

The Dortmund Data Bank

The Dortmund Data Bank (DDB) is a factual data bank for thermodynamic and thermophysical data compiled from primary sources like scientific publications, theses, company reports, deposited documents, and private communications. Only experimental data from the original publications are stored.

Besides the easily accessible thermophysical properties from scientific literature DDB contains a great part of data not available via the open literature (systematic measurements for the development of predictive tools, private communications, confidential data from industry, BSc., MSc and Ph.D. theses, ... from all over the world). These data will not be provided by online services and are not made available to competitors of DDBST GmbH. The DDB offers vast amounts of information for a wide variety of applications in chemical engineering, environmental protection, and plant safety. It is especially valuable for the design of separation processes, e.g. distillation, extraction, absorption, crystallization, evaporation, ...

Besides covering the most common components the DDB contains data for e. g. ionic liquids, biofuel components, amines used in gas treating, polymers, electrolytes, and more.

Distribution Channels

The DDB is distributed as an in-house data bank together with a software for data retrieval, visualization, regression and export to other applications like spreadsheets or chemical process simulators. In addition, this software package includes many state-of-the-art property estimation models for pure component and mixture properties like UNIFAC, mod. UNIFAC, PSRK, VTPR, COSMO-RS(OI), COSMO-SAC as well as process synthesis tools and further utilities.

As a second distribution channel, the Dortmund Data Bank is used within our consulting services, either in form of simple data deliveries but more often in combination with advanced services like data regression (e. g. for g^E models like Wilson, NRTL and UNIQUAC or pure component vapor pressure equations like simple or extended Antoine, Wagner, heat capacity polynomial parameters, parameters for a variety of DIPPR and PPDS equations). Data are also bundled with specific available or custom-tailored software tools. In many cases, data are delivered together with property estimation results. In addition, missing data can be measured at our partner organisation LTP GmbH.

Major parts of the Dortmund Data Bank except e.g. adsorbent/adsorptive equilibria as well as many data supplied by the Gas Processors Association (GPA) are also included in DETHERM (i-systems.dechema.de).

The Online DDB Search

Online DDB Search has been developed to enable a world-wide access to the contents of the Dortmund Data Bank. The site allows checking for the availability of thermophysical data free of charge and in addition it offers qualified consulting beyond just data delivery upon request.

Online DDB Search

Dortmund Data Bank
Thermophysical Data for Process Design
Contact: +49 441 361819 0 or info@ddbst.com

DDB Component Search

Search Item	Search Term	Search
DDB No.:	<input type="text"/>	<input type="button" value="Search"/>
Name:	<input type="text"/>	<input type="button" value="Search"/>
CAS-RN:	<input type="text"/>	<input type="button" value="Search"/>
Formula:	<input type="text"/>	<input type="button" value="Search"/>
SMILES:	<input type="text"/>	<input type="button" value="Search"/>

Query

A quote for experimental literature data about the system can be obtained via email.

DDB#	Name	CAS-RN	Formula	Delete
11	Ethanol	64-17-5	C ₂ H ₆ O	<input type="button" value="Delete"/>
110	Methanol	67-56-1	CH ₄ O	<input type="button" value="Delete"/>

System Search (Exact Match) As Subsystem New System/Query

Dortmund Data Bank Version: January 2026

What are "Sets" and "Points" in the Dortmund Data Bank? © Dortmund Data Bank by DDBST GmbH
Overall Statistics on Systems, Sets, and Points
Online DDB search information page Direct link to this DDB search page
Contact

DDB Online Search is explicitly not a web shop and it is not possible to buy data through this service directly. DDB Online Search is designed as an information source only and request will always be answered by one of DDBST's employees.

Supported Data Banks

The online DDB search covers the complete list of data banks of the Dortmund Data Bank. Included are the data banks for

- Pure component properties
 - P-v-T related data (vapor pressures, critical data, densities, virial coefficients, and more)
 - Transport properties (viscosities, thermal conductivities, ...)
 - Enthalpies (phase change, formation, ...)
 - Heat capacities
 - Surface tensions
 - and more

- Mixture properties
 - Vapor-liquid equilibria
 - Liquid-liquid equilibria (miscibility gaps)
 - Solid-liquid equilibria (solubilities)
 - Activity coefficient at infinite dilution
 - Gas solubilities
 - Azeotropic and zeotropic data
 - Heats of mixing
 - Densities, volumes and excess volumes
 - Excess heats of mixing
 - Critical data of mixture
 - Salt solubilities
 - Vapor-liquid equilibria for electrolyte containing mixtures
 - Octanol-water partition coefficients
 - Adsorbent/adsorptive equilibria
 - Polymer related information (covering phase equilibria data and more)
 - Dynamic and kinematic viscosities
 - Thermal conductivities
 - Speeds of sound
 - Surface tensions
 - Dielectric constants

Online DDB Search

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Thermophysical Data for Process Design
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Query

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DDB#	Name	CAS-RN	Formula	Overview	Details
11	Ethanol	64-17-5	C ₂ H ₅ O	Overview	Details
110	Methanol	67-56-1	CH ₃ O	Overview	Details

Search for mixtures containing this mixture as subsystem

Mixture Data

Databank		Sets	Points	Temperature Pressure	
				Range	Range
Vapor-Liquid Equilibria	VLE	65	900	273-433 K	2-1735 kPa
Heats of Mixing	HE	8	50	294-413 K	101-1376 kPa
Activity Coefficients at Infinite Dilution (Pure Solvents)	ACT	8	8	298-424 K	n.a.
Heat Capacities of Mixtures, Excess Heat Capacities	CPE	3	21	298-441 K	101 kPa (const.)
(A)zeotropic Data	AZD	51	51	273-433 K	40-1013 kPa
Solid-Liquid Equilibria	SLE	2	10	144-175 K	n.a.
Densities and Volumes of Mixtures, Excess Volumes	VE	54	695	273-338 K	100-40000 kPa
Critical Data of Mixtures	CRI	1	10	513-514 K	n.a.
Mixture Viscosities	VIS	37	369	273-343 K	101 kPa (const.)
Mixture Surface Tensions	MSFT	6	48	273-333 K	n.a.
Mixture Speeds of Sound	MSOS	4	52	293-298 K	101 kPa (const.)
Mixture Thermal Conductivities	MTCN	1	10	298-323 K	101 kPa (const.)
Mixture Dielectric Constants	MDEC	17	242	288-318 K	n.a.
Mixture P-v-T Data	MPVT	38	311	288-423 K	150-40080 kPa
Mixture Flash Points	MFLP	5	47	283-680 K	n.a.
Diffusion Coefficients	DIF	2	38	298-378 K	25-234 kPa
Further Thermodynamic Properties	X	3	2	298 K (const.)	n.a.
Total		305	2865		

Some data for this system can be found in our DDB Explorer Version.

New System/Query Back

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Please refer to the DDB search page.

Changes and errors are possible regarding all information.

Terms and Conditions of Use

Prices

DDBST GmbH provides Online DDB Search free of charge. Please take a look at the price lists for data sets, complete or partial data banks and software for further information.

Copyright

Online DDB Search results can be distributed freely and no copyright is reserved for the search results as long as they are distributed together with a link or reference to the DDB or Online DDB Search.

Typical Outputs

A typical output includes details about the data types, the temperature and pressure ranges, and the number of sets and points (where available).

The example below shows all available data for the binary mixture of ethanol and methanol.