CHEMSAFE

Subject Coverage

Information on Flammable Substances and their Mixtures including:

- Bibliographic Information
- Classifications according to regulations, laws, standards
- Identification of Substance
- Methods of Measurement
- Physical-Chemical Properties
- Safety Properties

File Type

Numeric, bibliographic

Features

Thesaurus	Not available				
Alerts (SDIs)	Not available				
CAS Registry Numbers®	☑	Page Images	☐	STN AnaVist	☐
Keep & Share	☐	SLART	☐	STN Easy	☐
Learning Database	☐	Structures	☐	STN Viewer	☐

Record Content

- More than 100 properties, such as flash points, explosion limits, minimum ignition energy, and autoignition temperature for gases, liquids, dusts, and hybrid mixtures.
- German and international regulations and classifications, source information, and CAS Registry Numbers.
- Abstracts, mixture descriptors, and substance descriptors are given in German too.

File Size

52,353 records (03/11)

Updates

Reloaded irregularly

Language

English, German

Database Producer

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Copyright Holders

Sources	• Journals • Collection of safety parameters • Laws, regulations • Technical rules, datasheets • Accident prevention regulations
User Aids	• Online Helps (HELP DIRECTORY lists all help messages available) • STNGUIDE
Clusters	• ALLBIB • AUTHORS • CASRNS • NUMERIC • SAFETY STN Database Clusters information (PDF).
Pricing	See the STN Price List or enter HELP COST at an arrow prompt.

Search and Display Field Codes

There are bibliographic records and factual table records in CHEMSAFE. After a search in bibliographic fields only the bibliographic fields can be displayed. To see corresponding tables (including Substance Identification and Data Information fields) use the SELECT TABLE command. A search with the E-number will retrieve all tables related to this bibliography.
After a search in factual fields the corresponding bibliographic record can be displayed with the predefined formats BIB or ALL. For the display of single bibliographic fields search for the corresponding bibliographic record first. Use the SELECT BIBLIO command followed by a search of the resulting E-number.

Bibliographic Fields

There are no fields that allow left truncation in this file.

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index (contains single words from the title (TI), abstracts (AB, ABDE), fields as well as CAS Registry Numbers)	None or /BI	S BRENNBARKEIT S 50-00-0 S SICHERHEITSTECHNISCHE KENNZAHL?	TI, AB, ABDE, RN
Accession Number	/AN	S 1-17/AN	AN
Author (patent inventor)	/AU	S NABERT, K/AU	AU
Classification Code	/CC	S EXPLOSION/CC	CC
Document Type (code and text)	/DT (or /TC)	S REPORT/DT	
Entry Date **(1)**	/ED (or /UP)	S 19920818/ED	ED
International Standard (Document) Number	/ISN	S IECHAD/ISN	ISN, SO
Journal Title	/JT	S CHEM ING TECH/JT	JT, SO
Language	/LA	S GERMAN/LA	LA
Publication Year **(1)**	/PY	S 1985<PY<1991	PY, SO
Source (contains CODEN, volume, issue, page and journal title)	/SO	S IECHAD/SO S CHEM ING TECH/SO	SO
Title	/TI	S FEUERSCHUTZTECHNIK/TI S PROPERTIES OF FLAMMABLE LIQUIDS/TI	TI

(1) Numeric search field that may be searched using numeric operators or ranges.

SUBSTANCE IDENTIFICATION

Search Field Name	Search Code	Search Examples	Display Codes
Accession Number	/AN	S 1-17/AN	AN
Atom Count **(1)**	/ATC	S 2/ATC	not displayed
CAS Registry Number	/RN	S 108-93-0/RN	RN
Chemical Name **(2)**	/CN	S CYCLOHEXANOL/CN	CN
Chemical Name Segment **(3)**	/CNS	S ACETYL/CNS	CN
EG Number	/EGN	S 601-007-00-7/EGN	EGN
Element Count (total) **(1)**	/ELC /Elem. symb.	S 1/ELC S 4/ELC	not displayed

SUBSTANCE IDENTIFICATION (cont'd)

