

Springer Materials

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

- The complete Landolt-Börnstein New Series
- Additional Databases and Selected Handbooks included
- Linked to the SPRESI reaction database

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 100,000 online documents about over 3000 properties spread across 250,000 materials and chemical systems!

Due to the immense production rate of literature and scientific data, the need for selected, critically evaluated and easily retrievable data at the scientist's desk is now greater than ever. This information has to be cross-checked, updated, and presented in a way that is intuitive and easy to assimilate. In the field of Materials Science and Chemistry, such a need exists in the search of properties of materials, and it is this need that is addressed by SpringerMaterials.

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 a number of sources and is principally based on Landolt-Börnstein (New 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 that cater to specific needs of some 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
- The REACH, GHS, RoHS and WEEE chemical safety databases

It also includes integrated links to some 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 complete Landolt-Börnstein New Series, covering the complete English edition from 1961 to the present. The printed edition included over 400 volumes and is represented by 100,000 online documents. The database also includes over 150,000 figures and over 1.2 million references. Overall, the Landolt-Börnstein book series covers over 3000 properties and has information about over 250,000 materials and chemical systems.

All the information that is 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 and pick 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, which means 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 Chemical research
- Academic Institutions with a research focus on Physics, Chemistry, Materials Science and Engineering
- Government Organizations that conduct research in these areas
- Corporate Libraries that support 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

Period Table Search

Springer Materials The Landolt-Börnstein Database

Search for Element Systems

Select elements by clicking on the symbols. Deselect elements by clicking a second time.

Your Selection
Cr-Fe*

Cr-Fe
Al-Cr-Fe
As-Cr-Fe
Au-Cr-Fe
B-Cr-Fe
Be-Cr-Fe
C-Cr-Fe
Ca-Cr-Fe
Co-Cr-Fe
Cr-Cu-Fe
Cr-Dy-Fe
Cr-Er-Fe
Cr-Fe-Ca
Cr-Fe-Gd
Cr-Fe-Ge
Cr-Fe-H
Cr-Fe-Ho
Cr-Fe-Lu
Cr-Fe-Mn
Cr-Fe-Mo
Cr-Fe-Nb
Cr-Fe-Nd
Cr-Fe-Ni
Cr-Fe-O

