

STN[®]

THE CHOICE OF PATENT EXPERTS[™]

Chemical Engineering and Materials Science on STN





Agenda

- Engineering and Materials Science information on STN
 - ENGINEERING and MATERIALS clusters
 - Database summary sheets
 - Special features
- Database content
- Search examples

<http://www.stn-international.com/clusters.html>

STN®
THE CHOICE OF PATENT EXPERTS™

Home | FIZ Karlsruhe Home | Press Room | Contact | Sitemap | Print page

Search

About STN

- ▶ STN at a glance
- ▶ Brochures and Presentations
- ▶ FAQ

Solutions for

- ▶ Information Professionals
- ▶ IP Professionals
- ▶ Researchers
- ▶ Academics

Products and Services

- ▶ STN Content
 - ▶ Database List A-Z
 - ▶ Databases by Clusters
 - ▶ Databases by Clusters (PDF)
 - ▶ Databases by Subject
 - ▶ Databases by Feature
 - ▶ Databases with SLART (PDF)
 - ▶ Databases by Product
 - ▶ Databases by Producer
 - ▶ Keep & Share
- ▶ STN Interfaces and Tools
- ▶ Search Service
- ▶ STN Full-Text Solution
- ▶ New STN Platform

Customer Support

- ▶ Helpdesk
- ▶ Representatives
- ▶ Prices

Databases by Clusters

STN database clusters contain databases covering the same subject area. You can search the clusters through the Multifile Search capability. Reviewing the clusters can help you determine which databases to search to find information on your topic of interest:

AEROTECH	AGRICULTURE	BIOSCIENCE	BUSINESS	CASRNS	CHEMENG	CHEMISTRY
COMPUTER	CONSTRUCTION	ELECTRICAL	ENGINEERING	ENVIRONMENT	FOOD	FORMULATIONS
FUELS	FULLTEXT	GEOSCIENCE	HEALTH	HPATENTS	HUMANITIES	IMSBASES
MATERIALS	MEDICINE	MEETINGS	METALS	MOBILITY	NUMERIC	PATENTS
PETROLEUM	PHARMACOLOGY	PHYSICS	PNTTEXT	POLYMERS	PV	SAFETY
STRUCTURE	TOXICOLOGY					

Others database clusters contain databases that share the same structure (e.g. structure searching) or have the same producer. All

page: 1 | 2 | 3 | 4 | 5 | ... 10 next











1	MOBILITY	Global Mobility Bibliographic database	
2	MOBILITY	Global Mobility Standards database	
	ADISCTI	Adis literature in internat. medical and biomedical journals	
	ADISINSIGHT	Adis weekly reports	
	ADISNEWS	Adis Newsletters	
	AEROSPACE	The Aerospace and High Technology database	
	AGRICOLA	Food, agriculture and related fields database	
	ALUMINIUM	now part of PQSCITECH	
	ANABSTR	Analytical Abstracts database	

Click on ENGINEERING to see the databases associated with that cluster name.

STN ENGINEERING database cluster











Databases in category "ENGINEERING"

page: [1](#) | [2](#) | [3](#) | [4](#) | [5](#) next

1MOBILITY Global Mobility Bibliographic database	First of five pages for STN ENGINEERING cluster.	 Summary Sheet
2MOBILITY Global Mobility Standards database		 Summary Sheet
AEROSPACE The Aerospace and High Technology database		 Summary Sheet
ALUMINIUM now part of PQSCITECH		
ANTE now part of PQSCITECH		
APOLLIT Applied Polymers Literature		 Summary Sheet
AUPATFULL Australian patent applications and specifications		 Summary Sheet
BIOENG now part of PQSCITECH		
BIOTECHNO Elsevier's Biotechnobase		 Summary Sheet
CANPATFULL Canadian patent applications and specifications		 Summary Sheet
CAPLUS The Chemical Abstracts Plus file		 Summary Sheet
CEABA-VTB Literature on Chemical Engineering and B		 Summary Sheet
CIN Chemical Industry Notes		 Summary Sheet
CIVILENG now part of PQSCITECH		

page: [1](#) | [2](#) | [3](#) | [4](#) | [5](#) next

STN ENGINEERING database cluster (cont'd)

Databases in category "ENGINEERING"		
page: 1 2 3 4 5 next		
1MOBILITY	Global Mobility Bibliographic database	 Summary Sheet
2MOBILITY	Global Mobility Standards data	 Summary Sheet
AEROSPACE	The Aerospace and High Te	 Summary Sheet
ALUMINIUM	now part of PQSCITECH	
ANTE	now part of PQSCITECH	
APOLLIT	Applied Polymers Literature	 Summary Sheet
AUPATFULL	Australian patent applications and specifications	 Summary Sheet
BIOENG	now part of PQSCITECH	
BIOTECHNO	Elsevier's Biotechnobase	 Summary Sheet
CANPATFULL	Canadian patent applications and specifications	 Summary Sheet
CAPLUS	The Chemical Abstracts Plus file	 Summary Sheet
CEABA-VTB	Literature on Chemical Engineering and Biotechnology	 Summary Sheet
CIN	Chemical Industry Notes	 Summary Sheet
CIVILENG	now part of PQSCITECH	
page: 1 2 3 4 5 next		

Click on database name to get information about that database.

