

# SVENSK STANDARD

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### Processkemikalier för beredning av dricksvatten – Natriumklorit

### Chemicals used for treatment of water intended for human consumption – Sodium chlorite

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The European Standard EN 938:2009 has the status of a Swedish Standard. This document contains the official English version of EN 938:2009.

This standard supersedes the Swedish Standard SS-EN 938, edition 1.

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 938**

January 2009

ICS 71.100.80

Supersedes EN 938:1999

English Version

## Chemicals used for treatment of water intended for human consumption - Sodium chlorite

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

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Natriumchlorit

This European Standard was approved by CEN on 5 December 2008.

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 CEN 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 CEN Management Centre has the same status as the official versions.

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**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (EN 938:2009) 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of an identical text or by endorsement, at the latest by July 2009, and conflicting national standards shall be withdrawn at the latest by July 2009.

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

This document supersedes EN 938:1999.

The significant technical differences between this edition and EN 938:1999 are as follows:

- a) Deletion of reference to EU Directive 80/778/EEC of July 15, 1980 in order to take into account the latest Directive in force (see [1]).
- b) Replacement of ISO 5666-1 by EN 1483.

Annex A is informative.

Annexes B and C are 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, Bulgaria, 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 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 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.

**NOTE** Conformity with the 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 chlorite used for treatment of water intended for human consumption. It describes the characteristics of sodium chlorite and specifies the requirements and the corresponding test methods for sodium chlorite. It gives information on its use in water treatment.

## 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 1483, *Water quality - Determination of mercury - Method using atomic absorption spectrometry*

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

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

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

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

ISO 9174, *Water quality - Determination of total chromium - Atomic absorption spectrometric methods*

## 3 Description

### 3.1 Identification

#### 3.1.1 Chemical name

Sodium chlorite.

#### 3.1.2 Synonym or common name

None.

#### 3.1.3 Relative molecular mass

90,44.

#### 3.1.4 Empirical formula

NaClO<sub>2</sub>.

#### 3.1.5 Chemical formula

NaClO<sub>2</sub>.

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

7758-19-2.

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

231-836-6.

## 3.2 Commercial form

The product is supplied as an aqueous solution of sodium chlorite

## 3.3 Physical properties

### 3.3.1 Appearance

The products are greenish-yellow aqueous solution.

### 3.3.2 Density

The density of sodium chlorite is given in Table 1.

**Table 1 — Density of sodium chlorite**

<b>Aqueous solution concentration</b> % (mass fraction)	<b>Density</b> g/ml at 20 °C
25	1,210
31	1,270

### 3.3.3 Solubility in water

The solubility of sodium chlorite depending on temperature is given in Table 2

**Table 2 — Solubility of sodium chlorite**

<b>Temperature</b> °C	<b>Solubility</b> g/l
5	340
17	390
30	460
45	530
60	550

### 3.3.4 Vapour pressure

Not applicable.

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

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

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

Not applicable.

**3.3.6 Crystallization point**

The crystallization point of sodium chlorite depending on concentration is given in Table 3.

**Table 3 — Crystallization point of sodium chlorite**

Aqueous solution concentration % (mass fraction)	Crystallization point °C
25	- 14,5
31	3

**3.3.7 Specific heat**

Not known.

**3.3.8 Viscosity (dynamic)**

The viscosity of sodium chlorite depending on concentration is given in Table 4.

**Table 4 — Viscosity of sodium chlorite**

Aqueous solution concentration % (mass fraction)	Viscosity mPa.s at 20 °C
25	2,33
31	3,26

**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**

Sodium chlorite is a strong oxidizing agent. It generates chlorine dioxide with acidic solutions or chlorine and reacts with organic compounds.

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