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SpringerMaterials 数值数据库

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基于Landolt-Börnstein丛书的数据库



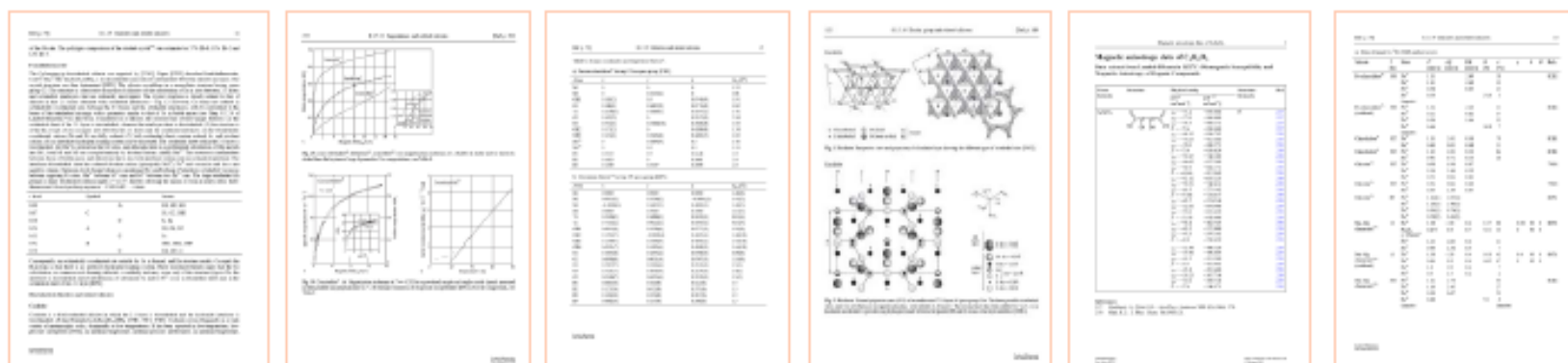
- LB是一套连续出版的数值与事实型大型工具书，由Hans Landolt 和 Richard Börnstein两位教授在1883年共同创建了这套工具书
- 数据来源于全世界千余名物理与工程领域的科学家撰稿的研究期刊全文
- 所有数据都经过严格苛刻的挑选
- Landolt-Börnstein涵盖以下学科：
 - 天文学
 - 生物物理
 - 工程
 - 地球物理
 - 材料技术
 - 物理
 - 物理化学

主要包括与上述学科有关的数值数据和函数关系、常用单位以及基本常数等等

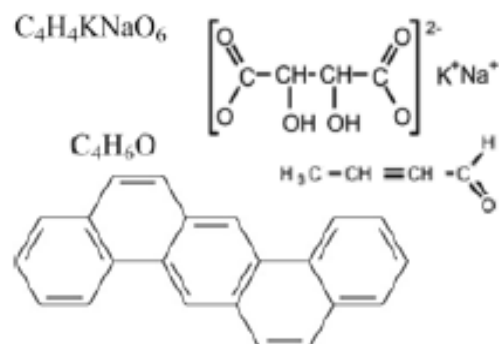
- 涵盖的物质对象和类型，包括基本粒子、原子核和原子、有机化学分子、核酸、蛋白、液晶、金属和合金、岩石、玻璃、陶瓷、以及氧化物和卤化物等。



