Polymer Information on STN

A Quick Reference Guide

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Preface

This booklet is designed as a quick reference guide to polymer information on STN. It provides an overview of most of the STN files containing polymer information and shows annotated search examples in some files. The examples are intended to highlight some of the basic search techniques for obtaining chemical and chemical engineering information, patents, property data, regulatory information, and business news. Search examples are not intended to illustrate all of the options or files on STN with polymer information.

Please contact your local STN Service Center for suggestions and help with specific search questions.

STN files with polymer information

Information	Files
Polymer substance information	PDLCOM, PLASPEC, REGISTRY
Chemistry, chemical engineering, and materials research	APOLLIT, BABS, CAPLUS, CA, CEABA-VTB, CERAB, COMPENDEX, EMA, INSPEC, MATBUS, METADEX, PIRA, RAPRA, SOLIDSTATE, TEXTILETECH, TRIBO, WSCA, WTEXTILES
Patents	CAPLUS, CA, ENCOMPPAT, EUROPATFULL, FRANCEPAT, IFIPAT, IFIUDB, IFICDB, INPADOC, JAPIO, PATDD, PATDPA, PATDPAFULL, PATOSDE, PATOSEP, PATOSWO, PCTFULL, RAPRA, RDISCLOSURE, USPATFULL, USPAT2, WPINDEX, WPIDS, WPIX
Business and news	ABI-INFORM, BIOBUSINESS, CBNB, CEN, CIN, INVESTEXT, MATBUS, NLDB, PLASNEWS, PROMT
Regulatory information	CHEMLIST and business files
Property data	APOLLIT, ASMDATA, PDLCOM, PLASPEC
Biological, medical, and pharmaceutical research and applications	BIOBUSINESS, BIOSIS, BIOTECHABS, CABA, CANCERLIT, CAPLUS, CEABA-VTB, DDFB, DDFU, DRUGB, EMBAL, EMBASE, FSTA, IMSDRUGNEWS, IMSPRODUCT, IMSRESEARCH, IPA, LIFESCI, MEDLINE, PHIC, PHIN, TOXCENTER, USAN
Chemical reactions	CASREACT, CHEMINFORMRX
Multidisciplinary technical files	DISSABS, JICST-EPLUS, NTIS, PASCAL, SCISEARCH

Overview of searching in Registry

In the CAS Registry℠ File you can search substance information for polymers and obtain their CAS Registry Numbers®. The L-number answer set from Registry can be searched in any of the STN files containing CAS Registry Numbers.

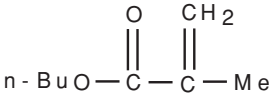
The primary representation of polymers in Registry is based on the monomers making up the polymer. A monomer is anything that is incorporated in the polymeric backbone, including crosslinking agents.

Sample Record

RN 29035-74-3 REGISTRY
CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with butyl 2-propenoate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 2-Propenoic acid, butyl ester, polymer with butyl 2-methyl-2-propenoate (9CI)
CN Acrylic acid butyl ester, polymer with butyl methacrylate (8CI)
CN Acrylic acid, butyl ester, polymer with butyl methacrylate
CN Methacrylic acid, butyl ester, polymer with butyl acrylate (8CI)
OTHER NAMES:
CN Bioflex
CN Butyl acrylate-butyl methacrylate copolymer
CN Butyl acrylate-butyl methacrylate polymer
CN Butyl methacrylate-butyl acrylate copolymer
CN Elitan 40
CN N 560
MF (C8 H14 O2 . C7 H12 O2)x
CI PMS, COM
PCT Polyacrylic
LC STN Files: BIOSIS, CA, CAPLUS, CHEMLIST, CIN, IFICDB, IFIPAT, IFIUDB, PIRA, PROMT, TOXCENTER, USPATFULL

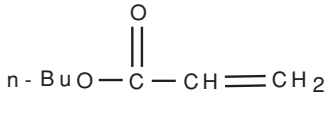
CM 1

CRN 141-32-2
CMF C7 H12 O2



CM 2

CRN 97-88-1
CMF C8 H14 O2



131 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
131 REFERENCES IN FILE CAPLUS (1907 TO DATE)

Each record is identified by a CAS Registry Number.

The Chemical Name (CN) field contains systematic, common, and trade names.

The primary structural representation of a copolymer consists of the monomers from which the copolymer was prepared.

Registry Search Options

Search Terms	Field Code	Example
CAS Registry Number for the polymer	/RN (or none)	S 29035-74-3/RN
CAS Registry Numbers for the monomers	/CRN	S 141-32-2/CRN AND 97-88-1/CRN
Chemical name	/CN	S BIOFLEX/CN S 2-PROPENOIC ACID, 2-METHYL-, BUTYL ESTER?/CN
Chemical name fragments	/BI (or none)	S 2 PROPENOIC ACID AND 2-METHYL
Molecular formula for the monomer	/BI (or none)	S C8H14O2 AND C7H12O2
Complete molecular formula	/MF	S “(C8H14O2.C7H12O2)X”/MF
Class identifier	/CI	S PMS/CI
Polymer class term	/PCT	S POLYACRYLIC/PCT
Locator for the CAS Registry Number	/LC	S PROMT/LC
Structure		S L1 (L1 is a structure built online with the STRUCTURE command or uploaded from STN Express or STN on the Web)

The POLYLINK command is used to locate related Registry records for condensation polymers that may be registered using either their monomers or structural repeating units (SRU).

```
=> FILE ZREGISTRY

=> S NYLON 6/CN
L1          1 NYLON 6/CN

=> POLYLINK L1
L2         25 POLYLINK L1
```

L2 contains the CAS Registry Number from L1, plus 24 additional monomer-based CAS Registry Numbers for Nylon 6.

