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

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



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Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Reagents	1
6 Apparatus	3
7 Procedure	5
7.1 Calibration.....	5
7.1.1 Ion chromatography calibration.....	5
7.1.2 Millivoltmeter calibration.....	5
7.2 Sample pyrohydrolysis.....	6
7.2.1 Blank test.....	6
7.2.2 Uranium dioxide powder sample.....	7
7.2.3 Uranium dioxide pellet sample.....	7
7.3 Measurement of pyrohydrolysis solutions.....	8
7.3.1 Ion chromatography measurement.....	8
7.3.2 Measurement with an ion-selective electrode.....	8
8 Expression of results	8
8.1 Calculation.....	8
8.2 Validation limits.....	10
8.3 Determinations limits.....	10
8.4 Determination uncertainty.....	10
9 Test report	10
Bibliography	12

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.