- > 195,000 页 | > 90,000 篇在线文献 | > 125,000 份各类图表



- > 150,000 种化学物质 | > 1,000,000 参考文献



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- LB由8部分组成:
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 - 凝聚态 124卷
 - 物理化学 48卷
 - 地球物理 11卷
 - 大气物理 7卷
 - 生物物理 5卷
 - 高级技术和材料 5卷
- 2001年, Springer 推出 Landolt-Börnstein 在线服务
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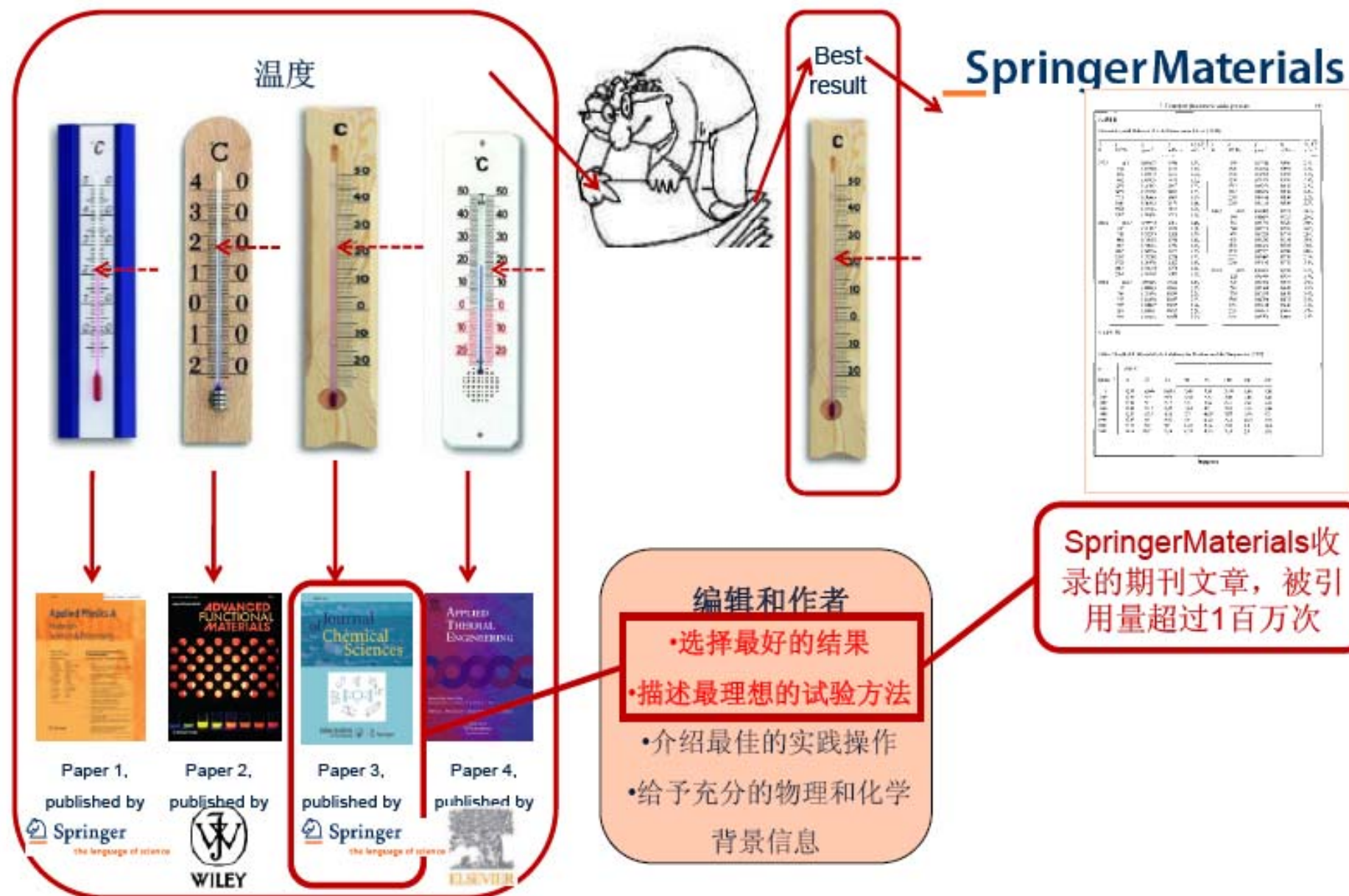


