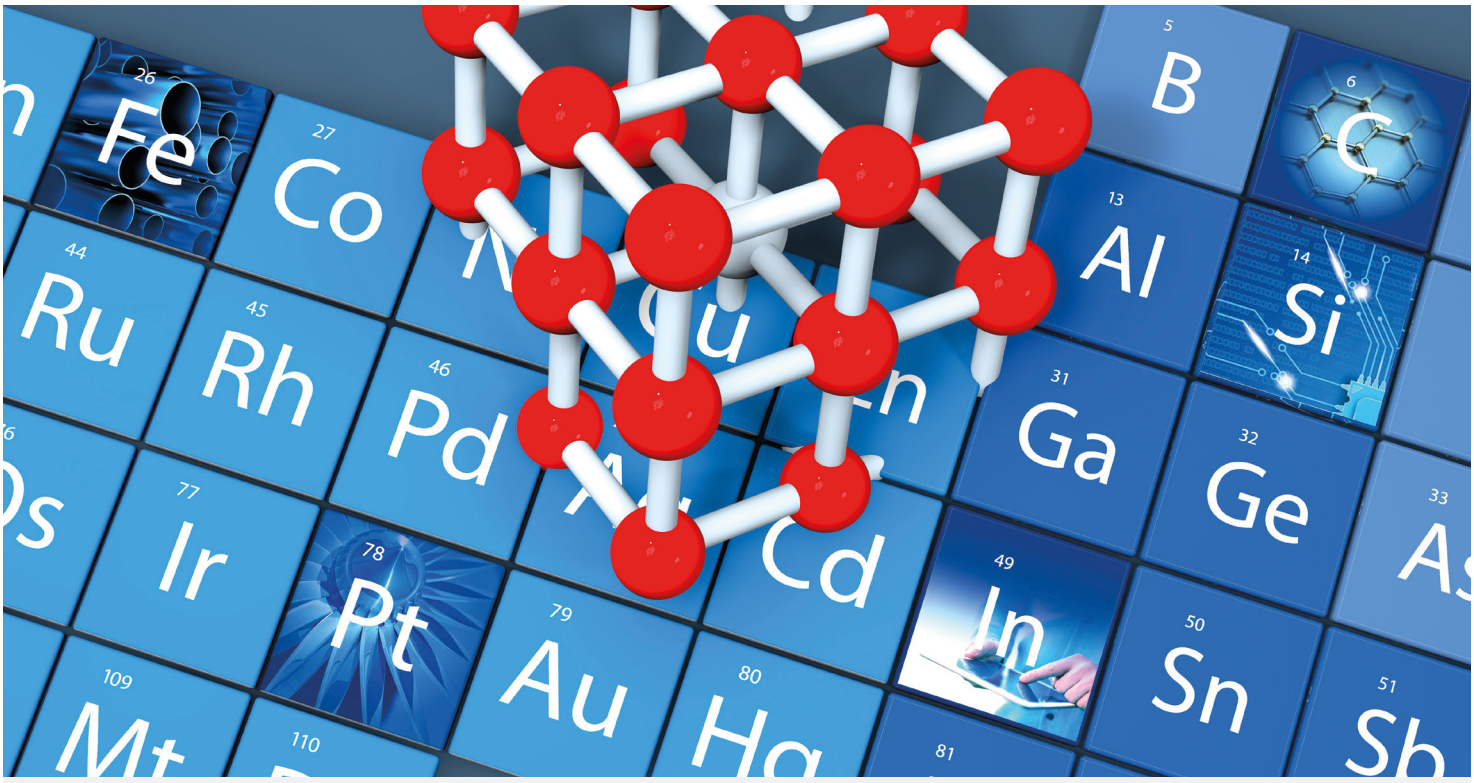



# SpringerMaterials

## The fastest solution for identifying material properties

- Discover comprehensive, tailored data across key materials scientific disciplines
- Save time with optimized search tools
- Unlock enhanced visualization and analysis for seamless insights

Advanced Interactivity


## Quick and reliable insights accelerating materials science research

As the amount of scientific information exponentially increases, the need for critically evaluated and easily retrievable data becomes ever greater. Information must be cross-linked, updated, and presented in intuitive and readily accessible ways.

