory (see Annex C).

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1483, *Water quality — Determination of mercury*

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

EN ISO 11885, *Water quality — Determination of 33 elements by inductively coupled plasma atomic emission spectroscopy (ISO 11885:1996)*

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

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

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

3 Description

3.1 Identification

3.1.1 Chemical name

Sodium chlorate

3.1.2 Synonym or common names

None (for the processes related to treatment of drinking water)

NOTE Commercial names of formulations may exist, purity needs to be checked in case of use for treatment of water.

3.1.3 Relative molecular mass

106,45

3.1.4 Empirical formula

NaClO_3

3.1.5 Chemical formula

NaClO_3

3.1.6 CAS Registry Number ¹⁾

7775-09-9

3.1.7 EINECS reference ²⁾

231-887-4

3.2 Commercial form

Sodium chlorate is commercially available in crystalline form or as a powder and as an aqueous solution.

3.3 Physical properties

3.3.1 Appearance and odour

The product is a colourless solid as a powder or the product is a faint blue to colourless solution.

3.3.2 Density

The density of an aqueous solution of sodium chlorate is given in Table 1.

Table 1 — Density of sodium chlorate solution

Concentration of aqueous solution of sodium chlorate solution (Mass fraction in %)	Density (g/ml at 20 °C)
30	1,24
40	1,33
50	1,44

3.3.3 Solubility in water

The solubility of sodium chlorate in water is given in Table 2.

Table 2 — Solubility of sodium chlorate

Temperature (°C)	Solubility (g/l)
10	650
20	700
40	780
60	880

¹⁾ Chemical Abstracts Service Registry Number.

²⁾ European Inventory of Existing Commercial Chemical Substances.