1.	Record Nr.	UNINA9910784525303321
	Autore	Sato Norio
	Titolo	Chemical energy and exergy [[electronic resource]] : an introduction to chemical thermodynamics for engineers / / Norio Sato
	Pubbl/distr/stampa	San Diego, CA ; ; Amsterdam, : Elsevier, 2004
	ISBN	1-281-05800-9 9786611058005 0-08-050100-1
	Descrizione fisica	1 online resource (161 p.)
	Disciplina	541.36902462 541/.36 22
	Soggetti	Thermochemistry Irreversible processes Exergy
	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 (p. [145]) and index.
	Nota di contenuto	Front Cover; Chemical Energy and Exergy: An Introduction to Chemical Thermodynamics for Engineers; Copyright Page; CONTENTS; PREFACE; CHAPTER 1. THERMODYNAMIC STATE VARIABLES; 1.1. Thermodynamic systems; 1.2. Variables of the state; 1.3. Extensive and intensive variables; 1.4. Partial molar quantities; 1.5. The extent of a chemical reaction; CHAPTER 2. CONSERVATION OF ENERGY; 2.1. Energy as a physical quantity of the state; 2.2. Conservation of energy; 2.3. Internal energy U with independent variables T, V, and ?; 2.4. Enthalpy H with independent variables T, p, and ? 2.5. Enthalpy and heat of reaction2.6. Enthalpy of pure substances; CHAPTER 3. ENTROPY AS A STATE PROPERTY; 3.1. Introduction to entropy; 3.2. Reversible and irreversible processes; 3.3. The creation of entropy and uncompensated heat; 3.4. The creation of entropy and thermodynamic potentials; 3.5. Affinity of irreversible processes; 3.6. Entropy of pure substances; 3.7. Entropy of heat transfer; 3.8. Entropy of gas expansion; 3.9. Entropy of mixing; CHAPTER 4. AFFINITY IN IRREVERSIBLE PROCESSES; 4.1. Affinity in chemical reactions; 4.2. Affinity and heat of reaction

| Sommario/riassunto | This book is a beginners introduction to chemical thermodynamics for engineers. In the textbook efforts have been made to visualize as clearly as possible the main concepts of thermodynamic quantities such as enthalpy and entropy, thus making them more perceivable. Furthermore, intricate formulae in thermodynamics have been discussed as functionally unified sets of formulae to understand their meaning rather than to mathematically derive them in detail.In this textbook, the affinity of irreversible processes, defined by the second law of thermodynamics, has been treated as the main |