1Mobility database information

The screenshot shows the STN website interface. At the top left is the STN logo with the tagline "THE CHOICE OF PATENT EXPERTS™". Below the logo is a navigation bar with links: Home, FIZ Karlsruhe Home, Press Room, Contact, Sitemap, and Print page. A search bar is located on the right side of the navigation bar.

The main content area is divided into three columns:

- Left Column:** Contains navigation menus. The "About STN" menu includes links for "STN at a glance", "Brochures and Presentations", and "FAQ". The "Solutions for" menu lists "Information Professionals", "IP Professionals", "Researchers", and "Academics". The "Products and Services" menu is expanded to show "STN Content", which includes "Database List A-Z", "Databases by Clusters", "Databases by Clusters (PDF)", "Databases by Subject", "Databases by Feature", "Databases with SLART (PDF)", and "Databases by Product".
- Middle Column:** Features the "1MOBILITY" database information. It includes a "Summary Sheet" icon and a "Description" section with the following details:
 - Producer: SAE International, USA
 - Coverage: 1906-present
 - File Size: More than 172,761 records (06/2017)
 - Updates: Monthly
 - File Type: Bibliographic
 - Content: Vehicle technology
 - Language: English
 A paragraph follows: "1MOBILITY contains information from worldwide technical literature on technologies for self-propelled vehicles for land, sea, air, and space. Topics include engines, safety, materials, fuels and lubricants, design, and manufacturing. Sources are books, conference papers, and journals. Abstracts, bibliographic information, and index terms are searchable." Below this is the "Producer" information: "SAE International, 400 Commonwealth Drive, Warrendale, PA 15096, Phone: (+1 724) 772-7108, Fax: (+1 724) 778-3038". A "Usage Terms" link is also present.
- Right Column:** Contains "Direct Access" and "New on STN" sections. The "Direct Access" section has a "Quick Links" dropdown menu. The "New on STN" section lists two updates from September 2017: "New Entree Thesaurus Version in Embase Expands Cell Line Names" and "Taiwanese Chemical Substance Inventory Now Included in CHEMLIST", each with a "Read more" link. Below this is an "August 2017" update: "Log into STNnext(TM) for a chance to win!" with a "Read more" link and a "More News Messages" link.

At the bottom of the right column is a "Database in Focus" section with a link to "Chemical Abstracts Plus (CAplus™) and CAS REGISTRY™".

<http://www.stn-international.com/clusters.html>

STN®
THE CHOICE OF PATENT EXPERTS™

Home | FIZ Karlsruhe Home | Press Room | Contact | Sitemap | Print page

Search

About STN

- ▶ STN at a glance
- ▶ Brochures and Presentations
- ▶ FAQ

Solutions for

- ▶ Information Professionals
- ▶ IP Professionals
- ▶ Researchers
- ▶ Academics

Products and Services

- ▶ STN Content
 - ▶ Database List A-Z
 - ▶ Databases by Clusters
 - ▶ Databases by Clusters (PDF)
 - ▶ Databases by Subject
 - ▶ Databases by Feature
 - ▶ Databases with SLART (PDF)
 - ▶ Databases by Product
 - ▶ Databases by Producer
 - ▶ Keep & Share
- ▶ STN Interfaces and Tools
- ▶ Search Service
- ▶ STN Full-Text Solution
- ▶ New STN Platform

Customer Support

- ▶ Helpdesk
- ▶ Representatives
- ▶ Prices

Databases by Clusters

STN database clusters contain databases covering the same subject area. You can search the clusters through the Multifile Search capability. Reviewing the clusters can help you determine which databases to search to find information on your topic of interest:

AEROTECH	AGRICULTURE	BIOSCIENCE	BUSINESS	CASRNS	CHEMENG	CHEMISTRY
COMPUTER	CONSTRUCTION	ELECTRICAL	ENGINEERING	ENVIRONMENT	FOOD	FORMULATIONS
FUELS	FULLTEXT	GEOSCIENCE	HEALTH	HPATENTS	HUMANITIES	IMSBASES
MATERIALS	MEDICINE	MEETINGS	METALS	MOBILITY	NUMERIC	PATENTS
PETROLEUM	PHARMACOLOGY	PHYSICS	PNTTEXT	POLYMERS	PV	SAFETY
STRUCTURE	TOXICOLOGY					

Others database clusters contain databases that share the same structure (e.g. structure searching) or have the same producer. All

page: 1 | 2 | 3 | 4 | 5 | ... 10 next









1MOBILITY	Global Mobility Bibliographic database		Summary Sheet
2MOBILITY	Global Mobility Standards database		Summary Sheet
ADISCTI	Adis literature in internat. medical and biomedical journals		Summary Sheet
ADISINSIGHT	Adis weekly reports		Summary Sheet
ADISNEWS	Adis Newsletters		Summary Sheet
AEROSPACE	The Aerospace and High Technology database		Summary Sheet
AGRICOLA	Food, agriculture and related fields database		Summary Sheet
ALUMINIUM	now part of PQSCITECH		
ANABSTR	Analytical Abstracts database		Summary Sheet

STN MATERIALS database cluster

Others database clusters contain databases that share a similar feature (e.g. CAS Registry Numbers, numeric data, chemical structure searching) or have the same producer. All files in these clusters are also contained in the subject oriented clusters above.

