

# SpringerMaterials

The world's largest resource for physical and chemical data in materials science

- Including the Landolt-Börnstein New Series
- Additional databases and selected handbooks included
- Newly redesigned interface

Consult an  
Expert!





# SpringerMaterials

The world's largest resource for properties, figures and graphs in materials science: written, compiled and verified by thousands of experts

SpringerMaterials contains more than 500,000 online documents covering 3000 properties spread across 250,000 materials and chemical systems!

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 in the fields of materials science and chemistry.

SpringerMaterials is a comprehensive resource of compiled information about the properties of materials that is critically reviewed and presented in an online format.

SpringerMaterials contains information from numerous sources and is principally based on the Landolt-Börnstein Series, the unique and authoritative data collection in the area of physical sciences and engineering. Researchers can save time as the information is already collected and formatted, and they do not need to scan and assess primary literature themselves. SpringerMaterials also contains a number of subset databases catering to the specific needs of researchers and engineers. The databases in SpringerMaterials include:

- The Landolt-Börnstein Database
- The Linus Pauling Files
- A subset of the Dortmund Databank of Software and Separation Technology
- The Adsorption Database
- Polymer Thermodynamics Database
- MSI Database

SpringerMaterials also includes synthesis information from external databases like SPRESI and contains SpringerMaterials Handbooks on subjects like nanomaterials characterization, the Handbook of Polymers, and more!

## The Landolt-Börnstein New Series

SpringerMaterials contains the Landolt-Börnstein New Series, starting from 1961 to the present. The printed edition includes over 460 volumes and is represented by 125,000 online documents. The database also includes over 150,000 figures and over 1.4 million references. Overall, the Landolt-Börnstein book series covers over 3000 properties and has information on more than 290,000 materials and substances.

All the information included in a Landolt-Börnstein document is thoroughly reviewed and scrutinized by multiple international experts from that field. These reviewers evaluate information from over 8000 peer-reviewed journals, select the most scientifically accurate and relevant information on the topic, provide background information, and list the references. This critical review process takes place on top of the peer review that has originally occurred when an article is accepted for scientific publication, meaning all content in the Landolt-Börnstein book series has been evaluated twice. This means that you can use the data knowing that it is considered the best by the best in the field!

### Who should use SpringerMaterials?

SpringerMaterials is a must-have resource for:

- All libraries supporting materials science and chemistry research
- Academic institutions with a research focus on physics, chemistry, materials science, and engineering
- Government organizations conducting research in these areas
- Corporate libraries supporting research in the fields of bulk and fine chemical manufacturing, petroleum and petrochemicals, oil and gas, semiconductors and optical materials, metals, ceramics, and polymer synthesis and processing

### Landolt-Börnstein Content

- Particles, Nuclei and Atoms
- Molecules and Radicals
- Electronic Structure and Transport
- Magnetism
- Semiconductivity
- Superconductivity
- Crystallography
- Thermodynamics
- Multiphase Systems
- Advanced Materials
- Advanced Technologies
- Astro- and Geophysics

## Unique Search tools

### Periodic Table Search

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Search  More search tools

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### Search by Elements

Search for information by element system

**Your Selection**  
Mo-Se

**170 Matching element systems**

- Mo-Se (100)
- Ag-Mo-Se (9)
- Al-Mo-Se (1)
- Am-Mo-Se (5)
- Au-Mo-Se (1)
- Ba-Mo-Se (6)
- Br-Mo-Se (3)
- Ca-Mo-Se (2)
- Cd-Mo-Se (6)
- Ce-Mo-Se (8)
- Cl-Mo-Se (4)
- Co-Mo-Se (4)

Reset

Select single or multiple element systems from the periodic table to simultaneously search for molecules and alloys containing those elements. Click on your selected set on the right, or click on any of the suggested combinations to find related element systems!

