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## **Nuclear Energy (I)**

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Powders and Pellets

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C708-16 Standard Specification for Nuclear-Grade Beryllium Oxide Powder

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C752-13(2016) Standard Specification for Nuclear-Grade Silver-Indium-Cadmium Alloy

C753-16a Standard Specification for Nuclear-Grade, Sinterable Uranium Dioxide Powder

C757-16e1 Standard Specification for Nuclear-Grade Plutonium Dioxide Powder for Light Water Reactors

C758-04(2010) Standard Test Methods for Chemical, Mass Spectrometric, Spectrochemical, Nuclear, and Radiochemical Analysis of Nuclear-Grade Plutonium Metal

C759-10 Standard Test Methods for Chemical, Mass Spectrometric, Spectrochemical, Nuclear, and Radiochemical Analysis of Nuclear-Grade
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C760-90(2015) Standard Test Methods for Chemical and Spectrochemical Analysis of Nuclear-Grade Silver-Indium-Cadmium Alloys

C761-18 Standard Test Methods for Chemical, Mass Spectrometric, Spectrochemical, Nuclear, and Radiochemical Analysis of Uranium Hexafluoride

C776-17 Standard Specification for Sintered Uranium Dioxide Pellets for Light Water Reactors

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C785-08(2015) Standard Specification for Nuclear-Grade Aluminum Oxide Pellets

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C852/C852M-17 Standard Guide for Design Criteria for Plutonium Gloveboxes

C859-14b Standard Terminology Relating to Nuclear Materials

C888-03(2014) Standard Specification for Nuclear-Grade Gadolinium Oxide (Gd2O3) Powder

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C992-16 Standard Specification for Boron-Based Neutron Absorbing Material Systems for Use in Nuclear Fuel Storage Racks in a Pool Environment

C993-97(2012) Standard Guide for In-Plant Performance Evaluation of Automatic Pedestrian SNM Monitors

C996-15 Standard Specification for Uranium Hexafluoride Enriched to Less Than 5  $\%\,$   $^{235}\text{U}$ 

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C1001-11 Standard Test Method for Radiochemical Determination of Plutonium in Soil by Alpha Spectroscopy

C1009-13a Standard Guide for Establishing and Maintaining a Quality Assurance Program for Analytical Laboratories Within the Nuclear Industry

C1022-17 Standard Test Methods for Chemical and Atomic Absorption Analysis of Uranium-Ore Concentrate

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C1031-11(2016) Standard Specification for Nuclear-Grade Aluminum Oxide Powder C1052-14 Standard Practice for Bulk Sampling of Liquid Uranium Hexafluoride C1062-00(2014) Standard Guide for Design, Fabrication, and Installation of Nuclear Fuel Dissolution Facilities C1065-08(2015) Standard Specification for Nuclear-Grade Zirconium Oxide Powder C1066-09(2015) Standard Specification for Nuclear Grade Zirconium Oxide Pellets C1068-15 Standard Guide for Qualification of Measurement Methods by a Laboratory Within the Nuclear Industry C1075-17 Standard Practices for Sampling Uranium-Ore Concentrate C1076-09(2015) Standard Specification for Nuclear Grade Hafnium Oxide Pellets C1098-08(2015) Standard Specification for Nuclear-Grade Hafnium Oxide Powder C1108-17 Standard Test Method for Plutonium by Controlled-Potential Coulometry C1109-10(2015) Standard Practice for Analysis of Aqueous Leachates from Nuclear Waste Materials Using Inductively Coupled Plasma-**Atomic Emission Spectroscopy** C1111-10(2015) Standard Test Method for Determining Elements in Waste Streams by Inductively Coupled Plasma-Atomic Emission Spectroscopy C1128-18 Standard Guide for Preparation of Working Reference Materials for Use in Analysis of Nuclear Fuel Cycle Materials C1133/C1133M-10(2018) Standard Test Method for Nondestructive Assay of Special Nuclear Material in Low-Density Scrap and Waste by Segmented Passive Gamma-Ray Scanning C1144-89(2011) Standard Test Method for Splitting Tensile Strength for Brittle Nuclear Waste Forms C1156-03(2011) Standard Guide for Establishing Calibration for a Measurement Method Used to Analyze Nuclear Fuel Cycle Materials C1163-14 Standard Practice for Mounting Actinides for Alpha Spectrometry Using Neodymium Fluoride C1165-17 Standard Test Method for Determining Plutonium by Controlled-Potential Coulometry in H2SO4 at a Platinum Working Electrode C1168-15 Standard Practice for Preparation and Dissolution of Plutonium Materials for Analysis C1169-97(2012) Standard Guide for Laboratory Evaluation of Automatic Pedestrian SNM Monitor Performance

