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BSI Standards Publication

Nuclear energy — Determination of chlorine and fluorine in uranium dioxide powder and sintered pellets

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee NCE/9, Nuclear fuel cycle technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Énergie nucléaire — Détermination du chlore et du fluor dans les poudres de dioxyde d'uranium et les pastilles frittées

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Foreword

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This document was prepared by Technical Committee ISO/TC 85, *Nuclear energy, nuclear technologies and radiological protection*, Subcommittee SC 5, *Nuclear installations, processes and technologies*.

This second edition cancels and replaces the first edition (ISO 22875:2008), which has been technically revised with the following changes:

— pyrohydrolysis temperature is lowered;

— information has been added concerning decomposition of species including fluoride and chloride (see footnote 2);

— calculation of the result takes into account pyrohydrolysis yield if needed.

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Introduction

This document describes a method for determining the chlorine and fluorine concentrations in uranium dioxide and in sintered fuel pellets by pyrohydrolysis of samples, followed either by liquid ion-exchange chromatography or by selective electrode measurement of chlorine and fluorine ions.

Many ion chromatography systems and ion-selective electrode measurement systems are available. The equipment and operating procedure are, therefore, not described in detail.

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