Databases in category "MATERIALS"

page: 1 | 2 | 3 next

1MOBILITY	Global Mobility Bibliographic da	 Summary Sheet
2MOBILITY	Global Mobility Standards database	 Summary Sheet
ALUMINIUM	now part of PQSCITECH	
ANTE	now part of PQSCITECH	
APOLLIT	Applied Polymers Literature	 Summary Sheet
CAPLUS	The Chemical Abstracts Plus file	 Summary Sheet
CBNB	The Chemical Business NewsBase	 Summary Sheet
CEABA-VTB	Literature on Chemical Engineering and Biotechnology	 Summary Sheet
CERAB	now part of PQSCITECH	
CIN	Chemical Industry Notes	 Summary Sheet
CIVILENG	now part of PQSCITECH	
COMPENDEX	Computerized Engineering	 Summary Sheet
COPPERLIT	now part of PQSCITECH	
CORROSION	now part of PQSCITECH	

page: 1 | 2 | 3 next

Legal Notices | Privacy Policy | Disclaimer | © FIZ Karlsruhe GmbH 1998 - 2014 | Last Update: 01/16/2014

▲ Top

First of three pages for STN MATERIALS cluster.

STN database summary sheets for the databases are available here.

STN Database Summary Sheets are the authoritative source of database specific search information

- Contains content of database and subject coverage
- Updating information
- Value-added information
- How to search and display various fields
- Database producer contact information

STN Database Summary Sheet example - INSPEC[®]



INSPEC

Subject Coverage

- Atomic and molecular physics
- Circuit theory and circuits
- Classical areas of phenomenology
- Communications
- Components, electronic devices and materials
- Computer applications
- Computer hard- and software
- Condensed matter: structure, mechanical properties, electronic structures, electrical, magnetic, and optical properties
- Control technology
- Cross-disciplinary physics and related areas of science and technology
- Electromagnetic fields
- Engineering mathematics, materials science
- Fluids, plasmas, electric discharges
- General and management aspects and applications
- Geophysics, astronomy, astrophysics
- Information technology
- Instrumentation and special applications

STN Database Summary Sheet example - INSPEC

Features

Thesaurus

Controlled Term (/CT), International Patent Classification (/IPC),
Physical Properties (/PHP)

[Alerts \(SDIs\)](#)

Weekly

CAS Registry Number®
Identifiers

• Page Images

STN® AnaVist™

[Keep & Share](#)

• [SLART](#)

[STN Easy®](#)

Learning Database

• Structures

Record Content

- Bibliographic information, indexing terms, abstracts, property information, element terms, and International Patent Classification, where applicable.
- INSPEC also includes an archive from 1898-1968. This archive provides access to Science Abstracts Journals from 1898-1968, and contains over 873,700 records with tables, graphs and figures from the original source document in many cases, the original value-added indexing and classifications, as well as enhancements in the form of the nearest equivalent current INSPEC Thesaurus terms and INSPEC Classification Codes.
- IPC codes are available from 2010 onwards.

File Size

More than 17.7 million citations, 2902 images (06/2017)

STN Database Summary Sheet example - INSPEC

2
INSPEC

Coverage	1898-present
Updates	Weekly
Language	English
Database Producer	The Institution of Engineering and Technology (IET) Michael Faraday House, Six Hills Way Stevenage, Herts SG1 2AY, United Kingdom Phone: +44 1438/313311 Fax: +44 1438/742840 Email: inspec@theiet.org

Copyright Holder

The Institution of Engineering and Technology is registered as a Charity in England & Wales (no 211014) and Scotland (no SC038698)."

STN Database Summary Sheet example - INSPEC

4
INSPEC

Search and Display Field Codes

Fields that allow left truncation are indicated by an asterisk (*).

General Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index* (contains single words from abstract (AB), controlled term (CT), supplementary term (ST), controlled term original (CTO) and Title (TI) fields)	None or /BI	S MICROELECTRON? S QUANTUM HALL S LIQUID(A)CRYST? S AL203-NA20 S ?LASER?	AB, CT, CTO, ST, TI
Abstract*	/AB	S NEUTRON ?RADIATION?/AB	AB
Accession Number	/AN	S 1990:3615482/AN	AN
Application Date (1)	/AD	S AD = APR 1969	AI
Application Year (1)	/AY	S AY = 1970	AI
Astronomical Object	/AO	S WESTERBORK-53 80/AO S "1130+34"/AO	AO
Author (editor, patent inventor)	/AU	S SMITH S/AU S SMITH, S/AU	AU
Availability (2)	/AV	S NASA CENTER/AV	AV
Chemical Indexing (5,6)	/CHI	S BA DOP/CHI	CHI

STN Database Summary Sheet example - INSPEC

INSPEC

Property Fields 1,2)

Field Code	Property	Unit
/AGE	Age	yr (Year)
/ALT	Altitude	M (Metre)
/BAW	Bandwidth	Hz (Hertz)
/BIR	Bit Rate	bit/s (Bit per Second)
/BYR	Byte Rate	Byte/s (Byte per Second)
/CAP	Capacitance	F (Farad)
/COE	Computer Execution Rate	IPS (Instruct. per Second)
/CON	Conductance	S (Siemens)
/COS	Computer Speed	FLOPS (Floating Point Operations per Second)
/CUR	Curren	A (Amp)
/DEP	Depth	m (Metre)
/DIS	Distance	m (Metre)
/ECND	Electric Conductivity	S/m (Siemens per Metre)
/EEV	Electron Volt Energy	eV (Electron Volt)
/EFF	Efficiency	percent
/ENE	Energy	J (Joule)
/EREST (or /REE)	Electrical Resistivity	Ohm (Ohm Metre)
/FRE	Frequency	Hz (Hertz)

STN Database Summary Sheet example - INSPEC

Role Indicators

Code	Content
ADS	Absorbate, or any sorbate being (ad)sorbed onto a substance
BIN	Binary system
DOP	Dopant
EL	Element
INT	Interface System
SS	System with 3 or more components
SUR	Surface or substrate

Controlled Term (/CT) Thesaurus

All Relationship Codes can be used with both the SEARCH and EXPAND command.

