

DIN EN ISO 6863:2026-06 (E)

Erscheinungsdatum: 2026-04-24

Nuclear fuel technology - Preparation of spikes for isotope dilution mass spectrometry (IDMS) (ISO 6863:2024); English version prEN ISO 6863:2026

Contents

Page

| | |
|--|-----------|
| Foreword..... | iv |
| 1 Scope..... | 1 |
| 2 Normative references..... | 1 |
| 3 Terms and definitions..... | 1 |
| 4 Principle..... | 2 |
| 5 Design of spikes..... | 2 |
| 5.1 Optimization of spikes..... | 2 |
| 5.2 Uncertainty of spikes..... | 3 |
| 6 Reference materials and reagents..... | 3 |
| 6.1 Reference materials..... | 3 |
| 6.1.1 Uranium reference materials..... | 3 |
| 6.1.2 Plutonium reference materials..... | 3 |
| 6.1.3 Secondary standard materials..... | 4 |
| 6.2 Other chemical reagents..... | 4 |
| 7 Apparatus..... | 4 |
| 8 Preparation of spikes..... | 5 |
| 8.1 Large-sized dried (LSD) spikes..... | 5 |
| 8.1.1 Preparation of uranium stock solution..... | 5 |
| 8.1.2 Preparation of plutonium stock solution..... | 6 |
| 8.1.3 Preparation of mixed stock solution..... | 7 |
| 8.1.4 Taking mixed solution aliquots..... | 8 |
| 8.1.5 Drying..... | 9 |
| 8.1.6 Stabilization of LSD spike..... | 9 |
| 8.2 Uranium spikes..... | 9 |
| 8.2.1 Uranium liquid spikes..... | 9 |
| 8.2.2 Uranium dried spikes..... | 10 |
| 8.3 Plutonium spikes..... | 10 |
| 8.3.1 Plutonium liquid spikes..... | 10 |
| 8.3.2 Plutonium dried spikes..... | 10 |
| 8.4 Uranium – plutonium mixed spikes..... | 10 |
| 9 Validation of spikes..... | 11 |
| 9.1 General..... | 11 |
| 9.2 LSD spikes..... | 11 |
| 9.3 Uranium spikes..... | 11 |
| 9.4 Plutonium spikes..... | 12 |
| 9.5 Uranium-plutonium mixed spikes..... | 12 |
| 10 Storage of spikes..... | 12 |
| 10.1 Storing solution spikes..... | 12 |
| 10.2 Storing dried spikes..... | 12 |
| 10.3 Reconditioning of dried spikes..... | 12 |
| Bibliography..... | 13 |