C1174-17 Standard Practice for Evaluation of the Long-Term Behavior of Materials Used in Engineered Barrier Systems (EBS) for Geological

Disposal of High-Level Radioactive Waste

C1187-15 Standard Guide for Establishing Surveillance Test Program for Boron-Based Neutron Absorbing Material Systems for Use in Nuclear Fuel Storage Racks In a Pool Environment

C1189-11 Standard Guide to Procedures for Calibrating Automatic Pedestrian SNM Monitors

C1204-14 Standard Test Method for Uranium in Presence of Plutonium by Iron(II) Reduction in Phosphoric Acid Followed by Chromium(VI) Titration

C1205-07(2012) Standard Test Method for The Radiochemical Determination of Americium-241 in Soil by Alpha Spectrometry

C1207-10(2018) Standard Test Method for Nondestructive Assay of Plutonium in Scrap and Waste by Passive Neutron Coincidence Counting

C1210-12 Standard Guide for Establishing a Measurement System Quality Control Program for Analytical Chemistry Laboratories Within the Nuclear Industry

C1215-92(2012)e1 Standard Guide for Preparing and Interpreting Precision and Bias Statements in Test Method Standards Used in the Nuclear Industry

C1217-00(2012) Standard Guide for Design of Equipment for Processing Nuclear and Radioactive Materials

C1220-17 Standard Test Method for Static Leaching of Monolithic Waste Forms for Disposal of Radioactive Waste

C1221-10(2018) Standard Test Method for Nondestructive Analysis of Special Nuclear Materials in Homogeneous Solutions by Gamma-Ray Spectrometry

C1233-15 Standard Practice for Determining Equivalent Boron Contents of Nuclear Materials

C1238-97(2012) Standard Guide for Installation of Walk-Through Metal Detectors

C1254-13 Standard Test Method for Determination of Uranium in Mineral Acids by X-Ray Fluorescence

C1255-11 Standard Test Method for Analysis of Uranium and Thorium in Soils by Energy Dispersive X-Ray Fluorescence Spectroscopy

C1267-17 Standard Test Method for Uranium by Iron (II) Reduction in Phosphoric Acid Followed by Chromium (VI) Titration in the Presence of Vanadium

 ${\tt C1268-15\,Standard\,Test\,Method\,for\,Quantitative\,Determination\,of}^{\,241} Am\,in\,Plutonium\,by\,Gamma-Ray\,Spectrometry$ 

C1269-97(2012) Standard Practice for Adjusting the Operational Sensitivity Setting of In-Plant Walk-Through Metal Detectors

C1270-97(2012) Standard Practice for Detection Sensitivity Mapping of In-Plant Walk-Through Metal Detectors

C1284-10 Standard Practice for Electrodeposition of the Actinides for Alpha Spectrometry

C1285-14 Standard Test Methods for Determining Chemical Durability of Nuclear, Hazardous, and Mixed Waste Glasses and Multiphase

Glass Ceramics: The Product Consistency Test (PCT)

C1287-18 Standard Test Method for Determination of Impurities in Nuclear Grade Uranium Compounds by Inductively Coupled Plasma Mass Spectrometry

C1295-15 Standard Test Method for Gamma Energy Emission from Fission and Decay Products in Uranium Hexafluoride and Uranyl Nitrate Solution

C1297-03(2011) Standard Guide for Qualification of Laboratory Analysts for the Analysis of Nuclear Fuel Cycle Materials