Code	Content	Examples
ALL	All Associated Terms	E ALUMINIUM COMPOUNDS+ALL/CT
AUTO (1)	Automatic Relationship (SELF, USE, UF)	S POWDER SPRAYING+AUTO/CT
BT	Broader Terms (also BT1, BT2 etc. possible)	E TERBIUM ALLOYS+BT/CT
HIF	Hierarchy (all Broader and Narrower Terms)	F SHOCK WAVES+HIF/CT



Agenda

- Engineering and Materials Science information on STN
 - ENGINEERING and MATERIALS clusters
 - Database summary sheets
 - Special features
- Database content
- Search examples

COMPENDEX

Producer

- Elsevier (Engineering Information)

Content

- Bibliographic information, abstracts, and indexing
- Cited refs from journals, books, conferences, reports and other non-conventional literature

Time coverage

- 1970 - present

File size

- More than 17.3 million records

Update

- Weekly, with about 25,000 citations

Characteristics

- CT, CC, Numeric Property Search

PQSciTech

Producer

- ProQuest LLC, U.S.A.

Content

- All areas of science and technology

Time coverage

- 1962 - present

File size

- More than 32 million records

Update

- Monthly

Characteristics

- The file is a merge of 25 STN databases formerly known as CSA databases. Sources : journals, patents, books, reports, conference proceedings. The records contain bibliographic and indexing information, and abstracts.

CAS REGISTRYSM

Producer

- Chemical Abstracts Service

Content

- Organic and inorganic chemical substances, including structures

Time coverage

- Early 1800's - present

File size

- More than 120 M organic and inorganic substances

Update

- Daily

Characteristics

- CAS Registry Numbers[®]
- Materials Composition
- > 4.2 B property values and spectra

CAplusSM

Producer

- Chemical Abstracts Service

Content

- International patent and non-patent literature references

Time coverage

- Early 1800's - present

File size

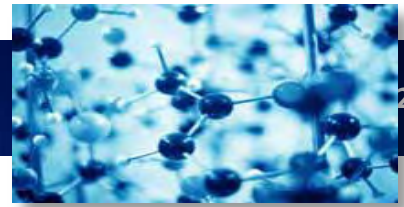
- More than 45 M records

Update

- Daily

Characteristics

- CAS Registry Numbers
- CAS indexing
- Ten thesauri



Agenda

- Engineering and Materials Science information on STN
 - ENGINEERING and MATERIALS clusters
 - Database summary sheets
 - Special features
- Database content
- Search examples

Example search

Search question:

Find non-patent literature regarding applications of aluminum oxide catalyst supports in airplane engines.

Al₂O₃ catalyst supports in airplane engines

=> INDEX MATERIALS

INDEX '1MOBILITY, 2MOBILITY, APOLLIT, CAPLUS, CBNB, . . .

27 FILES IN THE FILE LIST IN STNINDEX

=> S (ALUMINIA OR ALUMINA OR AL203) (L) (MOTOR# OR ROTOR# OR
TURBINE# OR ENGINE#) (L) (AIRPLANE OR JET)

3 FILE 1MOBILITY
88 FILE CAPLUS
. . .
7 FILE WELDASEARCH

There are 27 different databases in the STN MATERIALS cluster. Of those, 21 databases had answers for the search query.

20 FILES HAVE ONE OR MORE ANSWERS, 27 FILES SEARCHED IN STNINDEX

L1 QUE (ALUMINIA OR ALUMINA OR AL203)(L)(MOTOR# OR ROTOR# OR TURBINE#
OR ENGINE#)(L)(AIRPLANE OR JET)

Al₂O₃ catalyst supports in airplane engines (cont.)

=> INDEX HITS

```
INDEX USPATFULL, USPAT2, USPATOLD, IFIALL, CAPLUS, COMPENDEX,  
  . . . TRIBO' ENTERED AT 17:57:16 ON 22 SEP 2017
```

20 FILES IN THE FILE LIST IN STNINDEX

=> S L1 AND (CATALYST# OR CATALYT?)

```
5951 FILE USPATFULL
```

```
2883 FILE USPAT2
```

```
. . .
```

```
1 FILE CBNB
```

10 FILES HAVE ONE OR MORE ANSWERS, 20 FILES SEARCHED IN STNINDEX

L2 QUE L1 AND (CATALYST# OR CATALYT?)

Al₂O₃ catalyst supports in airplane engines (cont.)

=> D RANK

F1	5951	USPATFULL
F2	2883	USPAT2
F3	572	USPATOLD
F4	36	IFIALL
F5	13	CAPLUS
F6	7	COMPENDEX
F7	4	ENERGY
F8	3	SCISEARCH
F9	1	INSPEC
F10	1	CBNB

D RANK displays the databases according to number of hits.