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

Chemical Structure Search

Springer Materials The Landolt-Börnstein Database

Chemical Structure Search

anthracene 100%

8-methyl-anthracene 93%

Methylanthracen 93%

1-methyl-anthracene 93%

2-Aminoanthracen 92%

9-Aminoanthracen 92%

D-Anthrol 92%

Anthranol 92%

9-Anthracencarbonitril 92%

9-vinylanthracene 87%

2,3-Dimethylanthracen 86%

Anthracene-9-carbaldehyde 86%

9-ethyl-anthracene 86%

anthracene, 9,10-dimethyl- 86%

Anthranolmethylather 86%

C₁₄H₉Cl 84%

9-Chloranthracen 84%

1-chloro-anthracene 84%

C₁₄H₁₂O 81%

Anthracene-9-carboxylic acid 81%

9-lithio-anthracene 80%

2,3-benzanthracene 78%

benz[a]anthracene 78%

9,10-Anthracenedicarbonitril 78%

anthracene, 9-butyl- 74%

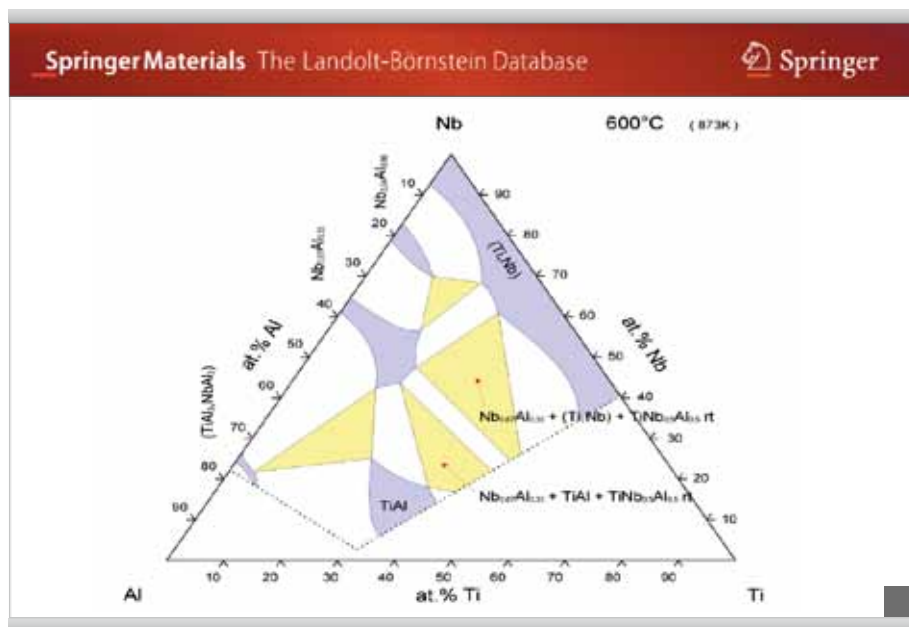
2-(tert-butyl)anthracene 76%

9,10-diethyl-anthracene 76%

9,10-dimethyl-anthracene 76%

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. You can also do a substructure search to find larger molecules, or an exact search for your particular structure.

Additional Integrated Content



Inorganic Solid Phases

The complete Linus Pauling Files 2010: 255,000 documents covering physical properties, phase diagrams, crystallographic data, diffraction data sheets, now with accurate coordinate tools

SpringerMaterials The Landolt-Börnstein Database

Methanol
Thermophysical Data in the Dortmund Data Bank

Components

No.	Formula	Molar Mass	CAS Registry Number	Name
1	CH ₄ O	32.042	67-56-1	Methanol

List of Available Properties

- Pure Component Properties (Virial Coefficients)
- Pure Component Properties (Density)
- Pure Component Properties (Molar Heat Capacity (C_p))
- Pure Component Properties (Heat of Vaporization)
- Pure Component Properties (Ideal Gas Heat Capacity)
- Pure Component Properties (Surface Tension)
- Pure Component Properties (Speed of Sound)
- Pure Component Properties (Thermal Conductivity)

Thermophysical Properties

Derived from the Dortmund Database of Separation Technology, it contains 425,000 datapoints covering 1225 organic compounds and their binary mixtures.

SpringerMaterials The Landolt-Börnstein Database

European regulations regarding Methanol (CH₄O)

Name: Methanol Formula: CH₄O
CAS-#N: 67-56-1 Molecular Weight: 32.042 g/mol

EG-Index: 503-001-00-X (2001/59/EC)
EINECS: 200-659-6 (EINECS)

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

Hazard symbols: 2001/59/EC

R-Phrase: T Toxic; F Highly flammable; 11-23/24/25-39/23/24/25; R11 Highly Flammable; R23/24/25 Toxic by inhalation, in contact with skin and if swallowed; R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. 2001/59/EC

S-Phrase: (1/2)-77-16-36/37-45; S1/2 Keep locked up and out of the reach of children; S7 Keep container tightly closed; S16 Keep away from sources of ignition - No smoking; S36/37 Wear suitable protective clothing and gloves; S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). 2001/59/EC

GHS classification (Globally Harmonized System)
Signal Word: **Danger** EC/1272/2008

Pictogram:

