ISO 7097-1:2025-07 (E)

Nuclear fuel technology - Determination of uranium in solutions, uranium hexafluoride and solids - Part 1: Iron(II) reduction/potassium dichromate oxidation titrimetric method

Contents

Page

Foreword ... **iv**

Introduction ... **v**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Principle ... **1**

5 Reactions and interferences ... **2**
5.1 Reactions ... 2
5.2 Interferences ... 2

6 Reagents ... **3**

7 Apparatus ... **6**

8 Sample preparation ... **7**
8.1 General ... 7
8.2 Uranium metal ... 7
8.3 Uranium dioxide pellets ... 7
8.4 Uranium oxide powder (UO_2, UO_3, U_3O_8) ... 7
8.5 Uranium hexafluoride ... 8
8.6 Uranium nitrate hexahydrate ... 8

9 Procedure ... **8**

10 Expression of the results ... **9**
10.1 General ... 9
10.2 Method of calculation ... 9
10.2.1 Linear interpolation ... 9
10.2.2 Calculation for the test solution ... 10
10.2.3 Calculations for samples ... 10
10.2.4 Average atomic mass ... 10
10.3 Repeatability ... 11
10.4 Bias ... 11

11 Test report ... **11**

Annex A (normative) **Uranium hexafluoride sampling and preparation of the test solution** ... **12**

Annex B (informative) **Expression of results for samples** ... **14**

Bibliography ... **15**