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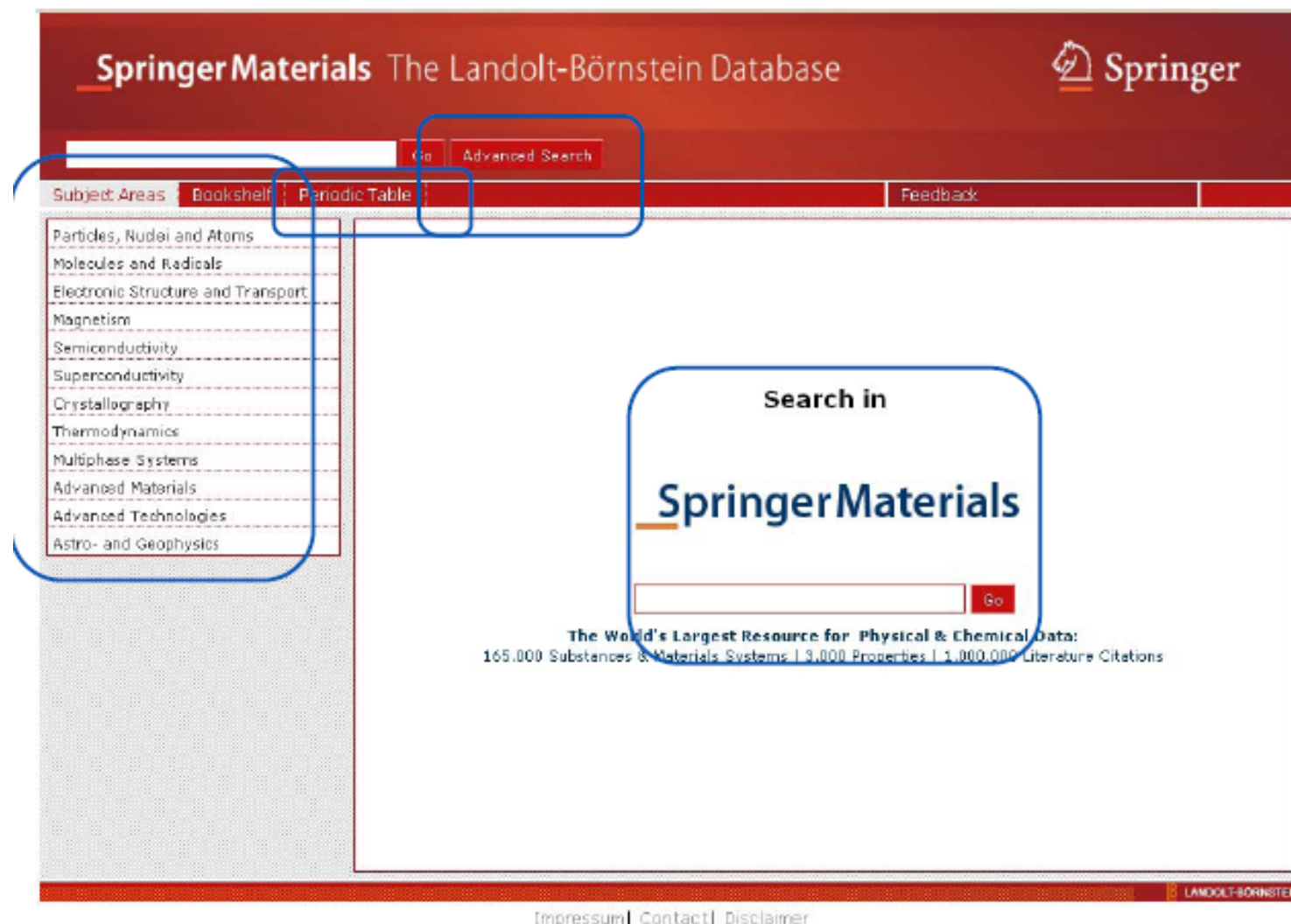


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The screenshot shows the SpringerMaterials website interface. The header features the Springer logo and the text "SpringerMaterials The Landolt-Börnstein Database". Below the header is a navigation bar with links: "Subject Areas", "Bookshelf", "Periodic Table", and "Feedback". A search bar is located at the top left, with a "Go" button and an "Advanced Search" link. A list of subject areas is displayed on the left side, including "Particles, Nuclei and Atoms", "Molecules and Radicals", "Electronic Structure and Transport", "Magnetism", "Semiconductivity", "Superconductivity", "Crystallography", "Thermodynamics", "Multiphase Systems", "Advanced Materials", "Advanced Technologies", and "Astro- and Geophysics". The main content area features a large search box with the text "Search in SpringerMaterials" and a "Go" button. Below the search box, it states "The World's Largest Resource for Physical & Chemical Data: 165,000 Substances & Materials Systems | 3,000 Properties | 1,000,000 Literature Citations". The footer contains links for "Imprimatur", "Contact", and "Disclaimer", along with the "LANDOLT-BÖRNSTEIN" logo.