C1307-15 Standard Test Method for Plutonium Assay by Plutonium (III) Diode Array Spectrophotometry

C1308-08(2017) Standard Test Method for Accelerated Leach Test for Diffusive Releases from Solidified Waste and a Computer Program to Model Diffusive, Fractional Leaching from Cylindrical Waste Forms

C1309-97(2012) Standard Practice for Performance Evaluation of In-Plant Walk-Through Metal Detectors

C1316-08(2017) Standard Test Method for Nondestructive Assay of Nuclear Material in Scrap and Waste by Passive-Active Neutron

Counting Using <sup>252</sup>Cf Shuffler

C1334-05(2016)e1 Standard Specification for Uranium Oxides with a <sup>235</sup>U Content of Less Than 5 % for Dissolution Prior to Conversion to Nuclear-Grade Uranium Dioxide

C1343-16 Standard Test Method for Determination of Low Concentrations of Uranium in Oils and Organic Liquids by X-ray Fluorescence

C1344-97(2013) Standard Test Method for Isotopic Analysis of Uranium Hexafluoride by Single-Standard Gas Source Mass Spectrometer Method

C1346-08(2014) Standard Practice for Dissolution of UF6 from P-10 Tubes

 ${\tt C1347-08(2014)e1\ Standard\ Practice\ for\ Preparation\ and\ Dissolution\ of\ Uranium\ Materials\ for\ Analysis}$ 

C1380-04(2011) Standard Test Method for Determination of Uranium Content and Isotopic Composition by Isotope Dilution Mass Spectrometry

C1387-14 Standard Guide for the Determination of Technetium-99 in Soil

 ${\tt C1402-17\,Standard\,Guide\,for\,High-Resolution\,Gamma-Ray\,Spectrometry\,of\,Soil\,Samples}$ 

C1408-16 Standard Test Method for Carbon (Total) in Uranium Oxide Powders and Pellets By Direct Combustion-Infrared Detection Method

C1411-14 Standard Practice for The Ion Exchange Separation of Uranium and Plutonium Prior to Isotopic Analysis

C1413-05(2011) Standard Test Method for Isotopic Analysis of Hydrolyzed Uranium Hexafluoride and Uranyl Nitrate Solutions by Thermal Ionization Mass Spectrometry

C1414-01(2014) Standard Practice for The Separation of Americium from Plutonium by Ion Exchange

C1415-14 Standard Test Method for <sup>238</sup>Pu Isotopic Abundance By Alpha Spectrometry

C1428-11 Standard Test Method for Isotopic Analysis of Uranium Hexafluoride by Single-Standard Gas Source Multiple Collector Mass Spectrometer Method

C1429-99(2014) Standard Test Method for Isotopic Analysis of Uranium Hexafluoride by Double-Standard Multi-Collector Gas Mass Spectrometer

C1430-18 Standard Test Method for Determination of Uranium, Oxygen to Uranium (O/U), and Oxygen to Metal (O/M) in Sintered Uranium Dioxide and Gadolinia-Uranium Dioxide Pellets by Atmospheric Equilibration

C1431-99(2010)e1 Standard Guide for Corrosion Testing of Aluminum-Based Spent Nuclear Fuel in Support of Repository Disposal

C1432-15 Standard Test Method for Determination of Impurities in Plutonium: Acid Dissolution, Ion Exchange Matrix Separation, and Inductively Coupled Plasma-Atomic Emission Spectroscopic (ICP/AES) Analysis

C1441-13 Standard Test Method for the Analysis of Refrigerant 114, Plus Other Carbon-Containing and Fluorine-Containing Compounds in Uranium Hexafluoride via Fourier-Transform Infrared (FTIR) Spectroscopy

C1453-00(2011) Standard Test Method for the Determination of Uranium by Ignition and the Oxygen to Uranium (O/U) Atomic Ratio of Nuclear Grade Uranium Dioxide Powders and Pellets

C1455-14e1 Standard Test Method for Nondestructive Assay of Special Nuclear Material Holdup Using Gamma-Ray Spectroscopic Methods