SpringerMaterials effectively addresses these challenges for materials science and closely related fields in chemistry, engineering, and physics. The database is a comprehensive resource of curated data covering 3,000 properties and 290,000 materials on one platform: materials.springer.com

## Single platform access to curated data

### Major material types

Metals & Alloys · Ceramics & Glasses · Polymers · Organic Substances · Composites · Atoms & Nuclei

### Property classes include

Physical · Chemical · Thermodynamic · Electromagnetic · Structural · Mechanical · Spectroscopic · Nuclear

### Data sources

- Classic Landolt-Börnstein series
- MSI Eureka, Linus Pauling Files – Inorganic Solid Phases
- Polymer Thermodynamics Database (ATHAS)
- Dortmund Databank of Separation Technology
- Springer Handbooks (e.g., VDI Heat Atlas)
- Adsorption Database, NIST Corrosion Database, SpringerMaterials Fundamentals Handbooks
- Organic-inorganic perovskites

### Content overview

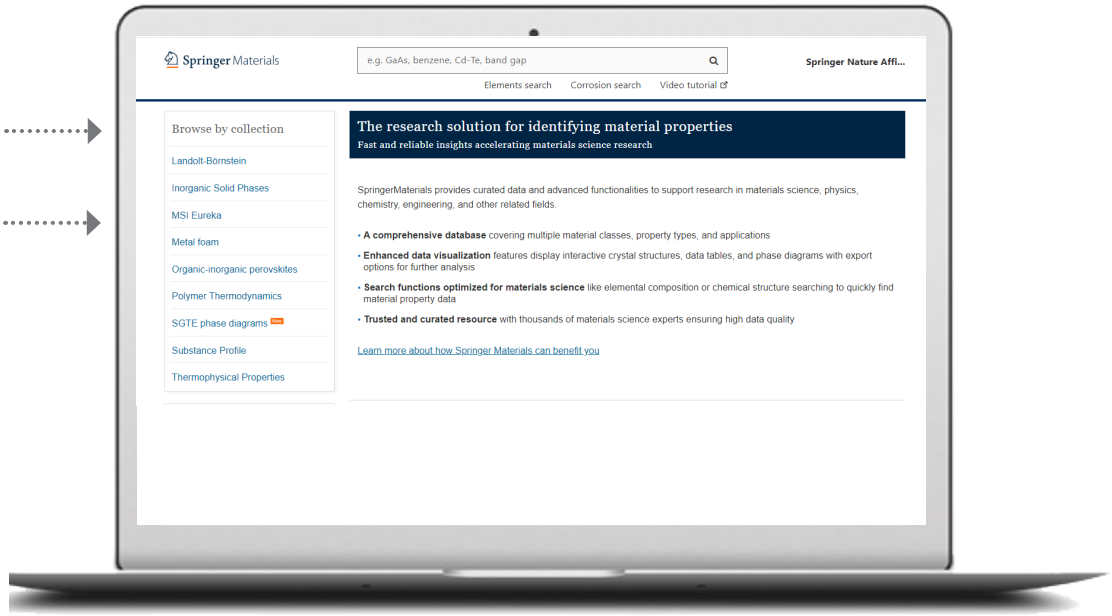
| Content Class | Quantity |
|---|---|
| Phase Diagram Reports | 4,000 detailed reports |
| Interactive Phase Diagrams | 51,000+ binary and ternary systems |
| Crystal Structures | 358,000+ structures |
| Physical Properties | 185,900+ datasheets |
| Corrosion Data | 25,000 records for 1000+ metal systems and 275+ environments |
| Gas Adsorption Data | 5,800+ isotherms, 99 adsobates, 1,355 adsorbents |
| Thermophysical Property Data | 472,000 data points for 1,200+ binary mixtures and 51 substances |
| Polymer Thermodynamic Data | 30,000 data points for 150 polymers & macro-molecules |
| Book Content | 520+ volumes from 225,000+ documents in the Landolt-Börnstein, Springer Handbooks, SpringerMaterials Fundamentals and other related resources |
| Metal Foams | 450 datasheets |

# Saving researchers time

## Search options optimized for materials science

Search by Elements

Corrosion Search

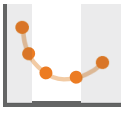



## SpringerMaterials Interactive

As a multidisciplinary field, materials science draws on data from many topics in physics, chemistry, and engineering. Material property data, even for a single material, is often scattered across many sources. A set of workflow tools called **SpringerMaterials Interactive** addresses this challenge with the following features:

