

SLOVENSKI STANDARD
SIST EN 1408:2008**01-april-2008****Nadomešča:**
SIST EN 1408:1999

Kemikalije, ki se uporabljajo za pripravo pitne vode - Poli (dialildimetil amonijev klorid)

Chemicals used for treatment of water intended for human consumption - Poly (diallyldimethylammonium chloride)

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Poly (diallyldimethylammoniumchlorid)

Produits chimiques utilisés pour le traitement de l'eau destinée à la consommation humaine - Poly (chlorure de diméthylallylammonium)

Ta slovenski standard je istoveten z: EN 1408:2008**ICS:**

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

SIST EN 1408:2008 **en,fr,de**

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English Version

Chemicals used for treatment of water intended for human
consumption - Poly (diallyldimethylammonium chloride)

Produits chimiques utilisés pour le traitement de l'eau
destinée à la consommation humaine - Poly (chlorure de
diméthylallylammonium)

Produkte zur Aufbereitung von Wasser für den
menschlichen Gebrauch - Poly (diallyldimethylammonium
chlorid)

This European Standard was approved by CEN on 10 November 2007.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Description	6
3.1 Identification.....	6
3.1.1 Chemical name.....	6
3.1.2 Synonyms or common names.....	6
3.1.3 Relative molecular mass.....	6
3.1.4 Empirical formula.....	6
3.1.5 Chemical formula.....	7
3.1.6 CAS Registry Number)	7
3.1.7 EINECS reference)	7
3.2 Commercial form	7
3.3 Physical properties.....	7
3.3.1 Appearance	7
3.3.2 Density	7
3.3.3 Solubility.....	7
3.3.4 Vapour pressure	7
3.3.5 Boiling point at 100 kPa)	8
3.3.6 Freezing point	8
3.3.7 Specific heat.....	9
3.3.8 Viscosity, dynamic.....	9
3.3.9 Critical temperature.....	9
3.3.10 Critical pressure.....	9
3.3.11 Physical hardness	9
3.4 Chemical properties	9
4 Purity criteria.....	9
4.1 General.....	9
4.2 Composition of commercial product	10
4.3 Impurities and main by-products	10
4.4 Chemical parameters	10
5 Test methods.....	10
5.1 Sampling	10
5.1.1 General.....	10
5.1.2 Sampling from drums and bottles	11
5.1.3 Sampling from tanks and tankers	11
5.2 Analyses	11
5.2.1 General.....	11
5.2.2 Main product	12
5.2.3 Impurities	14
6 Labelling - transportation - storage	18
6.1 Means of delivery.....	18
6.2 Risk and safety labelling in accordance with the EU Directives	19
6.3 Transportation regulations and labelling.....	19
6.4 Marking	19
6.5 Storage.....	19
6.5.1 Long term stability.....	19

6.5.2	Storage incompatibilities	19
Annex A	(informative) General information on polyDADMAC	20
A.1	Origin	20
A.1.1	Raw materials	20
A.1.2	Manufacturing process	20
A.2	Use	20
A.2.1	Function	20
A.2.2	Form in which it is used	20
A.2.3	Treatment dose	20
A.2.4	Means of application	20
A.2.5	Secondary effects	20
A.2.6	Removal of excess product	20
A.3	Rules for safe handling and use	21
A.4	Emergency procedures	21
A.4.1	First aid	21
A.4.2	Spillage	21
A.4.3	Fire	21
	Bibliography	22

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[SIST EN 1408:2008](https://standards.iteh.ai/catalog/standards/sist/d1cd784c-b53c-4c2c-8e77-f26bcf173d64/sist-en-1408-2008)

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EN 1408:2008 (E)**Foreword**

This document (EN 1408:2008) 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 2008, and conflicting national standards shall be withdrawn at the latest by July 2008.

This document supersedes EN 1408:1998.

Significant technical differences between this edition and EN 1408:1998 are as follows:

updating of the reference to the drinking water directive from 80/778/EEC to 98/83/EC.

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 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 European Standard is subject to regulation or control by national authorities.