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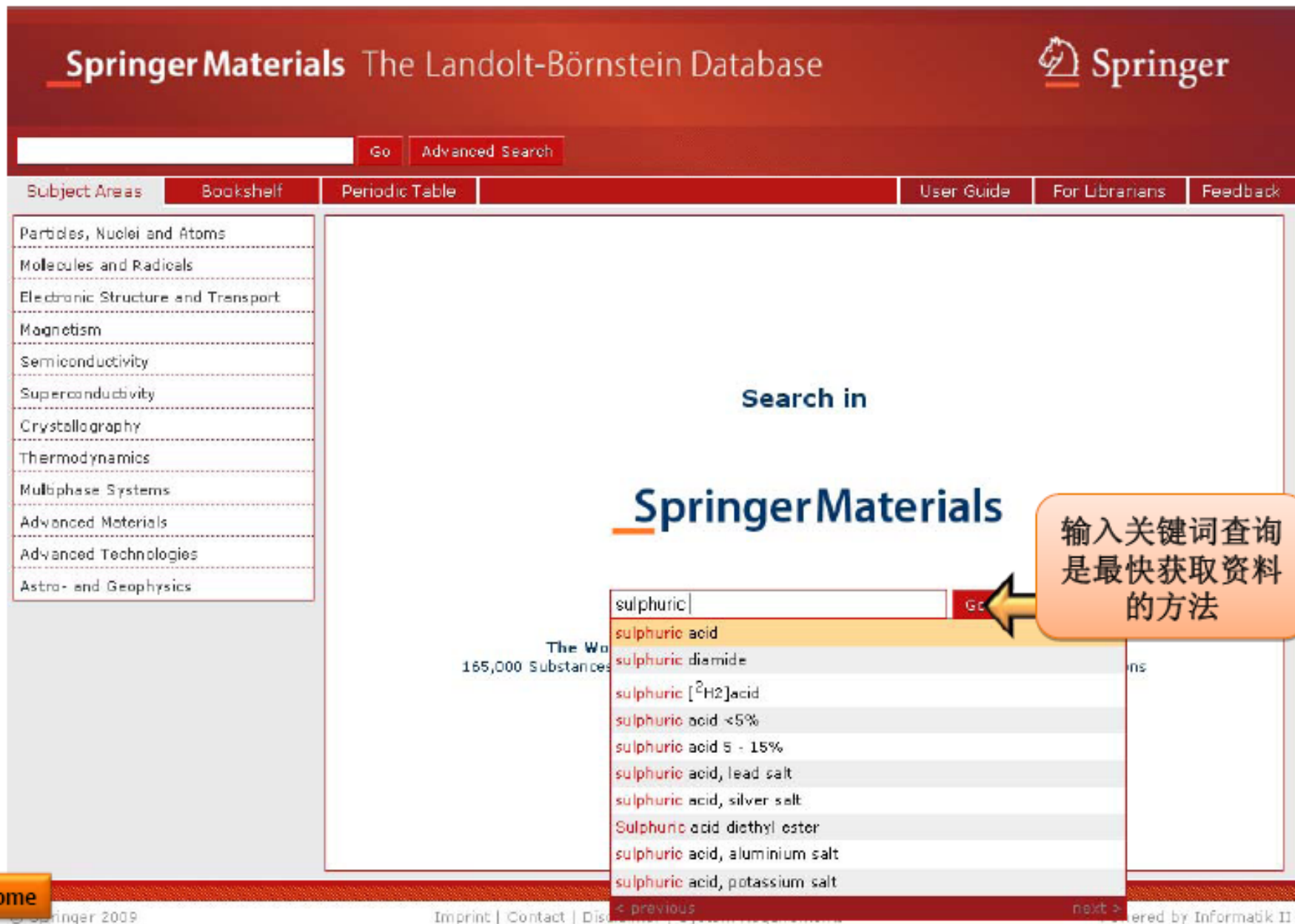
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化学元素周期表

