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Titolo	Catalytic air pollution control : commercial technology / / Ronald M. Heck, Robert J. Farrauto, with Suresh T. Gulati
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Altri autori (Persone)	FarrautoRobert J. <1941-> GulatiSuresh T
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Nota di contenuto	Catalytic Air Pollution Control: Commercial Technology; Contents; PREFACE; ACKNOWLEDGMENTS; ACKNOWLEDGMENTS, FIRST EDITION; ACKNOWLEDGMENTS, SECOND EDITION; I FUNDAMENTALS; 1. Catalyst Fundamentals; 1.1 Introduction; 1.2 Catalyzed Versus Noncatalyzed Reactions; 1.3 Catalytic Components; 1.4 Selectivity; 1.5 Promoters and their Effect on Activity and Selectivity; 1.6 Dispersed Model for Catalytic Component on Carrier: Pt on A12O3; 1.7 Chemical and Physical Steps in Heterogeneous Catalysis; 1.8 Practical Significance of Knowing the Rate-Limiting Step; References; Questions 2. The Preparation of Catalytic Materials: Carriers, Active Components, and Monolithic Substrates 2.1 Introduction; 2.2 Carriers; 2.3 Making

the Finished Catalyst; 2.4 Nomenclature for Dispersed Catalysts; 2.5 Monolithic Materials as Catalyst Substrates; 2.6 Preparing Monolithic Catalysts; 2.7 Catalytic Monoliths; 2.8 Catalyzed Monolith Nomenclature; 2.9 Precious Metal Recovery from Monolithic Catalysts; References; Questions; 3. Catalyst Characterization; 3.1 Introduction; 3.2 Physical Properties of Catalysts; 3.3 Chemical and Physical Morphology Structures of Catalytic Materials
3.4 Techniques for Fundamental Studies References; Questions; 4. Monolithic Reactors for Environmental Catalysis; 4.1 Introduction; 4.2 Chemical Kinetic Control; 4.3 The Arrhenius Equation and Reaction Parameters; 4.4 Bulk Mass Transfer; 4.5 Reactor Bed Pressure Drop; 4.6 Summary; References; Questions; 5. Catalyst Deactivation; 5.1 Introduction; 5.2 Thermally Induced Deactivation; 5.3 Poisoning; 5.4 Washcoat Loss; 5.5 General Comments on Deactivation Diagnostics in Monolithic Catalysts for Environmental Applications; References; Questions; II MOBILE SOURCE; 6. Automotive Catalyst
6.1 Emissions and Regulations 6.2 The Catalytic Reactions for Pollution Abatement; 6.3 The Physical Structure of the Catalytic Converter; 6.4 First-Generation Converters: Oxidation Catalyst (1976-1979); 6.5 NOx, CO and HC Reduction: The Second Generation: The Three-Way Catalyst (1979-1986); 6.6 Vehicle Test Procedures (U.S., European, and Japanese); 6.7 NOx, CO, and HC Reduction: The Third Generation (1986-1992); 6.8 Palladium TWC Catalyst: The Fourth Generation (Mid-1990s); 6.9 Low-Emission Catalyst Technologies; 6.10 Modern TWC Technologies for the 2000's
6.11 Toward a Zero-Emission Stoichiometric Spark-Ignited Vehicle 6.12 Engineered Catalyst Design; 6.13 Lean-Burn Spark-Ignited Gasoline Engine; References; Questions; 7. Automotive Substrates; 7.1 Introduction to Ceramic Substrates; 7.2 Requirements for Substrates; 7.3 Design/Sizing of Substrates; 7.4 Physical Properties of Substrates; 7.5 Physical Durability; 7.6 Advances in Substrates; 7.7 Commercial Applications; 7.8 Summary; References; Questions; 8. Diesel Engine Emissions; 8.1 Introduction; 8.2 Worldwide Diesel Emission Standards; 8.3 NOx-Particulate Trade-Off
8.4 Analytical Procedures for Particulates

Sommario/riassunto

Catalytic Air Pollution Control: Commercial Technology is the primary source for commercial catalytic air pollution control technology, offering engineers a comprehensive account of all modern catalytic technology. This Third Edition covers all the new advances in technology in automotive catalyst control technology, diesel engine catalyst control technology, small engine catalyst control technology, and alternate sustainable fuels for auto and diesel.

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Autore	Scholz Fritz
Titolo	Chemical Equilibria in Analytical Chemistry : The Theory of Acid–Base, Complex, Precipitation and Redox Equilibria / / by Fritz Scholz, Heike Kahlert
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Soggetti	Analytical chemistry Environmental chemistry Biochemistry Pharmaceutical technology Chemistry, Physical and theoretical Analytical Chemistry Environmental Chemistry Biochemistry, general Pharmaceutical Sciences/Technology Physical Chemistry
Lingua di pubblicazione	Inglese
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Nota di contenuto	Introduction -- The chemical equilibrium -- Acid-base equilibria -- Complex formation equilibria -- Solubility equilibria -- Redox equilibria -- Titrations.
Sommario/riassunto	This book provides a modern and easy-to-understand introduction to the chemical equilibria in solutions. It focuses on aqueous solutions, but also addresses non-aqueous solutions, covering acid–base, complex, precipitation and redox equilibria. The theory behind these and the resulting knowledge for experimental work build the foundations of analytical chemistry. They are also of essential importance for all solution reactions in environmental chemistry, biochemistry and geochemistry as well as pharmaceutics and medicine.

Each chapter and section highlights the main aspects, providing examples in separate boxes. Questions and answers are included to facilitate understanding, while the numerous literature references allow students to easily expand their studies.