Al₂O₃ catalyst supports in airplane engines (cont.)

```
=> FILE F5-F10
```

```
FILE 'CAPLUS' ENTERED AT 17:59:58 ON 22 SEP 2017
```

```
. . .
```

```
FILE 'COMPENDEX' ENTERED AT 17:59:58 ON 22 SEP 2017
```

```
. . .
```

```
=> S L2
```

```
L3          13 FILE CAPLUS
L4           7 FILE COMPENDEX
L5           4 FILE ENERGY
L6           3 FILE SCISEARCH
L7           1 FILE INSPEC
L8           1 FILE CBNB
```

```
TOTAL FOR ALL FILES
```

```
L9          29 L2
```

In this example, **SET MSTEPS** is **ON** and **SET DETAILS** is **OFF**.

Al₂O₃ catalyst supports in airplane engines (cont.)

=> DUP REM L9

PROCESSING COMPLETED FOR L9

```
L10          26 DUP REM L9 (3 DUPLICATES REMOVED)
              ANSWERS '1-13' FROM FILE CAPLUS
              ANSWERS '14-19' FROM FILE COMPENDEX
              ANSWERS '20-23' FROM FILE ENERGY
              ANSWER '24' FROM FILE SCISEARCH
              ANSWER '25' FROM FILE INSPEC
              ANSWER '26' FROM FILE CBNB
```

CPlus record

=> D 1-26 ALL

L10 ANSWER 1 OF 26 CAPLUS COPYRIGHT 2017 ACS on STN DUPLICATE 2
AN 1993:653250 CAPLUS
DN 119:253250
OREF 119:45137a,45140a
ED Entered STN: 11 Dec 1993
TI Heterogeneously catalyzed reaction of a jet-exhaust species with
an ambient coflowing species
AU Carrier, G. F.; Fendell, F. E.; Dahbura, R. S.
CS Cent. Propul. Technol. Fluid Mech., TRW Space Technol. Group,
Redondo Beach, CA, 90278, USA
SO Combustion Science and Technology (1993), 90(5-6), 405-22
CODEN: CBSTB9; ISSN: 0010-2202
DOI 10.1080/00102209308907625
DT Journal
LA English . . .

CAplus abstract and indexing

- AB An approx. simple semi-empirical model is developed to bound the extent of heterogeneously catalyzed chemical reaction occurring between two initially separated gaseous species in an axisym. compound jet, i.e., a jet with . . .
- ST catalysis reaction jet exhaust; propulsion catalysis jet exhaust; air pollution jet exhaust; alumina catalysis jet exhaust; chlorine pollution jet exhaust
- IT Air pollution
(by catalytic reactions in jet-propulsion exhaust gases)
- IT Jet propulsion
(exhaust-gas substances in, catalytic reactions of)
- IT Exhaust gases
(jet-propulsion, substances in, catalysis by and reactions of)
- . . .

For a comprehensive search in a particular database, look at value-added fields to improve retrieval. In this example, look at the Supplemental Terms and the Index Terms in CAplus.

COMPENDEX record

L10 ANSWER 14 OF 26 COMPENDEX COPYRIGHT 2017 EEI on STN.
AN 2014-3918176113 COMPENDEX
TI The U.S. Air Force's assured aerospace fuels research facility
Fischer-Tropsch liquids upgrading reactor
AU Robota Heinz J.(1); Smith Russell K.(2); Morris Jr. Robert W.(3)
Correspondence(s): Robota H.J.(1)
CS (1)University of Dayton Research Institute, Dayton, OH, United States of
America
(2)Battelle Memorial Institute, Columbus, OH, United States of America
(3)Air Force Research Laboratory AFRL, RZPF, WPAFB, OH, United States of
America
SO 11th Topical Conference on Gas Utilization 2011 - Topical Conference at
the 2011 AIChE Spring Meeting and 7th Global Congress on Process Safety
(2011), pp. 187-194, 5 refs.
ISBN: 9781617828942
Published by: AIChE . . .

COMPENDEX abstract and indexing

AB As part of a strategic initiative to prepare for the broader use of synthetic aviation fuels, the facility which will allow it fuel components in quantities . . .

CC 421 Strength of Building Materials; 522 Gas Fuels; 523 Liquid Fuels; 802.3 Chemical Operations; 803 Chemical Agents and Basic Industrial Chemicals; 804 Chemical Products Generally; 931.2 Physical Properties of Gases, Liquids and Solids

CT *Synthetic fuels; Alumina; **Catalysts**; **Catalytic cracking**; Cracks; Distillation; Distillation columns; Jet fuel; Liquids; Military aviation; Paraffins; Synthesis gas

ST Fischer-Tropsch wax; Fuel components; Operating characteristics; Product recovery; Research facilities; Strategic initiative; United States Air Force; Vacuum distillation

For a comprehensive search in a particular database, look at value-added fields to improve retrieval. In this example, look at the Classification Codes, Controlled Terms and Supplemental Terms in COMPENDEX.

COMPENDEX controlled term thesaurus

```
=> FILE COMPENDEX; E SYNTHETIC FUELS+ALL/CT . . .
E1      51531   BT2   EN Materials/CT
E2       1      DE Werkstoffe/CT
E3      59002   BT1   EN Fuels/CT
E4       0      DE Kraftstoffe/CT
E5      6055   -->  EN Synthetic fuels/CT
E6       0      DE synthetische Brennstoffe/CT
          DA    EN January 1977
          DE    Januar 1977
E7       10     UF    EN Alternate fuels/CT
E8       0      DE alternative Brennstoffe/CT
E9      7906    UF    EN Alternative fuels/CT
E10     0      DE alternative Brennstoffe/CT
E11     539    NT1   EN Alcohol fuels/CT
E12     0      DE oktanfeste spiritushaltige Kraftstoffe/CT
E13    2473    NT2   EN Ethanol fuels/CT
E14     0      DE Aethanolbrennstoffe/CT
E15    3879    NT2   EN Methanol fuels/CT
E16     0      DE Methanolbrennstoffe/CT . . .
```

Open the CT-Thesaurus
to look for relevant
related terms.