C1456-13 Standard Test Method for Determination of Uranium or Gadolinium (or both) in Gadolinium Oxide-Uranium Oxide Pellets or by X-Ray Fluorescence (XRF)

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C1458-16 Standard Test Method for Nondestructive Assay of Plutonium, Tritium and <sup>241</sup>Am by Calorimetric Assay

C1462-00(2013) Standard Specification for Uranium Metal Enriched to More than 15 % and Less Than 20 % 235U

C1463-13 Standard Practices for Dissolving Glass Containing Radioactive and Mixed Waste for Chemical and Radiochemical Analysis

C1473-11 Standard Test Method for Radiochemical Determination of Uranium Isotopes in Urine by Alpha Spectrometry

C1474-00(2011) Standard Test Method for Analysis of Isotopic Composition of Uranium in Nuclear-Grade Fuel Material by Quadrupole Inductively Coupled Plasma-Mass Spectrometry

C1475-17 Standard Guide for Determination of Neptunium-237 in Soil

C1477-08(2014) Standard Test Method for Isotopic Abundance Analysis of Uranium Hexafluoride and Uranyl Nitrate Solutions by Multi-Collector, Inductively Coupled Plasma-Mass Spectrometry

C1490-14 Standard Guide for the Selection, Training and Qualification of Nondestructive Assay (NDA) Personnel

C1500-08(2017) Standard Test Method for Nondestructive Assay of Plutonium by Passive Neutron Multiplicity Counting

C1502-16 Standard Test Method for Determination of Total Chlorine and Fluorine in Uranium Dioxide and Gadolinium Oxide

C1507-12 Standard Test Method for Radiochemical Determination of Strontium-90 in Soil

C1508-01(2011) Standard Test Method for Determination of Bromine and Chlorine in UF<sub>6</sub> and Uranyl Nitrate by X-Ray Fluorescence (XRF) Spectroscopy

C1514-08(2017) Standard Test Method for Measurement of <sup>235</sup>U Fraction Using Enrichment Meter Principle

C1517-16 Standard Test Method for Determination of Metallic Impurities in Uranium Metal or Compounds by DC-Arc Emission Spectroscopy

C1533-15 Standard Guide for General Design Considerations for Hot Cell Equipment

C1539-08(2014) Standard Test Method for Determination of Technetium-99 in Uranium Hexafluoride by Liquid Scintillation Counting

 ${\tt C1553-16\,Standard\,Guide\,for\,Drying\,Behavior\,of\,Spent\,Nuclear\,Fuel}$ 

C1554-11 Standard Guide for Materials Handling Equipment for Hot Cells

C1561-10(2016) Standard Guide for Determination of Plutonium and Neptunium in Uranium Hexafluoride and U-Rich Matrix by Alpha Spectrometry

 $\textbf{C1562-10 Standard Guide for Evaluation of Materials Used in Extended Service of Interim Spent Nuclear Fuel Dry Storage Systems \\$ 

 ${\tt C1571-03(2012)\,Standard\,Guide\,for\,Characterization\,of\,Radioactive\,and/or\,Hazardous\,Wastes\,for\,Thermal\,Treatment}$ 

C1572/C1572M-17 Standard Guide for Dry Lead Glass and Oil-Filled Lead Glass Radiation Shielding Window Components for Remotely Operated Facilities

C1590-04(2014) Standard Practice for Alternate Actinide Calibration for Inductively Coupled Plasma-Mass Spectrometry

C1615/C1615M-17 Standard Guide for Mechanical Drive Systems for Remote Operation in Hot Cell Facilities

C1625-12 Standard Test Method for Uranium and Plutonium Concentrations and Isotopic Abundances by Thermal Ionization Mass Spectrometry

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C1637-13 Standard Test Method for the Determination of Impurities in Plutonium Metal: Acid Digestion and Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS) Analysis

C1638-06(2013) Standard Guide for the Determination of Iodine-129 In Uranium Oxide

