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Solid biofuels - Determination of the water soluble chloride, sodium and potassium content

I.S. EN 15105:2011

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Údarás um Chaighdeáin Náisiúnta na hÉireann

English Version

**Solid biofuels - Determination of the water soluble chloride,
sodium and potassium content**

Biocombustibles solides - Méthodes de détermination de la
teneur en chlorure, sodium et potassium solubles dans
l'eau

Feste Biobrennstoffe - Bestimmung des wasserlöslichen
Gehaltes an Chlorid, Natrium und Kalium

This European Standard was approved by CEN on 25 December 2010.

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Foreword

This document (EN 15105:2011) has been prepared by Technical Committee CEN/TC 335 “Solid biofuels”, the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by August 2011, and conflicting national standards shall be withdrawn at the latest by August 2011.

This document supersedes CEN/TS 15105:2005.

In the pre-normative project BIONORM I&II a robustness test has been performed to find out if all critical parameters in the standard were addressed. Based on the results of that test it has been concluded that all critical parameters were covered. Only minor technical changes were necessary which have been implemented in the revised text. The revision also includes a change of deliverable from Technical Specification to European Standard and updated normative references.

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Introduction

The elements chlorine, sodium and potassium are present in solid biofuels. They can contribute significantly to utilisation problems such as corrosion, fouling and slagging in furnaces. Also they affect the gaseous emissions from the thermal processes.

The chlorine content in solid biofuels is mainly present as water soluble inorganic salts such as sodium and potassium chlorides or other ion-exchangeable forms. Determination of the water soluble chloride content is thus an alternative and simple method to achieve information of the level of chlorine in solid biofuels. The content of water soluble chloride shall however not be mistaken for the total content of chlorine in the fuels.

In solid biofuels sodium and potassium can be present as both minerals and salts. The salts of these elements are extractable with water and are readily volatile during thermal conversion. By determination of the water soluble content of sodium and potassium an estimate of the aggressive content of the elements in relation to potential slagging and fouling problems can be achieved. For some biofuels, such as straw, experience has shown that the water soluble content of sodium and potassium correspond to the total content of the elements. The content of water soluble sodium and potassium shall not be mistaken for the total content of the elements.

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