COMPENDEX controlled term search (including narrower terms)

=> S SYNTHETIC FUELS/CT

L11 6055 SYNTHETIC FUELS/CT

=> S SYNTHETIC FUELS+NT/CT

L12 16962 SYNTHETIC FUELS+NT/CT (10 TERMS)

Include all of the narrower
Controlled Terms for SYNTHETIC
FUELS by using +NT in the search
query.

Example search

Search question:

Find patent records on Aluminum Gallium Indium Phosphide Light Emitting Diodes that emit a green light at 500-570 nm.

Note: In this example, the STN Numeric Property Search function will be used in full text patent databases that have that search capability.

Creating a user-defined cluster

- To create a user-defined cluster
 - Type in command `SET CLUSTER`
 - Create a cluster name that must start with a “ and then contains 2-16 characters that can only be letters, numbers, or periods
 - For more information, type `HELP SET CLUSTER`

Creating a user-defined cluster

```
=> SET CLUSTER
```

```
ENTER CLUSTER NAME OR (?): .PATSNPS
```

```
ENTER LIST OF FILE NAMES OR (?): AUPATFULL CANPATFULL CNFULL DEFULL  
INFULL JPFULL PCTFULL WPINDEX
```

```
MORE FILES, (NONE) OR ?: NONE
```

```
CLUSTER '.PATSNPS' DEFINED AS 'AUPATFULL, CANPATFULL, CNFULL, DEFULL,  
INFULL, JPFULL, PCTFULL, WPINDEX'
```

```
SET COMMAND COMPLETED
```

Green AlGaInP LEDs

=> FILE .PATSNPS

FILE 'AUPATFULL' ENTERED AT 18:11:43 ON 22 SEP 2017

COPYRIGHT (C) 2017 LexisNexis Univentio B.V.

FILE 'CANPATFULL' ENTERED AT 18:11:43 ON 22 SEP 2017

COPYRIGHT (C) 2017 LexisNexis Univentio B.V.

. . .

=> S (LIGHT EMITTING DIODE OR LED) (10A) (AlGaInP OR AlInGaP OR InGaAlP OR InAlGaP OR GaAlInP OR GaInAlP OR (Aluminium (4A) Gallium (4A) Indium (4A) Phosphide)) (10A) 500-570 NM /SIZ

. . .

L9 126 (LIGHT EMITTING DIODE OR LED) (10A) (ALGAINP OR ALINGAP OR INGAALP OR INALGAP OR GAALINP OR GAINALP OR (ALUMINIUM (4A) GALLIUM (4A) INDIUM (4A) PHOSPHIDE)) (10A) 500-570 NM

Green AlGaInP LEDs (cont.)

=> D KWIC 1 FROM EACH

L9 ANSWER 1 OF 126 AUPATFULL COPYRIGHT 2017 LNU on STN.

DETD

The . . .

BL BJ2331E; of Superflux type, ABO part no.'s BL F2J23, BL F2J33 and BL F1F33. A second suitable type of LED is the aluminium indium gallium phosphide/gallium arsenic (AlInGaP/GaAs) type, with emission wavelengths in the range 560 to 644 nm and peak emission wavelengths of 562 nm, 574 nm, 590 nm, 612 nm, 620 nm, 623 nm. . . .

L9 ANSWER 2 OF 126 CANPATFULL COPYRIGHT 2017 LNU on STN.

DETDEN

A compact light-emitting element, such as an LD or LED, may be used, which is made of InGaAlP for an emission wavelength of about 550 to 650 nm; GaAlAs for an emission wavelength of about 650 to 900 nm; or InGaAs or InGaAsP for an. . . .

Green AlGaInP LEDs (cont.)

L9 ANSWER 114 OF 126 WPINDEX COPYRIGHT 2017

CLARIVATE ANALYTICS on STN

Member . . .

diode in which the AlGaAs buffer layer is grown up to the MOCVD mode.

[CLAIM 6] As for claim 5, the AlGaInP group light emitting diode in which the AlGaAs buffer layer is 500 nm or greater.

[CLAIM 7] As for claim 1 or 2, the AlGaInP group light emitting diode in which the AlGaAs. . .

Member . . .

diode in which the AlGaAs buffer layer is grown up to the MOCVD mode.

[CLAIM 6] As for claim 5, the AlGaInP group light emitting diode in which the AlGaAs buffer layer is 500 nm or greater.

[CLAIM 7] As for claim 1 or 2, the AlGaInP group light emitting diode in which the AlGaAs. . .

Search example

Search question:

Find information about nanowires made of tin oxide (SnO₂).