Search Field Name	Search Code	Search Examples	Display Codes
Element Count **(1)**	/ELS	S FE/ELS	not displayed
Field Availability	/FA	S UNN/FA	FA
Mixture Descriptor in English	/MXD (or /MXDEN)	S "AMMONIA/OXYGEN MIXTURE"/MXD	MXD
Mixture Descriptor in German	/MXDDE	S "AMMONIAK/SAUERSTOFF-GEMISCH" /MXDDE	MXD
Molecular Formula	/MF	S C6H12O/MF	MF
Number of Components (Substances) **(1)**	/NC	S 1/NC	not displayed
Periodic Group	/PG	S A1/PG	not displayed
Substance Descriptor in English	/SDC (or /SDCEN)	S DUST EXPLOSION HAZARD/SDC	SDC
Substance Descriptor in German	/SDCDE	S AUS FILTER/SDCDE	SDC
System Description **(4)**	/SYST	S I40/SYST	SYST
UN Number	/UNN	S 1010/UNN	UNN

(1) Numeric search field that may be searched with numeric operators or ranges.
(2) CA index names and synonyms are indexed. For pseudocomponents the pseudocomponent name is indexed.
(3) The /CNS field does not contain parsed segments of the synonyms.
(4) Codes or bound phrases are used as search terms. The following codes are available: (1st digit and its bound phrase) O - organic; I - inorganic; M - organometallic, X – mixed organic-inorganic. (Next two digits and the bound phrase) 10 - pure compound; 20 – binary system; 30 - ternary system; 40 - quarternary system; 50 - quinary system.

DATA INFORMATION

Search Field Name	Search Code	Search Examples	Display Codes
Data Type **(1)**	/DATA	S RECOMMENDED VALUE/DATA	COL
Description of State (class, type, relation, condition)	/STATE	S OPEN CUP/STATE	COL
Property (Preferred Property Name) **(2,3)**	/PROP (or /PPN)	S AIT/PROP	COL, TBL, TBLO
Property Relation	/PROPRL	S COMPONENTS 1+2/PROPRL	COL
Row Counter (Table Lines)	/ROW	S ROW=2	ROW

(1) Use the EXPAND command to see valid search terms.
(2) Use the EXPAND command to see a list of the properties available. Valid search terms are property names and codes.
(3) The following properties are numerically searchable:

STN Code	Property	Default Unit	Further Unit	Units Conversion
AIT	Autoignition Temperature	K	none	yes
AITDA	Autoignition Temperature of Dust Accumulation	K	none	yes
DEN	Density	kg/m**3	none	yes
FP	Flash Point	K	none	yes
ITDC	Ignition Temperature of Dust Cloud	K	none	yes
ITDL	Ignition Temperature of a Dust Layer	K	none	yes
LEL	Lower Explosion Limit	kg/m**3	kg/kg	no
MEP	Maximum Explosion Pressure	Pa	none	yes
MIE	Minimum Ignition Energy	J	none	yes

PRES	Pressure	Pa	none	yes
TEMP	Temperature	K	none	yes
UEL	Upper Explosion Limit	kg/m**3	kg/kg vol fraction	no
VS	Viscosity	Pa*s	m**2/s	no

For numeric searches of properties only the STN code is allowed as search code. Search can be done with or without unit. If no unit is assigned, the search is done using the defaults. If an invalid unit is chosen you will get an error message including the right unit(s).

DISPLAY and PRINT Formats

There are bibliographic records and factual table records in CHEMSAFE. After a search in bibliographic fields, only the bibliographic fields can be displayed. To see corresponding tables, including Substance Identification and Data Information fields, enter SELECT TABLE at an arrow prompt (=>). Then search the E-number to retrieve all tables related to this bibliography. After a search in factual fields, the corresponding bibliographic record can be displayed with BIB or ALL. To display individual bibliographic fields, first enter SELECT BIBLIO at an arrow prompt (=>). Then search the resulting E-number to retrieve bibliographic information related to the data. The default format in the CHEMSAFE database is the dynamic display format QRD (Query Related Data), providing display fields in which your search term appears (HIT) and related information.
Hit-term highlighting is available for all fields except AN, RACC, and UP. Highlighting must be ON during SEARCH to use HIT and QRD.