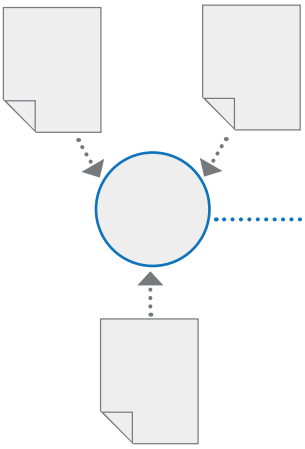
- Consolidation of data from multiple sources on a single graph or table
- Highly customizable data visualization options
- Side-by-side comparison of material properties
- Numerical property value search to find materials within a given property range

Interactive



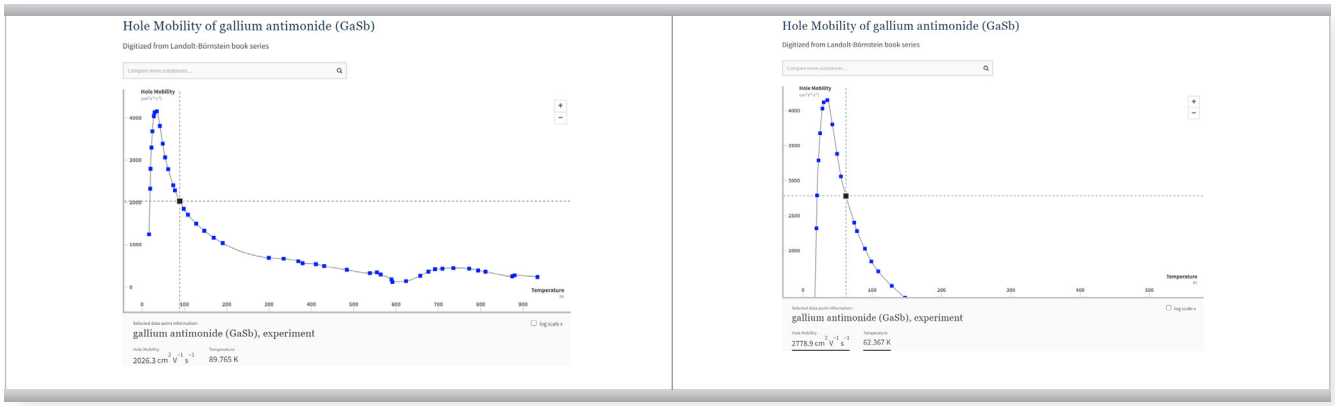
**SpringerMaterials Interactive** data is extracted primarily from the Landolt-Börnstein book series. This digitized data is then consolidated with relevant data from other sources to create these multisource data sets. Interactive data sets are highlighted on the platform with an interactive button.

### Data Consolidation: presentation of multisource data

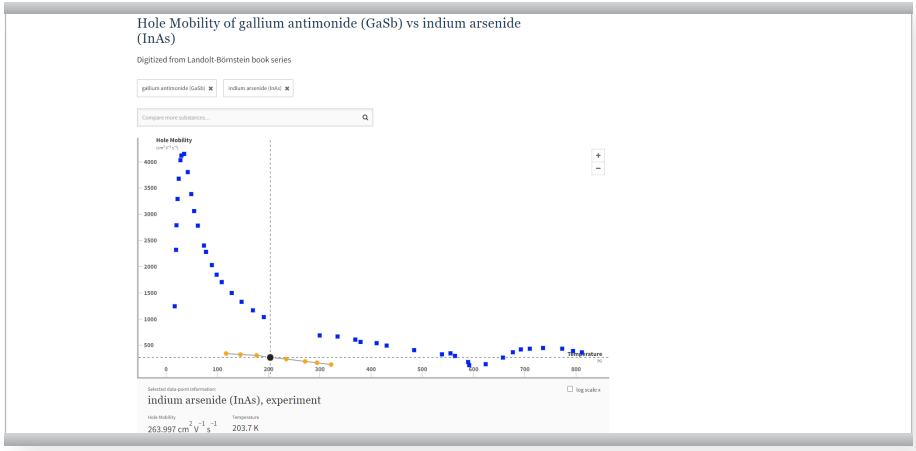


| | | | | | |
|---|---|---|---|---|---|
| $E_{g-dir}$= 2.83 eV | T = 0 K | GaP | Γ15v-Γ1c, calculated | P608509 | 172909. Scheffler (1984) |
| $E_{g-ind}$= 2.36 eV | T = 0 K | GaP | approximate value Γ15v-X1c, calculated from fig. 1 | P608509 | 172909. Scheffler (1984) |
| $E_{g-dir}$= 2.88 eV | T = 0 K | GaP | calculated value for Γ15v - Γ1c transition | P900452 | 83949. Chen (1980) |
| $E_{g-ind}$= 2.16 eV | T = 0 K | GaP | calculated value for Γ15v - X1c | P900452 | 83949. Chen (1980) |