### Chemical Structure Search

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Search  More search tools

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### Search by Structure

Start by drawing a structure

Reset

**91 Result(s) for this structure**

Page 1 of 5

**Fluorene**  
Molecular Formula: C<sub>13</sub>H<sub>12</sub>    InChI: InChI=1S/C13H12  
Molecular Mass: -    InChI Key: /c:1-3-7-12-10(5-1(9)-11-6-2-4-8-13(11)12)/h:1-8H,9H2  
CAS-No: 84987-80-4, 86-73-7    InChI Key: H8H8MTQ20NPWCJQ-UHFFFAOYSA-N

View substance profile    Search for this substance

**9H-Fluorene, Ion(1-)**  
Molecular Formula: C<sub>13</sub>H<sub>9</sub>    InChI: InChI=1S/C13H9  
Molecular Mass: -    InChI Key: /c:1-3-7-12-10(5-1(9)-11-6-2-4-8-13(11)12)/h:1-8H/q:1  
CAS-No: 12257-35-1, 209462-62-4, 23560-24-    InChI Key: HBKSMXZETHGHQU-UHFFFAOYSA-N

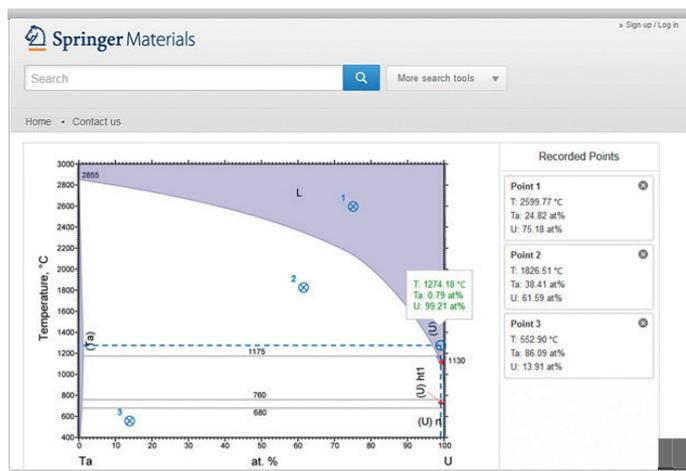
View substance profile    Search for this substance

**4,8-Dihydrodibenzo[Cd:Gh]Pentalene**  
Molecular Formula: C<sub>14</sub>H<sub>10</sub>    InChI: InChI=1S/C14H10  
Molecular Mass: -    InChI Key: /c:1-3-9-7-11-5-2-6-12-8-10(4-1)13(3)14(11)12  
CAS-No: 27018-95-7    InChI Key: XTKOUVSFVXGAG-UHFFFAOYSA-N

View substance profile    Search for this substance

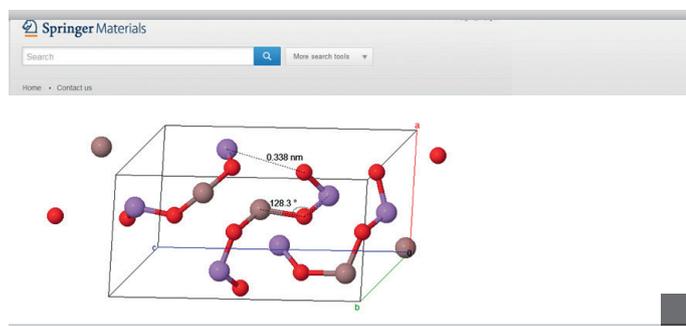
Use the integrated drawing tools to quickly and visually use your molecule as a search query. You can use the pre-drawn ring structures or draw your aromatic or aliphatic molecules from scratch. Structure search results include exact match and relevant substructures ranked by a similarity percentage.