Format	Content	Examples
	Bibliographic fields:	
AB	Abstract	D TI AB
ABDE	Abstract in German	
AN	Accession Number	D 1-5 AN
AU	Author	D AU TI
CC	Classification Code	D CC CT
DT	Document Type	D DT LA
ISN	International Standard (Document) Number	D ISN
JT	Journal Title	D JT
LA	Language	D LA
PY	Publication Year	D PY
RACC	Related Accession Number	D RACC
RN	CAS Registry Number	D RN 1-3
SO	Source	D L5 SO
TI	Title of Project	D TI 1-10
UP **(1)**	Update Date	D UP
	Identification of Substance Fields:	
CN	Chemical Name	D CN
EGN	EG Number	D EG
MF	Molecular Formula	D MF
MXD	Mixture Descriptor	D MXD
RN	CAS Registry Number	D RN
SYST	System Description	D SYST
UNN	UN Number	D UNN
	Data Information Fields:	
LAW	Law Regulations	D LAW
ROW	Row Counter (Table Lines)	D ROW

DISPLAY and PRINT Formats (cont'd)

Format	Content	Examples
ALL	All information in English (BIB, IDE, COL, TBLO)	D ALL 1-10
ALLDE	All information in German (BIBDE, IDE, COL, TBLO)	D ALLDE
BIB	Bibliographic information in English (AN, RACC, TI, AU, SO, DT, LA, AB, CC)	D BIB
BIBDE	Bibliographic information in German (AN, RACC, TI, AU, SO, DT, LA, ABDE, CC)	D BIBDE
COL	Column Description (PROP, PROPRL*, DATA*, STATE*) * only special information	D L2 COL
IDE	Identification of Substance (AN, CN, EGN, LAW, MF, MXD, RN, SDC, SYST, UNN)	D L2 IDE
QRD (2)	Query Related Data (default: dynamic format HIT and relating information)	D L5 IND
TBL	Data Table (SI Units) (COL, 'data table' (SI units))	D L2 TBL
TBLO	Data Table (Original Units) (COL,'data table' (original units))	D L2 TBLO
TRIAL	AN, CN, PROP, ROW; system parameters like temperature, pressure, concentration; number of table hit lines	D TRIAL
HIT	Information unit in which your search term appear	D HIT

(2) The relation of display fields in QRD to the searched fields is given below:

Search Field(s)	**Display fields in QRD**
AN	AN
AU, BI*, CC, CT, DT, LA, PY, TI	AN, BIB**
BI***	AN, BIBDE****
ISN, JT or SO	AN, BIB**, SO
ROW	FA
ATC, CN, CNS, EGN, ELC, Element Symbol, ELS, MF, MXD, NC, PG, RN, SDC, SYST, UNN	AN, IDE
PROP, PROPRL, DATA, STATE	AN, IDE, COL
Numeric Search	AN, IDE, TBLO

* Terms from AB.
** Note: For QRD the meaning of BIB is somewhat different from the predefined format BIB. In the case of QRD the meaning is: AB, AU, CC, DT, LA, PY, RACC, TI.
*** Terms from ABDE.
**** Note: For QRD the meaning of BIBDE is somewhat different from the predefined format BIBDE. In the case of QRD the meaning is: ABDE, AU, CC, DT, LA, PY, RACC, TI.

SELECT, ANALYZE, and SORT Fields

The SELECT command is used to create E-numbers containing terms taken from the specified field in an answer set.

The ANALYZE command is used to create an L-number containing terms taken from the specified field in an answer set.

The SORT command is used to rearrange the search results in either alphabetic or numeric order of the specified field(s).

Additionally, when using a table format with DISPLAY or PRINT, you may sort the table information in TBL and TBLO.

For TBL:
=> D TBL TSORT=(DATSI,Cx, sort order)

For TBLO:
=> D TBLO TSORT=(DATOR,Cx, sort order)

where x is the number of the column to be sorted and the sort order is given as 'A' for ascending and 'D' for descending. If no sort order is given the default ('A') is used.