Step by step: material search

1. **Search in INSPEC** Controlled Terms, Chemical Indexing and Element Terms
2. **Search in PQSciTech** Controlled Terms
3. **Search in COMPENDEX:** Controlled Terms
4. **Duplicate removal** DUPLICATE REMOVE

Screening of answers → Display relevant answers

Specific Search fields

Element Terms	(/ET): INSPEC
Alloy indexing	(/ALI): METADEX; PQSciTech
Material Composition	(/MAC): REGISTRY (→CAPLUS)

Controlled Vocabulary (CT) in INSPEC

```
=> FILE INSPEC . . .
```

```
=> E NANOWIRES/CT
```

E#	FREQUENCY	AT	TERM
--	-----	--	----
E1	9131	18	NANOTUBES/CT
E2	0	1	NANOWIRE/CT
E3	39839	24 -->	NANOWIRES/CT
E4	0	1	NARROW/CT
E5	5766	13	NARROW BAND GAP SEMICONDUCTORS/CT
E6	0	1	NARROWING/CT
E7	0	1	NASH/CT
E8	0	2	NASH EQUILIBRIUM/CT
E9	0	1	NATIONAL/CT

/CT = Controlled terms

```
=> S E3
```

```
L1 39839 NANOWIRES/CT
```

Controlled Vocabulary (CT) in INSPEC

=> E E3+ALL

E1	1361	BT2	materials/CT
E2	151066	BT1	nanostructured materials
E3	39839	-->	nanowires/CT
		DA	January 2003
E4	0	UF	semiconductor nanowires/CT
E5	4125	RT	core-shell nanostructures/CT
E6	34	RT	junctionless nanowire transistors/CT
E7	1351	RT	nanocontacts/CT
E8	2108	RT	quantum wires/CT
E9	11606	RT	semiconductor quantum wires/CT
E10	6262	RT	wires/CT
E11	151066	PT	nanostructured materials/CT
E12	2108	PT	quantum wires/CT
E13	11606	PT	semiconductor quantum wires/CT
E14	258265	CC	A6146/CT . . .

Open the CT-Thesaurus to look for relevant related terms.

Search for additional answers in the Element Term (ET) field

```
=> S (L1 OR (NANOWIRE OR NANO WIRE)) AND (SNO2/CHI OR  
SNO2/ET) AND SN BIN/CHI
```

```
25728 NANOWIRE
```

```
43352 NANOWIRES
```

```
44691 NANOWIRE
```

```
(NANOWIRE OR NANOWIRES)
```

```
109370 NANO
```

```
45 NANOS
```

```
109410 NANO
```

```
(NANO OR NANOS)
```

```
. . .
```

```
L2      699 (L1 OR (NANOWIRE OR NANO WIRE)) AND (SNO2/CHI OR  
SNO2/ET) AND SN BIN/CHI
```

Searching the Basic Index will retrieve some less relevant hits, but also documents which have not yet been indexed.

Display of title and indexing fields

=> **FOCUS L2**

PROCESSING COMPLETED FOR L2

L3 699 FOCUS L2 1-

=> **D TI IND**

L3 ANSWER 1 OF 699 INSPEC (C) 2017 IET on STN

TI Toxic gas response of (In,Sn)O₂/Pt **nanowire** sensors

AN 2005:8660079 INSPEC

CC A8280T Chemical sensors; A6855 Thin film growth, structure, and epitaxy;
B7230L Chemical sensors

B82B0001/00 Nano-structures

F41 Weapons

CT gas sensors; **nanowires**; thin film devices; tin compounds; toxicology;
weapons

ST **nanowire** sensors; toxic gas response; thin film gas sensor; dimethyl
methylphosphonate; simulant gas; nerve gas; blood gas; sensing
material; tin oxide film; alumina substrate; **nano-wire** structure; . . .

Relevance rank with the FOCUS
command.

Search in PQSciTech

```
=> FILE PQSCITECH . . .
=> E NANOWIRE/CT
E1          1      NANOTUBES WITH ZRO2 FILLING/CT
E2          1      NANOWHISKER/CT
E3          1  --> NANOWIRE/CT
E4          1      NANOWIRE ARRAYS/CT
E5          1      NANOWIRE ARRAYS FABRICATED BY ELECTROPHORETIC
                DEPOSITION/CT
E6         15376    NANOWIRES/CT
E7          1      NANOZOOPLANKTON/CT
E8          1      NANPIL-KIEPW RIVER/CT
E9          1      NANSEMOND RIVER WATERSHED/CT
E10         1      NANSEMOND RIVER(VA.)/CT
E11         1      NANSEMOND(VA)/CT
E12         1      NANSEN BATHOMETER/CT
```

Search in PQSciTech

```
=> S (E3 OR E6) AND (SNO2 OR (TIN DIOXIDE) OR (TIN (2W)
OXIDE))
```

```
1 NANOWIRE/CT
```

```
15376 NANOWIRES/CT
```

```
6481 SNO2
```

```
118631 TIN
```

```
605 TINS
```

```
118931 TIN
```

```
(TIN OR TINS)
```

```
423668 DIOXIDE
```

```
7200 DIOXIDES
```

```
426168 DIOXIDE
```

```
(DIOXIDE OR DIOXIDES)
```

```
. . .
```

```
L4 504 (NANOWIRE/CT OR NANOWIRES/CT) AND (SNO2 OR (TIN
DIOXIDE) OR (TIN (2W) OXIDE))
```


KWIC Display of some PQSciTech records

=> D L4 1-2 KWIC=5

L4 ANSWER 1 OF 504 PQSCITECH COPYRIGHT 2017 ProQuest LCC on STN.
AB The problem with indium tin oxide A standard smartphone touchscreen
has. . . of conductive material called indium tin oxide. Some
potential replacements for this indium tin oxide layer include
carbon nanotubes, graphene. . . fully competitive replacement
for indium tin oxide. Silver nanowires can be prepared in. . .
over the current standard, indium tin oxide.
CT Electronics; Polymers; Researchers; Networks; Nanowires; Indium tin
oxides; Nanowires; Smartphones; Interactive computer systems

L4 ANSWER 2 OF 504 PQSCITECH COPYRIGHT 2017 ProQuest LCC on STN.
AB . . . potential replacements for this indium tin oxide layer
include carbon nanotubes, graphene. . .
CT Smartphones; Nanowires; Interactive computer systems; . . .