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29 Thermodynamics

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0 Advanced Materials

3 Advanced Technologies

0 Astro- and Geophysics

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Refine

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of ternary and polynary aqueous systems > Inorganic-organic systems containing water

Ternary and polynary systems: Inorganic components A, organic components B, and water: AgBr - J2  

Metadata - Substance: sulphuric acid... sulphuric acid <5%... sulphuric acid 5 - 15%... sulphuric acid, aluminium salt... sulphuric acid, potassium salt...

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of ternary and polynary aqueous systems > Inorganic-inorganic systems containing water

Inorganic components A, B, and water: AgBr - J2  

Metadata - Substance: sulphuric acid... sulphuric acid <5%... sulphuric acid 5 - 15%... sulphuric acid, silver salt... sulphuric acid, aluminium salt... sulphuric acid, potassium salt...

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of ternary and polynary aqueous systems > Inorganic-inorganic systems containing water

Inorganic components A, B, and water: KBr - ZnO  

Metadata - Substance: sulphuric acid... sulphuric acid <5%... sulphuric acid 5 - 15%... sulphuric acid, lead salt... sulphuric acid, potassium salt...

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of ternary and polynary aqueous systems > Inorganic-inorganic systems containing water

Polynary systems: Inorganic components A, B, C, ..., water  

Metadata - Substance: sulphuric acid... sulphuric acid <5%... sulphuric acid 5 - 15%... sulphuric acid, aluminium salt... sulphuric acid, potassium salt...

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of nonaqueous systems

Nonaqueous systems of two inorganic components  

Metadata - Substance: sulphuric acid... sulphuric acid <5%... sulphuric acid 5 - 15%...

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sulphuric acid

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Thermodynamics > Mechanical Properties > Surface Tension > Pure Liquids and Binary Liquid Mixtures

Data on pure liquids  

Thermodynamics > Mechanical Properties > Liquid Systems: Density systems > Inorganic substances - water

CaSO4 - CsClO4  

Thermodynamics > Thermodynamical Properties > Organic Compounds > Vapor Pressure and Antoine Constants > Oxygen Containing Organic Compounds

compounds C2...C8  

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of ternary and polynary aqueous systems > Inorganic-inorganic systems containing water

Inorganic components A, B, and water: AgBr - J2  

Thermodynamics > Mechanical Properties > Viscosity > Organometallic Liquids and Binary Liquid Mixtures

Mixtures of inorganic and organic compounds  

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of nonaqueous systems > Nonaqueous systems of one inorganic and one organic component > Inorganic component: Nonmetals

S, Se, Te  

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of ternary and polynary aqueous systems > Inorganic-organic systems containing water

Ternary and polynary systems: Inorganic components A, organic components B, and water  

Thermodynamics > Mechanical Properties > Liquid Systems: Densities and Heat Capacities > Densities of nonaqueous systems

点击“Refine”开启高级检索框，进行二次检索

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{"urea" or "57-13-6" or "CH4N2O"}

Go

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Search for ...

Substances / Molecular Formulas / Element Systems / CAS Registry Numbers

"urea" or "57-13-6" or "CH4N2O"

在substance输入检索词

urea (57-13-6; CH₄N₂O)

Urea d4 (1433-11-0; CD₄N₂O)

Urea-d4 (1433-11-0; CD₄N₂O)

Urea-12C (57-13-6; CH₄N₂O)

Ureaphil (57-13-6; CH₄N₂O)

(2H4)urea (1433-11-0; CD₄N₂O)

Ethyl-urea (625-52-5; C₃H₈N₂O)

butyl urea (592-31-4; C₅H₁₂N₂O)

butyl-urea (592-31-4; C₅H₁₂N₂O)

