1. | | |
|---|---|
| Record Nr. | UNISALENTO991002973629707536 |
| Autore | Cantoni, Remo |
| Titolo | Filosofia a misura della vita / Remo Cantoni ; a cura di Carlo Montaleone e Carlo Sini |
| Pubbl/distr/stampa | Milano : Guerini e Associati, c1993 |
| ISBN | 8878023671 |
| Descrizione fisica | 219 p. ; 22 cm. |
| Collana | Università [Il melangolo] |
| Altri autori (Persone) | Montaleone, Carlo
Sini, Carlo |
| Soggetti | Filosofia |
| Lingua di pubblicazione | Italiano |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |

2.	Record Nr.	UNINA9910830423803321
	Autore	Stølen Svein
	Titolo	Chemical thermodynamics of materials [[electronic resource]] : macroscopic and microscopic aspects / / Svein Stolen, Tor Grande ; with a chapter on thermodynamics and materials modelling by Neil L. Allan
	Pubbl/distr/stampa	Hoboken, NJ, : J. Wiley, c2004
	ISBN	1-280-26934-0
		9786610269341
		0-470-09267-X
		0-470-09268-8
	Descrizione fisica	1 online resource (410 p.)
	Altri autori (Persone)	GrandeTor
	Disciplina	541.369
	Soggetti	Thermodynamics
	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	Chemical Thermodynamics of Materials; Contents; Preface; 1 Thermodynamic foundations; 1.1 Basic concepts; Thermodynamic systems; Thermodynamic variables; Thermodynamic processes and equilibrium; 1.2 The first law of thermodynamics; Conservation of energy; Heat capacity and definition of enthalpy; Reference and standard states; Enthalpy of physical transformations and chemical reactions; 1.3 The second and third laws of thermodynamics; The second law and the definition of entropy; Reversible and non-reversible processes
		Conditions for equilibrium and the definition of Helmholtz and Gibbs energiesMaximum work and maximum non-expansion work; The variation of entropy with temperature; The third law of thermodynamics; The Maxwell relations; Properties of the Gibbs energy; 1.4 Open systems; Definition of the chemical potential; Conditions for equilibrium in a heterogeneous system; Partial molar properties; The Gibbs-Duhem equation; References; Further reading; 2 Single-component systems; 2.1 Phases, phase transitions and phase diagrams; Phases and phase transitions; Slopes of the phase boundaries

Phase diagrams and Gibbs phase ruleField-induced phase transitions;
2.2 The gas phase; Ideal gases; Real gases and the definition of
fugacity; Equations of state of real gases; 2.3 Condensed phases;
Variation of the standard chemical potential with temperature;
Representation of transitions; Equations of state; References; Further
reading; 3 Solution thermodynamics; 3.1 Fundamental definitions;
Measures of composition; Mixtures of gases; Solid and liquid solutions
- the definition of chemical activity; 3.2 Thermodynamics of solutions;
Definition of mixing properties; Ideal solutions
Excess functions and deviation from ideality3.3 Standard states;
Henry's and Raoult's laws; Raoultian and Henrian standard states; 3.4
Analytical solution models; Dilute solutions; Solution models;
Derivation of partial molar properties; 3.5 Integration of the Gibbs-
Duhem equation; References; Further reading; 4 Phase diagrams; 4.1
Binary phase diagrams from thermodynamics; Gibbs phase rule;
Conditions for equilibrium; Ideal and nearly ideal binary systems;
Simple eutectic systems; Regular solution modelling; Invariant phase
equilibria; Formation of intermediate phases
Melting temperature: depression or elevation?Minimization of Gibbs
energy and heterogeneous phase equilibria; 4.2 Multi-component
systems; Ternary phase diagrams; Quaternary systems; Ternary
reciprocal systems; 4.3 Predominance diagrams; References; Further
reading; 5 Phase stability; 5.1 Supercooling of liquids - superheating of
crystals; 5.2 Fluctuations and instability; The driving force for chemical
reactions: definition of affinity; Stability with regard to infinitesimal
fluctuations; Compositional fluctuations and instability; The van der
Waals theory of liquid-gas transitions
Pressure-induced amorphization and mechanical instability

| Sommario/riassunto | A comprehensive introduction, examining both macroscopic and microscopic aspects of the subject, the book applies the theory of thermodynamics to a broad range of materials; from metals, ceramics and other inorganic materials to geological materials. Focusing on materials rather than the underlying mathematical concepts of the subject, this book will be ideal for the non-specialist requiring an introduction to the energetics and stability of materials. Macroscopic thermodynamic properties are linked to the underlying miscroscopic nature of the materials and trends in important properties are |