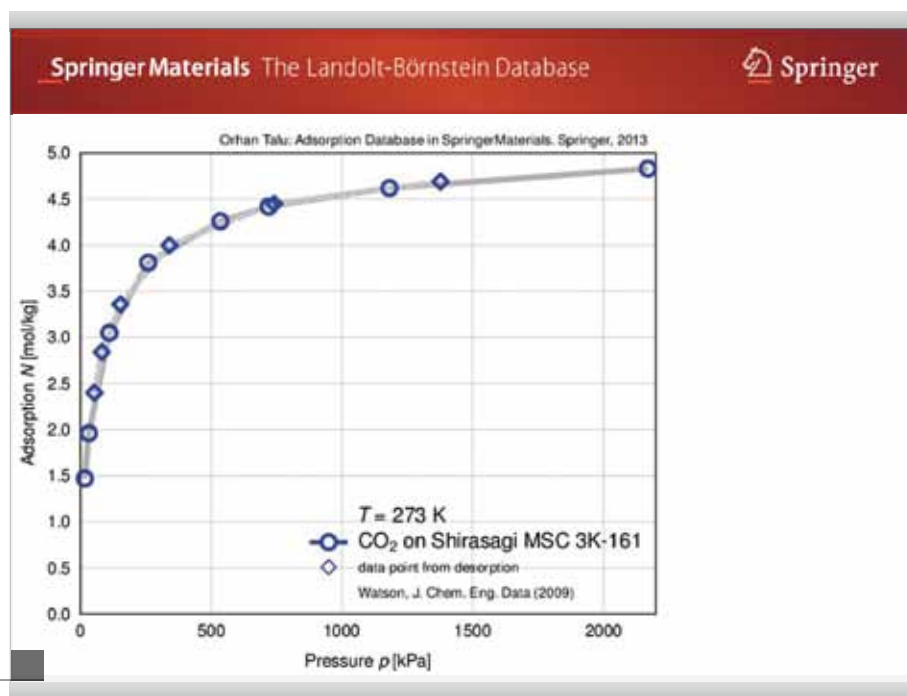
Hazard Statements: H225 Highly flammable liquid and vapour; H331 Toxic if inhaled.

Chemical Safety Data

Officially recognized as REACH compliant, SpringerMaterials contains 44,000 documents covering REACH, GHS, RoHS and WEEE standards for handling and potential hazards of materials and chemicals

The Adsorption Database

SpringerMaterials contains the new and unique adsorption database, with over 2000 isotherms of isothermally reversible physical adsorption expected in 2013!



Why use SpringerMaterials?

Apart from having 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 metacontent that underlies all the content. Access and navigate the Landolt-Börnstein book volumes by clicking on the sections in the left sidebar, and filter and search a specific database only by clicking on the database name there. Access the periodic table and chemical structure search tools by clicking on their tabs along the top of the page.

Innovative Web Platform

Periodic Table Search /
Chemical Structure Search

Tutorials / Demo / Help

Landolt-Börnstein Volumes

Simple Search Box

Additional Databases

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Periodics, Nuclei and Atoms

Molecules and Molecules

Electronic Structure and Transport

Magnetism

Semiconductivity

Superconductivity

Crytallography

Thermodynamics

Multiphase Systems

Advanced Materials

Advanced Technologies

ASTRO- and Geophysics

Substance Profiles

Inorganic Solid Phases

Thermophysical Properties

Adsorption

Chemical Safety

Search in

SpringerMaterials

The World's Largest Resource for Physical & Chemical Data in Materials Science:
230,000 Substances & Material Systems | 3,000 Properties | 1,200,000 Literature Citations

*** what's new *** what's new *** what's new *** what's new *** what's new *** what's new ***

Available March 31, 2013

- Landolt-Börnstein Volumes (more ...)
- Adsorption Database Released (more ...)
- Inorganic Solid Phases updated (more ...)
- Handbook of Spectral Lines in Gaseous (more ...)
- Nanomaterials Characterization (more ...)

SpringerMaterials: A Modern Database, built for researchers

- Unrivaled database containing the most comprehensive collection of the properties of materials and chemicals, with the greatest scope and depth to ensure the researcher finds all the content in a single location.
- SpringerMaterials features a critical review process that ensures that the researcher can rest assured that the data is accurate, relevant and up to date.
- Intelligent search and content retrieval system, based on metadata that tags each of the 100,000+ documents with information describing its content like name and type of material, properties names, etc. This 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 in an expansive way, and discover related materials for comparison.

Benefits for Libraries

- Increase your institution's research productivity by offering a huge database of materials science and their properties. Simultaneously, minimize the number of resources you need to maintain by harnessing the magnitude and scope of SpringerMaterials.
- Rest assured that the database contains only the highest quality of peer-reviewed and critically reviewed and expert authorized content.
- SpringerMaterials is an easy no-hassle platform to maintain, with 24/7 concurrent access for all your researchers, either onsite or through remote authentication.
- Flexible purchase options for the library, with powerful tools to monitor usage and see the return on your investment.



Ordering and Fulfillment Information

Please contact your local Springer representative or email 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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