## Interactive Views: customizable data visualization

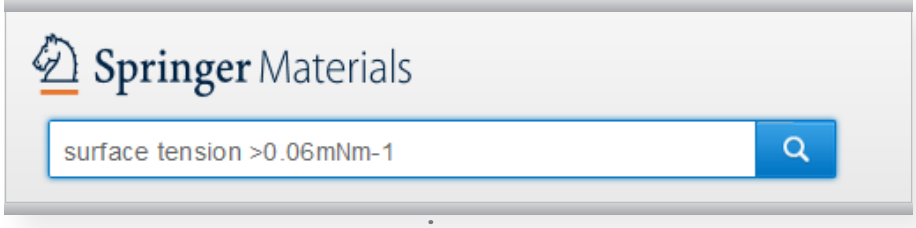



## Material Comparisons: side-by-side views of material properties




Interactive Views

## Numerical Property Search: show all materials with given property range(s)



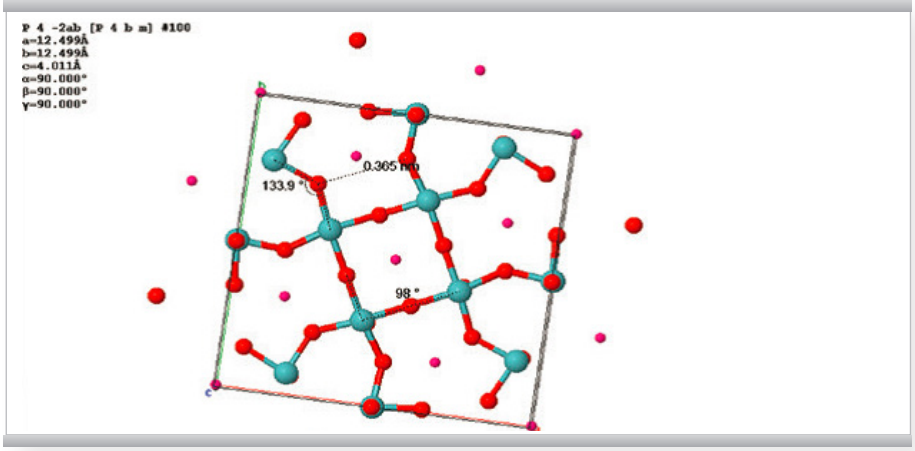

| Substance | Surface Tension (mN m$^{-1}$) | System Temperature (K) | External Reference | Internal Reference |
|---|---|---|---|---|
| Ethane (pure) | 0.06 | 303.99 | Baidakov (1987) | LB IV/16, Pure Liquids: Data |
| Methane (pure) | 0.10 | 188.84 | Holcomb (1992) | LB IV/16, Pure Liquids: Data |
| Ethane (pure) | 0.13 | 302.44 | Baidakov (1987) | LB IV/16, Pure Liquids: Data |
| Methane (pure) | 0.17 | 188.06 | Blagoi (1970) | LB IV/16, Pure Liquids: Data |

# Additional Functionality

## Built-in crystal structure viewer

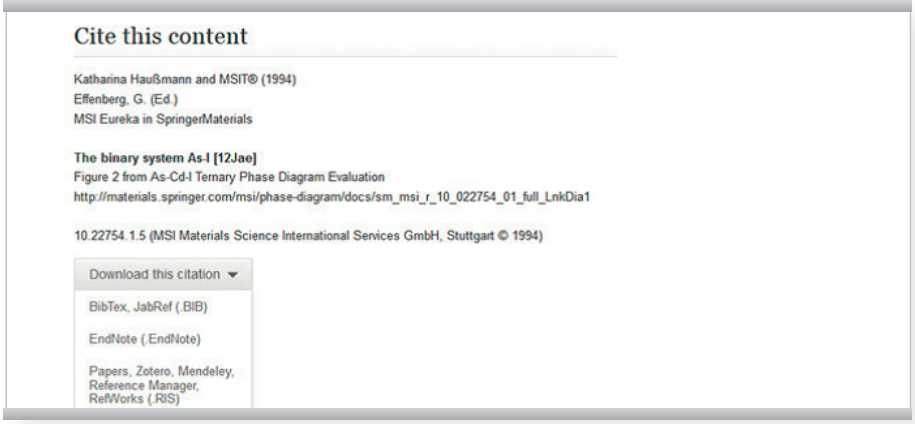
View interactive crystal structures from published data and create your own personalized view. Measure angles and distances, display multiple unit cells, and easily export the customized image