Search strategy for COMPENDEX

```
=> FILE COMPENDEX . . .
=> S (NANOWIRE OR NANOWIRES/CT) AND (SNO2 OR TIN DIOXIDE OR
    (TIN (2W) OXIDE))
S (NANOWIRE OR NANOWIRES/CT) AND (SNO2 OR TIN DIOXIDE OR (TIN (2W)
OXIDE))
    29891 NANOWIRE
    54034 NANOWIRES
    56087 NANOWIRE
          (NANOWIRE OR NANOWIRES)
    44095 NANOWIRES/CT
    . . .
L5    1797 (NANOWIRE OR NANOWIRES/CT) AND (SNO2 OR TIN
        DIOXIDE OR (TIN (2W) OXIDE))
```

DUPLICATE REMOVE

```
=> DUP REM L3 L4 L5
```

```
. . .
```

```
PROCESSING COMPLETED FOR L5
```

```
L6          2339 DUP REM L3 L4 L5 (661 DUPLICATES REMOVED)
```

```
ANSWERS '1-699' FROM FILE INSPEC
```

```
ANSWERS '700-1095' FROM FILE PQSCITECH
```

```
ANSWERS '1096-2339' FROM FILE COMPENDEX
```

Duplicate removal in order
of databases.

Display one answer “From Each”

=> FOCUS L6

PROCESSING COMPLETED FOR L6

L7 2339 FOCUS L6 1-

=> D TI KWIC 1 FROM EACH

L7 ANSWER 64 OF 2339 INSPEC (C) 2017 IET on STN

TI Toxic gas response of (In,Sn)O₂/Pt **nanowire** sensors

CT gas sensors; **nanowires**; thin film devices; tin compounds;
toxicology; weapons

ST **nanowire** sensors; toxic gas response; thin film gas sensor;
dimethyl methylphosphonate; simulant gas; nerve gas; blood
gas; sensing material; tin oxide film; alumina substrate;
nano-wire structure; chemical warfare agent; SnO₂; Pt

ET. . . Sn cp; cp; O cp; In; O₂; C*H*O*P; C₃H₉O₃P; C cp; H cp;
P cp; C*H*N; CH₃CN; N cp; Pt; **SnO₂**

CHI **SnO₂ int, O₂ int, Sn int, O int, SnO₂ bin, O₂ bin, Sn bin, O
bin; Pt el . . .**

PQSciTech answer

L7 ANSWER 1 OF 2339 PQSCITECH COPYRIGHT 2017 ProQuest LCC on STN.

TI Indium oxide, tin oxide and indium tin oxide nanostructure growth by vapor deposition

AB Indium oxide, tin oxide and indium tin oxide nanowires have been grown by vapor deposition on Si and quartz substrates. Under the growth conditions used, pure SiO_x nanowires, a mixture of SiO_x and indium oxide, tin oxide or indium tin oxide nanostructures, or pure indium oxide, tin oxide or indium tin oxide nanostructures could be obtained at different substrate temperatures. The growth mechanism of the obtained nanostructures at different substrate temperatures is discussed. Optical and electrical properties of the deposited pure indium oxide, tin oxide or indium tin oxide nanostructures have been measured, and low sheet resistances on quartz substrates have been obtained for indium oxide and indium tin oxide nanostructures.

CT Indium oxides; Indium tin oxide; Nanostructure; Nanowires; Quartz; Silicon substrates; Tin oxides; Vapor deposition . . .

COMPENDEX example answer

L7 ANSWER 2 OF 2339 COMPENDEX COPYRIGHT 2017 EEI on STN.

TI Enhanced sensitivity and selectivity of Co₃O₄ nanoparticle-decorated SnO₂ nanowire sensors to ethanol gas

AB Co₃O₄-decorated SnO₂ nanowires were synthesized using a simple two-step process: thermal evaporation and solvothermal techniques. For comparison purposes, pristine SnO₂ nanowires were also synthesized using the same procedure. The crystallinity and phase formation of the synthesized products were analyzed by X-ray diffraction, while the morphology was examined by . . .

CT *Nanowires; Chemical sensors; Ethanol; Gas detectors; Heterojunctions; Nanosensors; Scanning electron microscopy; Self assembly; Thermal evaporation; X ray diffraction

ST Crystallinities; Enhanced sensitivity; Phase formations; Sensing mechanism; Sensing performance; SnO₂; Solvothermal techniques; Two-step process



Summary

- Engineering and Materials Science information on STN
 - ENGINEERING and MATERIALS clusters
 - Database summary sheets
 - Special features
- Database content
- Search examples



For more information ...

CAS

help@cas.org

Support and Training:

www.cas.org

FIZ Karlsruhe

helpdesk@fiz-karlsruhe.de

Support and Training:

www.stn-international.de