C1647-13 Standard Practice for Removal of Uranium or Plutonium, or both, for Impurity Assay in Uranium or Plutonium Materials

C1661-13 Standard Guide for Viewing Systems for Remotely Operated Facilities

C1662-17 Standard Practice for Measurement of the Glass Dissolution Rate Using the Single-Pass Flow-Through Test Method

C1663-17 Standard Test Method for Measuring Waste Glass or Glass Ceramic Durability by Vapor Hydration Test

C1671-15 Standard Practice for Qualification and Acceptance of Boron Based Metallic Neutron Absorbers for Nuclear Criticality Control for Dry Cask Storage Systems and Transportation Packaging

C1672-17 Standard Test Method for Determination of Uranium or Plutonium Isotopic Composition or Concentration by the Total Evaporation Method Using a Thermal Ionization Mass Spectrometer

C1673-10a(2018) Standard Terminology of C26.10 Nondestructive Assay Methods

C1682-17 Standard Guide for Characterization of Spent Nuclear Fuel in Support of Interim Storage, Transportation and Geologic Repository

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C1689-08a(2014) Standard Practice for Subsampling of Uranium Hexafluoride

 ${\tt C1703-18\,Standard\,Practice\,for\,Sampling\,of\,Gaseous\,Uranium\,Hexafluoride\,for\,Enrichment}$ 

 ${\tt C1718-10~Standard~Test~Method~for~Nondestructive~Assay~of~Radioactive~Material~by~Tomographic~Gamma~Scanning~Gamma~$ 

C1720-17e1 Standard Test Method for Determining Liquidus Temperature of Waste Glasses and Simulated Waste Glasses

C1725-17 Standard Guide for Hot Cell Specialized Support Equipment and Tools

C1726/C1726M-10(2018) Standard Guide for Use of Modeling for Passive Gamma Measurements

C1733-17a Standard Test Method for Distribution Coefficients of Inorganic Species by the Batch Method

C1742-17 Standard Test Method for Isotopic Analysis of Uranium Hexafluoride by Double Standard Single-Collector Gas Mass Spectrometer Method

C1750-17 Standard Guide for Development, Verification, Validation, and Documentation of Simulated High-Level Tank Waste

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C1769-15 Standard Practice for Analysis of Spent Nuclear Fuel to Determine Selected Isotopes and Estimate Fuel Burnup

C1770-13 Standard Test Method for Determination of Loose and Tapped Bulk Density of Plutonium Oxide

C1771-13 Standard Test Method for Determination of Boron, Silicon, and Technetium in Hydrolyzed Uranium Hexafluoride by Inductively Coupled Plasma—Mass Spectrometer After Removal of Uranium by Solid Phase Extraction

C1807-15 Standard Guide for Nondestructive Assay of Special Nuclear Material (SNM) Holdup Using Passive Neutron Measurement Methods

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C1817-16 Standard Test Method for The Determination of the Oxygen to Metal (O/M) Ratio in Sintered Mixed Oxide ((U, Pu)O2) Pellets by Gravimetry

C1831/C1831M-17 Standard Guide for Gamma Radiation Shielding Performance Testing

C1832-16 Standard Test Method for Determination of Uranium Isotopic Composition by the Modified Total Evaporation (MTE) Method
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C1843-16 Standard Test Method for Determining Moisture Content in Uranium-Ore Concentrate

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C1854-17 Standard Test Method for Determination of Hydrogen (total from all sources) in Mixed Oxide ((U, Pu)O2) Sintered Pellets by the Inert Gas Fusion Technique Followed by Thermal Conductivity Measurement

C1868-18 Standard Practice for Ceramographic Preparation of UO2 and Mixed Oxide (U,Pu)O2 Pellets for Microstructural Analysis

C1871-18 Standard Test Method for Determination of Uranium Isotopic Composition by the Double Spike Method Using a Thermal Ionization Mass Spectrometer

E321-96(2012) Standard Test Method for Atom Percent Fission in Uranium and Plutonium Fuel (Neodymium-148 Method)

E2230-13 Standard Practice for Thermal Qualification of Type B Packages for Radioactive Material