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Abstract in English	AB	Y **(2)**	N
Abstract in German	ABDE	Y **(2)**	N
Accession Number	AN	Y **(3)**	N
Author	AU	Y	Y
CAS Registry Number	RN	Y (default)	N
Chemical Name	CN	Y	N
Classification Code	CC	Y	Y
Data Type	DATA	Y	N
Description of State	STATE	Y	N
Document Type	DT	Y	Y
EG Number	EGN	Y	N
International Standard (Document) Number	ISN	Y **(4)**	N
Journal Title	JT	Y **(5)**	Y
Language	LA	Y	Y
Mixture Descriptor	MXD	Y	N
Molecular Formula	MF	Y	N
Property	PROP	Y	N
Property Relation	PROPRL	Y	N
Publication Year	PY	Y	Y
Related Accession Number	RACC	Y **(3)**	N
Row Counter (Number of Table Lines)	ROW	Y	N
System Description	SYST	Y	N
Title	TI	Y	Y
UN Number	UNN	Y	N

(1) HIT may be used to restrict terms extracted to terms that match the search expression used to create the answer set, e.g., SEL HIT TI.
(2) Appends /BI to the terms created by SELECT.
(3) SELECT HIT or ANALYZE HIT is not valid with this field.
(4) Selects or analyzes CODEN.
(5) Appends /SO to the terms created by SELECT.

Sample Record

DISPLAY ALL

```
    Bibliography  for  Table  Number: 2-52130
Accession Number (AN):        1-223  CHEMSAFE
Related Acc. No. (RACC):      Tables: 2-32442 - 2-52130
Title (TI):                   Empfohlene Sicherheitstechnische Kenngroessen
Author (AU):                  PTB-Arbeitsgruppe 3. 43
Source (SO):                  Datenbank PTB-AG 3.43,(2009)
Document Type (DT):           Miscellaneous
Language (LA):                German
Abstract (AB):                The document contains safety data recommended by
                              the german national institute
                              PHYSIKALISCH-TECHNISCHE BUNDESANSTALT. Vapour
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pressure curves are represented by Antoine equation in the form log10(P) = A - B/(T +C). Constants A, B, C are given in the database together with the minimum and maximum temperature limiting the valid range for the correlation.

Classification Code (CC): EXL: Ignition, explosion

Identification of System

System Description (SYST): X20 organic - inorganic, binary system

Mixture Descriptor (MXD): 2-PROPANOL/NITROGEN OXIDE(N2O) MIXTURE
2-PROPANOL/DISTICKSTOFFOXID GEMISCH

Substance (1) of (2):

Chemical Name (CN): 2-Propanol
Synonyms: i-Propanol; 2-Propanol; Isopropylalkohol; i-Propylalkohol; Propanol-2; Isopropyl alcohol; sec-propyl alcohol; Propanol-2; Isopropanol

Molecular Formula (MF): C3 H8 O

CAS Reg. Number (RN): 67-63-0

EINECS Number (EIN): 200-661-7

Substance (2) of (2):

Chemical Name (CN): Nitrogen oxide (N2O)
Synonyms: Distickstoffmonoxid; Stickstoffoxid (N2O); Lachgas; Distickstoffoxid; Dinitrogen oxide; Distickmonoxid; Nitrous oxide; Laughing gas; Dinitrogen monoxide

Molecular Formula (MF): N2 O

CAS Reg. Number (RN): 10024-97-2

EINECS Number (EIN): 233-032-0

Data Information

Property (1) of (4):

Property (PROP): XL concentration (Konzentration)

Prop. Relation (PROPRL): component 1

Property (2) of (4):

Property (PROP): MESG maximum experimental safe gap (Normspaltweite, MESG, MESW, NSW, safe gap, sicherheitstechnische Kenngroessen, Spaltweite)

Data Type (DATA): recommended value

Property (3) of (4):

Property (PROP): PRES pressure (Druck, p)

Property (4) of (4):

Property (PROP): TEMP temperature (Temperatur, T)

ORIGINAL VALUES

PROPERTY	VALUE	UNIT
XL	10.0	mol%
MESG	0.4	mm
PRES	1013	mbar

TEMP |80 | C

Billing Class: 1

Note: Maximum Experimental Safe Gap as a function of p, T and composition
Zuenddurchschlagsichere Spaltweite als Funktion von p, T und Konz.

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