Acetyl-urea (591-07-1; C₃H₆N₂O₂)

Benzyl-urea (538-32-9; C₈H₁₀N₂O)

Phenyl-urea (64-10-8; C₇H₇N₂O)

Search in

☐ Particles

☐ Molecule

☐ Electron

☐ Magnetic

☐ Semiconductor

☐ Supercritical

☐ Crystalline

☐ Thermodynamic

☐ Multiphase

☐ Advanced

☐ Advanced

☐ Advanced

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{"urea" or "57-13-6" or "CH4N2O"} {vaper pressure}

Go

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Search for ...

Substances / Molecular Formulas / Element Systems / CAS Registry Numbers

"urea" or "57-13-6" or "CH4N2O"

Properties

vapor p

vapor pressure (vapour pressure)

Search in vaporization parameter

- ☐ Particles, nuclei and atoms
- ☐ Molecules and Radicals
- ☐ Electronic Structure and Transport
- ☐ Magnetism
- ☐ Semiconductivity
- ☐ Superconductivity
- ☐ Crystallography
- ☐ Thermodynamics
- ☐ Multiphase Systems
- ☐ Advanced Materials
- ☐ Advanced Technologies

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逻辑合并检索条件

Substances, Properties, ...

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{ "urea" or "5713-6" or "CH4N2O" } - { "vapor pressure " or "vapour pressure" }

Go

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Search for ...

Substances / Molecular Formulas / Element Systems / CAS Registry Numbers

"urea" or "5713-6" or "CH4N2O"

Properties

"vapor pressure " or "vapour pressure"

Search in ...

☐ Particles, Nuclei and Atoms

☐ Molecules and Radicals

☐ Electronic Structure and Transport

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☐ Chemical Safety

Search for ...

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Thermodynamics > Thermodynamical Properties > Organic Compounds > Vapor Pressure and Antoine Constants > Nitrogen Containing Organic Compounds

Compounds Br, C1---C30  

Metadata - Substance: **urea** ... butyl **urea** ... Metadata - Property: **vapor pressure** ... Metadata - CAS Registry Number: **57-13-6** ... Metadata - Molecular Formula: **CH4N2O** ... Metadata - Keyword: **Vapor Pressure** of Chemicals ... **Vapor Pressure** of Nitrogen Containing Organic Compounds ... CH4N2 4.57265 CH4N2 7.23568

Thermodynamics > Thermodynamical Properties > Organic Compounds > Vapor Pressure and Antoine Constants > Oxygen Containing Organic Compounds

compounds C2---C8  

Metadata - Substance: **urea** ... butyl **urea** ... Metadata - Property: **vapor pressure** ... Metadata - CAS Registry Number: **57-13-6** ... Metadata - Molecular Formula: **CH4N2O** ... Fulltext: Compounds 2 Tabulated Data on **Vapor Pressure** of Oxygen Containing Organic ... 6485-89-8 l-g 122 **CH4N2O Urea 57-13-6** cr-g 129 CH4N4O2 ...

Thermodynamics > Thermodynamical Properties > Organic Compounds > Enthalpies of Fusion and Transition

Organic Compounds, C1---C3  

Metadata - Substance: **urea** ... **Urea**, thio- ... **urea**, ethyl- ... Metadata - CAS Registry Number: **57-13-6** ... Metadata - Molecular Formula: **CH4N2O** ... Fulltext: 49-sta/gup 49-sta/gup **Urea [57-13-6]** **CH4N2O** MW = 60.06 cr cr **Urea** ... ± 0.13 ns ns ns ns ns ns ns **vapor pressure** isoperibol isoperibol DSC adiabatic **vapor pressure** DSC DSC adiabatic **vapor pressure** 50-sek/mom 67-tse 67-tse/god ...