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EN 1408:2008 (E)**1 Scope**

This European Standard is applicable to poly (diallyldimethylammonium chloride) used for treatment of water intended for human consumption. It describes the characteristics of poly (diallyldimethylammonium chloride) and specifies the requirements and the corresponding test methods for poly (diallyldimethylammonium chloride). 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 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*

3 Description

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3.1 Identification**3.1.1 Chemical name**

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2-Propen-1-aminium,N,N-dimethyl-N-2-propenyl, chloride, homopolymer

3.1.2 Synonyms or common names

- Poly (diallyldimethylammonium chloride).
- Poly (dimethyldiallylammonium chloride).
- PolyDADMAC.

NOTE The more general terms: "quaternary ammonium polyelectrolyte", "cationic polymer", "cationic polyelectrolyte", "polymer coagulant" and "cationic flocculant" are used, but can also cover other chemicals referred to in other European Standards.

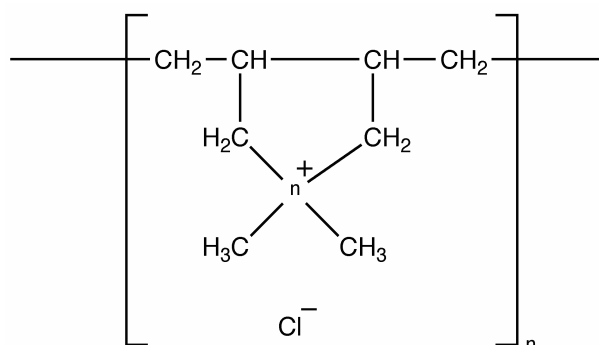
3.1.3 Relative molecular mass

Typically in the range of 20 000 to 1 million.

3.1.4 Empirical formula

- $(C_8 H_{16} N Cl)_n$

3.1.5 Chemical formula



3.1.6 CAS Registry Number ¹⁾

— 26062-79-3

3.1.7 EINECS reference ²⁾

The conformity of polymers to EINECS is assessed on the basis of the monomers of which they are composed. Thus, EINECS reference numbers do not exist for polymers.

DADMAC monomer is listed in EINECS (EINECS reference 230-993-8; CAS Registry Number 7398-69-8).

3.2 Commercial form

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PolyDADMAC as specified in this standard is an aqueous solution, the concentration (active content) of which is approximately 10 percent 40 percent mass fraction (see 5.2.2.2).

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3.3 Physical properties

3.3.1 Appearance

The product is a clear, colourless to amber-coloured liquid.

3.3.2 Density

The density of the solution depends on the concentration. A typical value is 1,09 g/ml for 40 % mass fraction polyDADMAC at 20 °C.

3.3.3 Solubility

The product is miscible with water at all concentrations.

3.3.4 Vapour pressure

A typical value is 3,2 kPa for 40 % mass fraction polyDADMAC at 20 °C.

1) Chemical Abstracts Service Registry Number.

2) European Inventory of Existing Commercial Chemical Substances.

EN 1408:2008 (E)**3.3.5 Boiling point at 100 kPa ³⁾**

Approximately 100 °C.

3.3.6 Freezing point

Typical freezing points relative to polyDADMAC content are given in Table 1.

Table 1 — Freezing points

PolyDADMAC % mass fraction	Freezing point °C
20	- 1
30	- 6
40	- 15

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³⁾ 100 kPa = 1 bar.

3.3.7 Specific heat

Typical specific heats relative to polyDADMAC content are given in Table 2.

Table 2 — Specific heats

PolyDADMAC % mass fraction	Specific heat kJ/kg·K
20	3,78
30	3,57
40	3,36

3.3.8 Viscosity, dynamic

The viscosity is dependent on molecular mass and active content. Typically, it is in the range of 10 mPa·s to 10 000 mPa·s.

3.3.9 Critical temperature

Not applicable.

3.3.10 Critical pressure

Not applicable.

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3.3.11 Physical hardness

Not applicable.

3.4 Chemical properties

PolyDADMAC is a non-hazardous material and not intrinsically reactive. However, in common with many other organic compounds, a strong exothermic reaction will occur if it is brought into contact with strong acids or oxidizing agents.

NOTE In dilute solution there can be a reaction with, or destruction by, some of the disinfection and oxidizing agents used in water treatment.

4 Purity criteria

4.1 General

This European Standard specifies the minimum purity requirements for polyDADMAC 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.