*SpringerMaterials is fast. The periodic table search provides intuitive, specific data, it's totally different from a conventional data search engine. The colorful 3-D crystal structure view not only provides direct knowledge on the bond length, bond angle, etc. but also leaves a very strong visual impression.*
Prof. Jun Jiang, Chemical Physics
University of Science and Technology of China



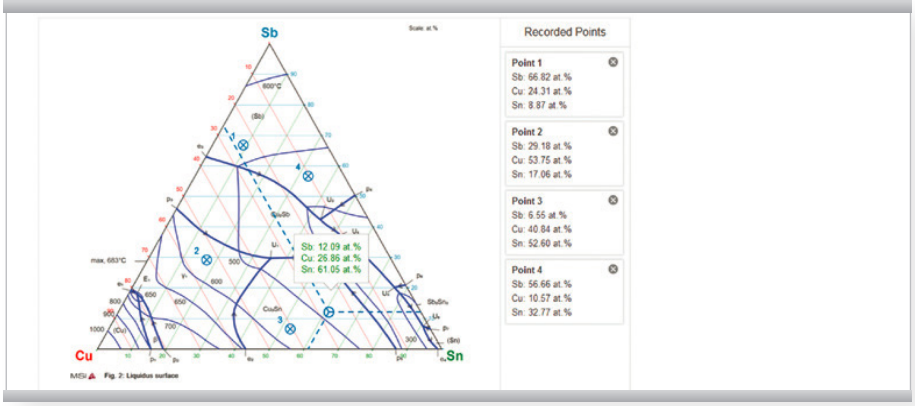

## Citation exporter

Citations for SpringerMaterials content can be easily exported in multiple standard formats



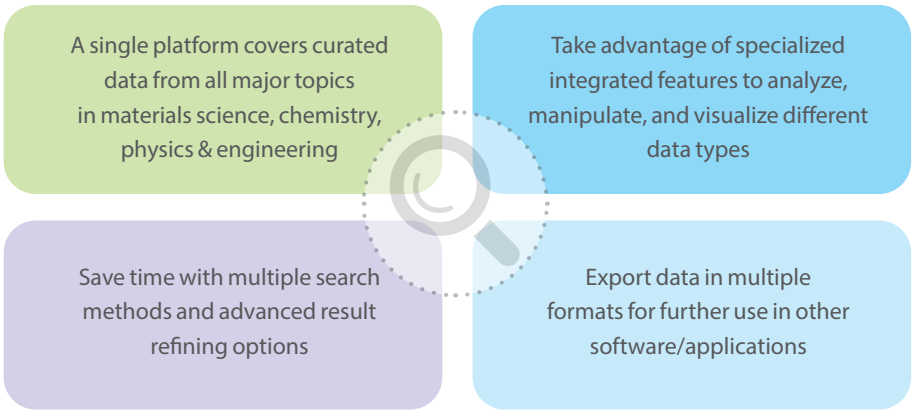

## Exact data points with phase diagrams

Over 40,000 interactive phase diagrams include tools to determine phase transitions and record points of interest



*A useful database should be convenient for its users, the data should be very accurate and reliable, and the results found through a search should be of high relevance. In my opinion, SpringerMaterials is doing very well in all those three aspects.*
Dr. Yafong Fan, Science Librarian
University of Science and Technology of China

## SpringerMaterials research benefits




## Benefits for Libraries

- Increase your institution's research productivity by offering a vast materials science database. Harnessing the scope and depth of SpringerMaterials minimizes the number of resources needing maintenance.
- Assurance that the database contains high quality curated content compiled by subject matter experts.
- SpringerMaterials is a cloud-based platform providing 24/7 concurrent access for all researchers, either onsite or through remote authentication.
- Flexible purchase options and powerful tools to monitor usage and see the return on investment.
- Accessible and optimized for both desktop and mobile devices.

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## Availability and Access

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