## Additional Integrated Content



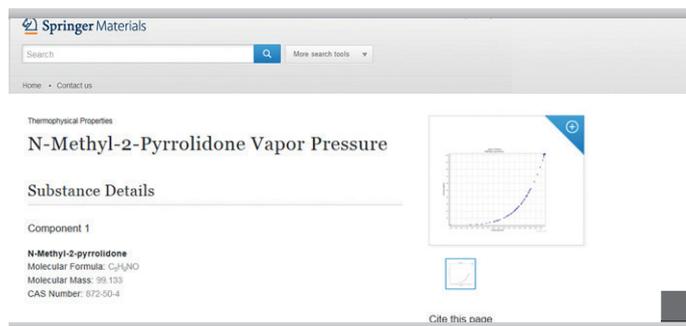
### Inorganic Solid Phases

The complete Linus Pauling Files 2012: 350,000 data sheets covering physical properties, phase diagrams, crystallographic data, diffraction data sheets, now with accurate coordinate tools.



### Interactive crystal structures

View 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.



### Thermophysical Properties

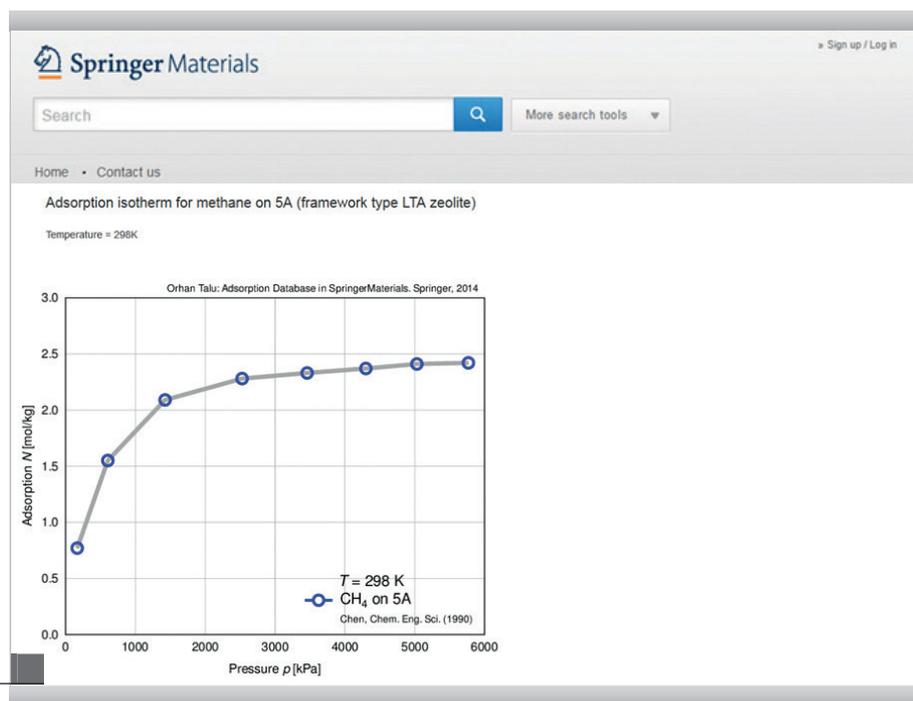
Derived from the Dortmund Database of Separation Technology, it contains 425,000 datapoints covering 1225 organic compounds and their binary mixtures. Also included is information on densities, surface tensions, viscosities, and related properties.



### Polymer Thermodynamics Database

This database contains comprehensive data on more than 150 polymers and macromolecules and covers thermal properties like heat capacities, Gibbs energies, enthalpies, entropies, and others. More than 30,000 data points are provided, which encompass both calculated and experimental data.

## The Adsorption Database



SpringerMaterials contains the new and unique adsorption database with over 1500 physical adsorption isotherms.

