1. Record Nr. UNINA9911019596303321

Titolo	Environmental issues and waste management technologies in the ceramic and nuclear industries IX : proceedings of the Science and Technology in Addressing Environmental Issues in the Ceramic Industry and Ceramic Science and Technology for the Nuclear Industry symposia at the American Ceramic Society 105th annual meeting & exposition held April 27-30, 2003 in Nashville, Tennessee / / edited by John D. Vienna, Dane R. Spearing
Pubbl/distr/stampa	Westerville, Ohio, : American Ceramic Society, c2004
ISBN	9786613651839 9781280674907 1280674903 9781118407004 1118407008 9781118407028 1118407024
Descrizione fisica	1 online resource (400 p.)
Collana	Ceramic transactions, , 1042-1122 ; ; v. 155
Altri autori (Persone)	ViennaJohn David SpearingDane Robert
Disciplina	666/.028/6
Soggetti	Ceramic industries - Environmental aspects Nuclear facilities - Environmental aspects Ceramic industries - Waste disposal Ceramic materials - Environmental aspects Radioactive waste disposal
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Environmental Issues and Waste Management Technologies in the Ceramic and Nuclear Industries IX; Contents; Preface; Ceramics for Waste or Nuclear Applications; Uranium Valences in Perovskite, CaTiO3; Iron-Substituted Barium Hollandite Ceramics for Cesium Immobilization; Hollandite-RichTitanate Ceramics Prepared by Melting in Air; Hyperfine Interaction Study of Short Range Order in Zircon;

Scale-Up of Lithium Aluminate Pellet Manufacturing with a Flowable Powder; Melter Processing and Process Monitoring; Laboratory Measurement of Glass Melting Rate; Analysis of Feed Melting Processes Electron Equivalents Redox Model for High Level Waste VitrificationSulfate Retention During Waste Glass Melting; The Characterization and Dissolution of High Level Waste Calcine in Alkali Borosilicate Glass; Summary of Results from 786-A Minimelter Run with Marcobatch 3 (Sludge Batch 2) Baseline Feed Using Frit 320; Numerical Models of Waste Glass Melters Part I - Lumped Parameter Analyses of DWPF; Numerical Models of Waste Glass Melters Part II - Computational Modeling of DWPF
Tailored Electrical Driving as a Means of Controlling Heat Distribution and Convection Patterns in Joule-Heated Waste Glass MeltersEffects of Poly(Acrylic Acid) on the Rheological Properties of Aqueous Melter Feed Slurries for Nuclear Waste Vitrification; Frequency Modulated Continuous Wave Monitoring of Refractory Walls; Combustion Control Experimentations at a Pilot Scale Glass Furnace; Waste Vitrification Programs; Completion of the Vitrification Campaign at the West Valley Demonstration Project; Review of the French Vitrification Program Examination of DWPF Melter Materials After 8 Years of ServiceTesting to Demonstrate Regulatory Compliance of Glass Waste Forms for Immobilization of Radioactive Wastes at the Hanford Site; Cold Crucible Induction-Heated MelterTest Results with Surrogate DOE High-Level Wastes; Crucible-Scale Vitrification Studies with Hanford Tank AZ-102 High Sulfate-Containing Low Activity Waste; Glass Formulation and Property Models; Preliminary Glass Development and Testing for In-Container Vitrification of Hanford Low-Activity Waste; Evaluation of Melt Rate Through Higher Waste Loading
Spinel Crystallization in HLW Glass Melts: Cation Exchange Systematics and the Role of Rh203 in Spinel FormationComposition Effects on the Vapor Hydration of Waste Glasses; Glass Composition-TCLP Response Model for Waste Glasses; Alternate Waste Forms and Processes; Iron Phosphate Glass for Immobilization of Hanford LAW; Characterization and Performance of Fluidized Bed Steam Reforming (FBSR) Product as a Final Waste Form; Microstructure of Emulsion-Based Polymeric Waste Forms for Encapsulating Low-Level, Radioactive and Toxic Metal Wastes Leach Resistance of Encapsulated Salts in Polymeric Waste Forms Fabricated Using an Aqueous-Based Route

Sommario/riassunto

In today's world of increasingly stringent environmental regulations, it is critical to identify and adequately address environmental issues in the ceramic industry to ensure success. In addition, ceramics and glasses play a critical role in the nuclear industry. Nuclear fuels and waste forms for low-level and high-level radioactive, mixed, and hazardous wastes are primarily either ceramic of glass. Effective and responsible environmental stewardship is becoming increasingly more important in the world. These proceedings detail the results of the ongoing effort in these areas.