Characterization of sludges - Pre-treatment for the determination of extractable ammonia using 2 mol/l potassium chloride

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 14671:2006 sisaldab Euroopa standardi EN 14671:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 30.08.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 14671:2006 consists of the English text of the European standard EN 14671:2006. This document is endorsed on 30.08.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European standard specifies a procedure for the determination of extractable ammonia using a 2 mol/l potassium chloride solution in raw and digested sewage sludges. The range of the method is up to 100 g/kg N assuming appropriate dilution of the potassium chloride extract in the final measurement step.	**Scope:** This European standard specifies a procedure for the determination of extractable ammonia using a 2 mol/l potassium chloride solution in raw and digested sewage sludges. The range of the method is up to 100 g/kg N assuming appropriate dilution of the potassium chloride extract in the final measurement step.

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English Version

Characterization of sludges - Pre-treatment for the determination of extractable ammonia using 2 mol/l potassium chloride

Caractérisation des boues - Prétraitement pour la détermination de l'Azote ammoniacal extractible utilisant 2mol/l de chlorure de potassium

Charakterisierung von Schlämmen - Vorbehandlung zur Bestimmung des extrahierbaren Ammoniums unter Verwendung von 2 mol/l Kaliumchlorid

This European Standard was approved by CEN on 24 May 2006.

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.

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Foreword

This document (EN 14671:2006) has been prepared by Technical Committee CEN/TC 308 “Characterization of sludges”, 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 2006, and conflicting national standards shall be withdrawn at the latest by December 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

Because sludge may be applied to land as manure or as a disposal, there is a need to monitor extractable ammonia.

1 Scope

This European standard specifies a procedure for the determination of extractable ammonia using a 2 mol/l potassium chloride solution in raw and digested sewage sludges. The range of the method is up to 100 g/kg N assuming appropriate dilution of the potassium chloride extract in the final measurement step.

NOTE The above wording will be modified once the round robin results are available. It may be suitable for other types of sludges, but the user should validate the method using these sludges.

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 12880:2000, *Characterization of sludges — Determination of dry residue and water content*

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

3.1
extractable ammonia
ammonia that is released when the homogenised sludge is shaken with 2 mol/l potassium chloride for 1 h at room temperature

3.2
dry residue
dry mass portion of the sludge obtained after the specified drying process, expressed as a percentage

[EN 12880:2000, 3.1]

4 Principle

An aliquot of the homogenised sludge is shaken for 1 h with 2 mol/l potassium chloride at room temperature. The sample is then filtered and the ammonia determined by a suitable method. Potassium chloride (2 mol/l) is used rather than water to ensure that both soluble and ion exchangeable forms of the determinand are determined. It also minimises biological activity in the extracted sample.

All results are expressed as nitrogen.

Although undried samples are taken for analysis, it is recognised practice to report results on a dry weight basis. Consequently the dry residue content of the homogenised sample used for analysis should also be determined using a separate test portion (see EN 12880).

5 Limitations and interferences

Substances present at their normal concentration in these types of samples should not cause significant interference in the pre-extraction step. For the vast majority of sewage sludges, the relatively high concentration of ammonia compared with potential interferences should not result in any significant