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Processkemikalier för beredning av dricksvatten – Polyaminer

Chemicals used for water treatment intended for human consumption – Polyamines

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Denna standard ersätter SS-EN 1409, utgåva 1.

I enlighet med Livsmedelsverkets kungörelse om dricksvatten, SLV FS 1993:35 är polyaminer för närvarande inte tillåten som processkemikalie för beredning av dricksvatten.

The European Standard EN 1409:2008 has the status of a Swedish Standard. This document contains the official English version of EN 1409:2008.

This standard supersedes the Swedish Standard SS-EN 1409, edition 1.

According to The National Food Administration's Ordinance with regulations and general advice on drinking water, SLV FS 2001:30, polyamines are not permitted as process chemicals for treatment of water intended for human consumption in Sweden.

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1409

January 2008

ICS 71.100.80

Supersedes EN 1409:1998

English Version

Chemicals used for water treatment intended for human consumption - Polyamines

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

Produkte zur Aufbereitung von Wasser für den menschlichen Gebrauch - Polyamine

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.

CEN members are the national standards bodies of 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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SS-EN 1409:2008 (E)

Foreword

This document (EN 1409:2008) has been prepared by Technical Committee CEN/TC164 "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 1409:1998.

Significant technical differences between this edition and EN 1409:1998 are as follows:

- (a) reduction in the limit values for 1,3-dichloro-2-propanol and 2,3-dichloro-1-propanol in 4.3;
- (b) introduction of a limit for 3-monochloropropane-1,2-diol (3-MCPD) in 4.3;
- (c) reduction of the limit value for epichlorohydrin in 4.4;
- (d) modification of the test method for epichlorohydrin, dichloropropanol isomers and 3-MCPD;
- (e) 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.

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 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 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.

SS-EN 1409:2008 (E)

1 Scope

This European Standard is applicable to polyamines used for treatment of water intended for human consumption. It describes the characteristics and specifies the requirements and the corresponding test methods for polyamines. 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

3.1 Identification

3.1.1 Chemical name

(di)methylamine - epichlorohydrin resin.

3.1.2 Synonyms or common names

- polyamine;
- polyalkylene amine;
- polyquaternary salts.

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

3.1.3 Relative molecular mass

In the range of 10 000 g/Mol to 1 000 000 g/Mol.

3.1.4 Empirical formula

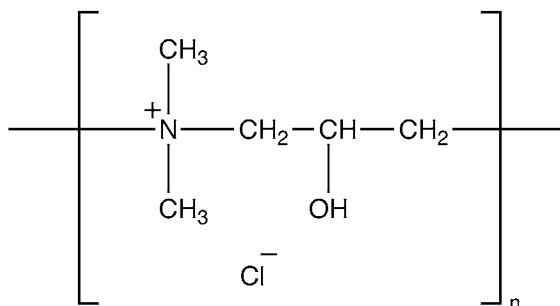
$-(C_aH_bN_cO_dCl_e)_n-$

where

- a , b , c , d and e are variable depending on the reactants used and on their molar ratios.

3.1.5 Chemical formulae

The following formula illustrates typical structures formed when dimethylamine is reacted with epichlorohydrin.



3.1.6 CAS Registry Numbers ¹⁾

25988-97-0

68583-79-1

42751-79-1

NOTE This list is not exhaustive: polyamines with other CAS numbers are also used for water treatment.

3.1.7 EINECS reference ²⁾

EINECS does not list polyamines because EINECS reference numbers do not exist for polymers; conformity to EINECS being assessed on the basis of the monomers of which they are composed.

3.2 Commercial form

Polyamines as specified in this standard are aqueous polymer solutions in the form of viscous liquids, the concentration (active content) of which is approximately 30 percent to 50 percent mass fraction.

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 concentration. A typical value is 1,16 g/ml for 50 % (m/m) polyamine at 20 °C.

3.3.3 Solubility

The products are miscible with water at all concentrations.

¹⁾ Chemical Abstracts Service Registry Number.

²⁾ European Inventory of Existing Commercial Chemical Substances.