Overview of searching in CAplus

The CAplus[SM] file includes indexed documents as well as the most recent references in the process of being indexed. Records include bibliographic information, abstracts, and indexing. Indexing includes supplementary terms (keywords), index entries consisting of CAS Registry Numbers for specific polymers, subject headings, roles for specific polymers and polymer class headings, and text phrases.

Sample Record

```
AN  1995:610528  CAPLUS  Full-text
DN  123:11251
ED  Entered STN:  15 Jun 1995
TI  Manufacture of printed circuit boards with moisture-resistant
    and dielectric treatments
IN  Obara, Masakatsu; Oomori, Eiji
PA  Hitachi Chemical Co Ltd, Japan
SO  Jpn. Kokai Tokkyo Koho, 4 pp.
    CODEN: JKXXAF
DT  Patent
LA  Japanese
IC  ICM  H05K003-28
CC  38-3 (Plastics Fabrication and Uses)
    Section cross-reference(s): 76
FAN.CNT 1
      PATENT NO.    KIND  DATE       APPLICATION NO.  DATE
      ----------    ----  --------   ---------------  --------
PI    JP 06268357   A2    19940922   JP 1993-51983    19930312
PRAI  JP 1993-51983       19930312
AB  The title process consists of applying alkyl (meth)acrylate
    (co)polymer with glass transition temp. 0-80° (e.g., Bu
    acrylate-Bu methacrylate copolymer), drying or hardening,
    applying polyurethane compns. (e.g., blend of Millionate MTL
    and Polybd R 45HT), and curing.
ST  moisture resistance printed circuit board; dielec printed circuit
    board; alkyl acrylate copolymer coated printed circuit;
    polyurethane coated printed circuit board
IT  Electric insulators and Dielectrics
    Water-resistant materials
      (manuf. of printed circuit boards with moisture-resistant and
      dielec. treatments)
IT  Urethane polymers, uses
    RL: DEV (Device component use); PRP (Properties); TEM
      (Technical or engineered material use); USES (Uses)
      (manuf. of printed circuit boards with moisture-resistant and
      dielec. treatments)
IT  Rubber, butadiene, uses
    RL: DEV (Device component use); PRP (Properties); TEM
      (Technical or engineered material use); USES (Uses)
      (hydroxy-terminated, polymer with MDI; manuf. of printed
      circuit boards with moisture-resistant and dielec. treatments)
```

Indexing includes polymer class headings, e.g., Urethane polymers, roles, e.g., PRP (Properties), and text phrases.

IT Electric circuits
(printed, boards, manuf. of printed circuit boards with moisture-resistant and dielec. treatments)
IT 29035-74-3, Butyl acrylate-butyl methacrylate copolymer
61089-52-9D, Millionate MTL, polymer with polyols
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(manuf. of printed circuit boards with moisture-resistant and dielec. treatments)
IT 9003-17-2
RL: DEV (Device component use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(rubber, hydroxy-terminated, polymer with MDI; manuf. of printed circuit boards with moisture-resistant and dielec. treatments)

CAS Registry Numbers are used for indexing of specific polymers. Roles, e.g., USES, are also assigned.

CAplus Search Options

In addition to bibliographic information, you can use the following types of terms in your polymer searches in CAplus.

Search Terms	Field Code	Example
CAS Registry Numbers for specific polymers	/BI (or none)	S 29035-74-3
CAS Registry Numbers with roles	/BI, /RL	S 29035-74-3/USES,PRP S 29035-74-3 (L) (USES OR PRP)/RL
Index headings	/CT	S URETHANE POLYMERS/CT
Index headings for classes of polymers with roles	/CT, /RL	S URETHANE POLYMERS/CT (L) USES/RL
Words in the Basic Index	/BI (or none)	S ?ACRYLATE? (S) ?POLYMER? S CIRCUIT BOARD# AND POLYMER#

In addition, L-number answer sets from Registry may be searched in CAplus (see examples on pages 10, 15, 17, and 18).

Searching polymer chemical names in Registry

When you have a name for a specific substance, search it in Registry to obtain its CAS Registry Number and other names, if available. Each substance is identified by the CA index name. In addition, other chemical names and trade names from the chemical literature may be included. All substance names are searched in the Chemical Name (/CN) field.

Use CAplus to access references indexed with the CAS Registry Number for the substance as well as the most recent references that have not yet been indexed.