## MSI Database

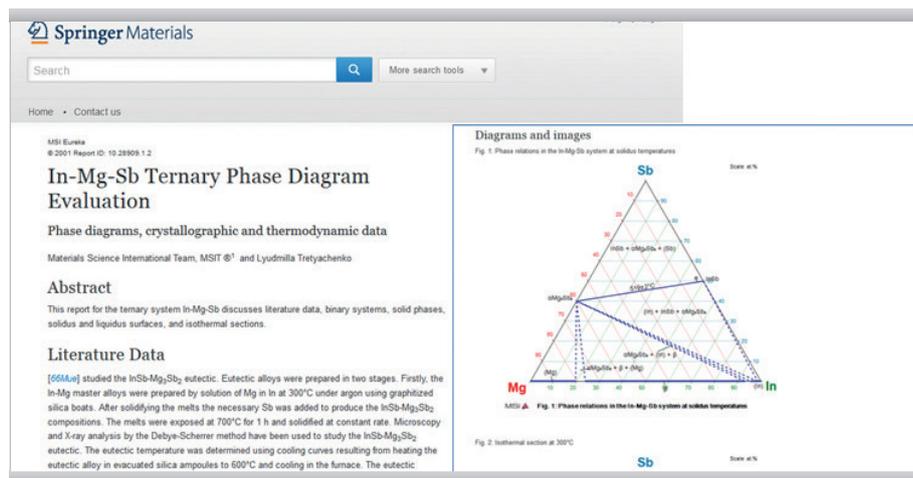
The MSI Database is a collection of 4,000 evaluation reports reviewing binary and ternary element systems. Data is compiled by the MSIT network, a global network of materials scientists who are experts in their respective fields. Core of this database is a collection of 7,500 interactive phase diagrams.

### Why use SpringerMaterials?

Apart from excellent content, the SpringerMaterials platform offers an intuitive interface to search and navigate all the content easily.

Use the Google-like search box on the main page to search across all databases, with an intelligent speed typing feature that suggests auto complete options based on the metadata underlying all the content.

Faceting functions allows one to refine results by data source (e.g., Landolt-Börnstein, MSI, Linus Pauling Files, etc.), subject area, and specific properties.



## SpringerMaterials: A modern database, built for researchers

- Unrivaled database containing the most comprehensive collection of materials and chemical properties to ensure you find the desired data in a single location.
- SpringerMaterials includes the Landolt-Börnstein series and MSI Databases, which feature a critical review process ensuring the data is accurate, relevant, and up to date.
- Intelligent search and content retrieval system, based on metadata that tags each of the 500,000+ documents with information describing its content like name, type of material, property names, etc. This feature ensures the searches are accurate and efficient and the document contains exactly what you are looking for.
- Powerful and unique periodic table and chemical structure search tools enable the researchers to search and discover related materials for comparison.

## Benefits for Libraries

- Increase your institution's research productivity by offering a vast materials science database. Harnessing the magnitude and scope of SpringerMaterials minimizes the number of resources needing maintenance.
- Assurance that the database contains only the highest quality peer- and critically reviewed reports including content evaluated by recognized experts.
- SpringerMaterials is an easy, no-hassle platform to maintain with 24/7 concurrent access for all researchers, either onsite or through remote authentication.
- Flexible purchase options for the library with powerful tools to monitor usage and see the return on investment.
- Accessible for desktop and mobile devices.



## Ordering and Fulfillment Information

Please contact your local Springer representative or email [libraryrelations@springer.com](mailto:libraryrelations@springer.com)

## SpringerMaterials: The world's largest resource for physical and chemical data in materials science

### Licensing Models and Availability:

SpringerMaterials is available via two purchasing models.

- A Yearly Subscription to the entire database, with 24/7 concurrent access to the Landolt-Börnstein Database as well as all subset databases. No restrictions on any of the content.
- Purchase and ownership of the Landolt-Börnstein database, with 24/7 concurrent access to all the purchased content and unrestricted complimentary access to all the other databases.

### Usage Statistics:

SpringerMaterials is COUNTER Book Report 2 compliant.

### Trials:

New customers are eligible for 60-day trial.

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