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Titolo	Guidelines for chemical reactivity evaluation and application to process design [[electronic resource]]
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Nota di bibliografia	Includes bibliographical references (p. 183-199) and index.
Nota di contenuto	Guidelines for Chemical Reactivity Evaluation and Application to Process Design; CONTENTS; List of Tables; List of figures; Preface; Acknowledgments; Glossary; List of Symbols; 1. INTRODUCTION; 1.1 GENERAL; 1.2 CHEMICAL REACTIVITY; 1.3 DETONATIONS, DEFLAGRATIONS, AND RUNAWAYS; 1.4 ASSESSMENT AND TESTING STRATEGIES; 2. IDENTIFICATION OF HAZARDOUS CHEMICAL REACTIVITY; 2.1. SUMMARY/STRATEGY; 2.1.1 Introduction; 2.1.2 Hazard Identification Strategy; 2.1.3 Exothermic Reactions; 2.1.4 Experimental Thermal and Reactivity Measurements; 2.1.5 Test Strategies 2.1.6 Overview of Thermal Stability Test Methods2.1.7 Examples of Interpretation and Application of Test Data; 2.2 TECHNICAL SECTION; 2.2.2 Identification of High Energy Substances; 2.2.3. Hazard Prediction by Thermodynamic Calculations; 2.2.3.1 Oxygen Balance; 2.2.3.2 Calculation of the Reaction Enthalpy; 2.2.3.3 Application of Computer

Programs; 2.2.4 Instability/Incompatibility Factors; 2.2.4.1 Factors Influencing Stability; 2.2.4.2 Redox Systems; 2.2.4.3 Reactions with Water; 2.2.4.4 Reactions between Halogenated Hydrocarbons and Metals; 2.3 PRACTICAL TESTING; 2.3.1 Screening Tests
2.3.1.1 Thermal Analysis2.3.1.2 Isoperibolic Calorimetry; 2.3.2 Thermal Stability and Runaway Testing; 2.3.2.1 Isothermal Storage Tests; 2.3.2.2 Dewar Flak Testing and Adiabatic Storage Tests; 2.3.2.3 Accelerating Rate Calorimeter (ARC); 2.3.2.4 Stability Jests for Powders; 2.3.3 Explosibility Testing; 2.3.3.1 Detonation Testing; 2.3.3.2 Deflagration Testing and Autoclave Testing; 2.3.3.3 Mechanical Sensitivity Testing; 2.3.3.4 Sensitivity to Heating under Confinement; 2.3.4 Reactivity Testing; 2.3.4.1 Pyrophoric Properties; 2.3.4.2 Reactivity with Water; 2.3.4.3 Oxidizing Properties
2.3.5 Flammability Testing3. CHEMICAL REACTIVITY CONSIDERATIONS IN PROCESS/REACTOR DESIGN AND OPERATION; 3.1 INTRODUCTION; 3.1.1 Thermal Hazards: Identification and Analysis; 3.1.1.1 Cause, Definition, and Prevention of a Runaway; 3.1.1.2 Some Simple Rules for Inherent Safety; 3.1.1.3 Strategy for Inherent Safety in Design and Operation; 3.1.1.4 Equipment to be Used for the Analysis of Hazards; 3.2 REACTOR, HEAT AND MASS BALANCE CONSIDERATIONS; 3.2.1 Heat and Mass Balances, Kinetics, and Reaction Stability; 3.2.1.1 Adiabatic Temperature Rise; 3.2.1.2 The Reaction; 3.2.1.3 Reaction Rate
3.2.1.4 Reaction Rate Constant3.2.1.5 Concentration of Reactants; 3.2.1.6 Effect of Surrounding Temperature on Stability; 3.2.1.7 Effect of Agitation and Surface Fouling on stability; 3.2.1.8 Mass Balance; 3.2.2 Choice of Reactor; 3.2.3 Heat Transfer; 3.2.3.1 Heat Transfer in Nonagitated Vessels; 3.2.3.2 Heat Transfer in Agitated Vessels; 3.3 ACQUISITION AND USE OF PROCESS DESIGN DATA; 3.3.1 Introduction; 3.3.2 Bench-Scale Equipment for Batch/Tank Reactors; 3.3.2.1 Reaction Calorimeter (RC1); 3.3.2.2 Contalab; 3.3.2.3 CPA ThermoMetric Instruments; 3.3.2.4 Quantitative Reaction Calorimeter
3.3.2.5 Specialized Reactors

Sommario/riassunto

Drawn from international sources, this book provides principles and strategies for the evaluation of chemical reactions, and for using this information in process design and management. A useful resource for engineers who design, start-up, operate, and manage chemical and petrochemical plants, the book places special emphasis on the use of state-of-the-art technology in theory, testing methods, and applications in design and operations.

2. Record Nr. UNICASSBL0169166

Titolo	Religiosita popolare e architettura nel Chianti : (mostra fotografica, Radda in Chianti, Palazzo Comunale, 19-27 maggio 1979) / (testo di Renato Stopani)
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