Thermodynamics > Thermodynamical Properties > Organic Compounds > Vapor Pressure and Antoine Constants > Oxygen Containing Organic Compounds

Compounds C9---C57  

第一个显示是在以前检索范例中最符合的结果

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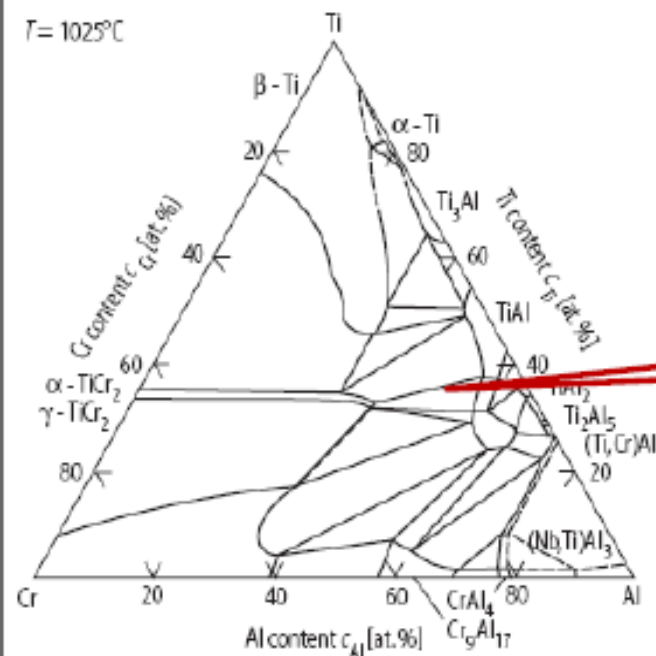


Fig. 14.4. Isothermal section of the Ti-Al-Cr phase diagram at 1025 °C [97P1] - see also [97X1, 98H3].

14.4.2.2 Ti₃Al-base alloys

14.4.2.2.1 Compositions and applications

Various Ti₃Al-base alloys have been developed which contain niobium as major alloying element and further elements for obtaining an optimised balance of strength, deformability, toughness and oxidation resistance. The alloys are two-phase or three-phase and contain additional phases besides the phase Ti₃Al, which is known as the α_2 phase. The usual additional phases are the β phase, which is Ti-rich and which has the b.c.c. structure or is ordered with B2 structure, the orthorhombic γ phase, which contains Nb, and/or the ω -type phase Ti₄Al₃Nb with B8₂ structure [92B1, 95B]. In addition, they have been used as matrices for intermetallic matrix composites, which rely primarily on the SiC fibre SCS-6 [92L]. Current Ti₃Al-base alloys with engineering significance are listed in Table 6.

Table 6. Important Ti₃Al-base alloys [92B1, 95B].

Type	Alloy [at.%]	Designation	Phases
α_2	Ti-24Al-11Nb	24-11	$\alpha_2 + \beta$
α_2	Ti-25Al-11Nb	25-11	$\alpha_2 + \beta$

图像

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European regulations regarding benzene (C₆H₆)

Name benzene
CAS-RN 71-43-2
EG-Index: 601-020-00-8 (2004/73/EC)
EINECS: 200-753-7 (EINECS2)
Formula: C₆H₆
Molecular Weight: 78.112 g/mol

Hazard Information (Dangerous Substances Directive 67/548/EEC)

Hazard symbols	 	2004/73/EC
R-Phrase	T Toxic F Highly flammable 45-46-11-36/38-48/23/24/25-65 R45 May cause cancer. R46 May cause heritable genetic damage. R11 Highly Flammable. R36/38 Irritating to eyes and skin. R48/23/24/25 Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. R65 Harmful: may cause lung damage if swallowed.	2004/73/EC
S-Phrase	S3-45 S53 Avoid exposure - obtain special instructions before use. S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).	2004/73/EC

GHS classification (Globally Harmonized System)

Regulation on Classification, Labelling and Packaging of Substances and Mixtures (CLP)

Signal Word	Danger	EC/1272/2008
Pictogram	  	
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1.1.2 Empirical Vapor Pressure Equations				
Many liquid vapor pressure equations have been used to calculate vapor pressures. These equations are based on the assumption that the vapor pressure of a liquid is a function of temperature. The data and some other useful data are given in the following tables.				
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