Find recent references to the biosynthetic preparation of poly(3-hydroxybutyrate)

```
=> FILE REGISTRY

=> E POLY(3-HYDROXYBUTYRATE)/CN 6
E1      1      POLY(3-HYDROXYALKANOIC ACID) SYNTHASE 2
               (PSEUDOMONAS AERUGIN OSA STRAIN PAO1
               GENE PHAC2)/CN
E2      1      POLY(3-HYDROXYBUTYL VINYL ETHER)/CN
E3      1  --> POLY(3-HYDROXYBUTYRATE)/CN
E4      1      POLY(3-HYDROXYBUTYRATE) DEPOLYMERASE/
               CN
E5      1      POLY(3-HYDROXYBUTYRATE) DEPOLYMERASE
               (ALCALIGENES FAECALIS STRAIN AE122 CLONE
               PPD181/PPD3107 GENE PHAZ PRECURSOR)/CN
E6      1      POLY(3-HYDROXYBUTYRATE), SRU/CN

=> S E3
L1      1 "POLY(3-HYDROXYBUTYRATE)"/CN
```

Enter Registry.

EXPAND on the name in the /CN field. Include punctuation, as needed.

Search the E-number from the EXPAND list.

```
=> D

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS on STN
RN   26063-00-3  REGISTRY
CN   Butanoic acid, 3-hydroxy-, homopolymer (9CI)  (CA INDEX
     NAME)
OTHER CA INDEX NAMES:
CN   Butyric acid, 3-hydroxy-, polyesters (8CI)
OTHER NAMES:
CN   (±)-3-Hydroxybutanoic acid homopolymer
CN   b-Hydroxybutanoic acid homopolymer
CN   b-Hydroxybutyric acid homopolymer
CN   b-Hydroxybutyric acid polymer
CN   3-Hydroxybutyric acid homopolymer
CN   3-Hydroxybutyric acid polymer
CN   Biopol GO 4
CN   Poly(b-hydroxybutyric acid)
CN   Poly(3-hydroxybutyrate)
CN   Poly(3-hydroxybutyric acid)
CN   Poly(DL-b-hydroxybutyric acid)
CN   Poly(hydroxybutyrate)
CN   Poly-b-hydroxybutyrate
DR   61728-68-5
MF   (C4 H8 O3)x
CI   PMS, COM
PCT  Polyester, Polyester formed
LC   STN Files:   ADISNEWS, AGRICOLA, ANABSTR,
     BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA,
     CANCERLIT, CAPLUS, CEN, CHEMCATS, CIN, CSCHEM,
     EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MSDS-
     OHS, NAPRALERT, PIRA, PROMT, TOXCENTER, USPAT2,
     USPATFULL

**RELATED POLYMERS AVAILABLE WITH POLYLINK**

   CM   1

   CRN  300-85-6
   CMF  C4 H8 O3

          OH
          |
   Me — CH — CH2 — CO2 H

2574 REFERENCES IN FILE CA (1907 TO DATE)
   36 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2579 REFERENCES IN FILE CAPLUS (1907 TO DATE)
```

Display the Registry record to verify substance information.

```
=> POLYLINK
ENTER (L1), L# OR ?:L1

L2          7 POLYLINK L1

=> D IN 1-7

L2  ANSWER 1 OF 7  REGISTRY  COPYRIGHT 2004 ACS on STN
IN  Oxirane, methyl-, polymer with carbon monoxide, alternating
    (9CI)

L2  ANSWER 2 OF 7  REGISTRY  COPYRIGHT 2004 ACS on STN
IN  Butanoic acid, 3-hydroxy-, phenyl ester, homopolymer (9CI)

L2  ANSWER 3 OF 7  REGISTRY  COPYRIGHT 2004 ACS on STN
IN  Butanoic acid, 3-hydroxy-, methyl ester, homopolymer (9CI)

L2  ANSWER 4 OF 7  REGISTRY  COPYRIGHT 2004 ACS on STN
IN  Butanoic acid, 3-hydroxy-, ethyl ester, homopolymer (9CI)

L2  ANSWER 5 OF 7  REGISTRY  COPYRIGHT 2004 ACS on STN
IN  2-Oxetanone, 4-methyl-, homopolymer (9CI)

L2  ANSWER 6 OF 7  REGISTRY  COPYRIGHT 2004 ACS on STN
IN  Poly[oxy(1-methyl-3-oxo-1,3-propanediyl)] (9CI)

L2  ANSWER 7 OF 7  REGISTRY  COPYRIGHT 2004 ACS on STN
IN  Butanoic acid, 3-hydroxy-, homopolymer (9CI)

=> FILE CAPLUS

=> S (L2/BPN OR L2/BMF) AND PY>2000
L3        135 (L2/BPN OR L2/BMF) AND PY>2000

=> D 1-2 TI HITRN

L3  ANSWER 1 OF 135  CAPLUS  COPYRIGHT 2004 ACS on STN
TI  Biodegradable polymer manufacture with recombinant self-lysis
    microorganism
IT  26063-00-3P , Polyhydroxybutyrate 26744-04-7P
    RL: BPN (Biosynthetic preparation) ; BIOL (Biological study);
    PREP (Preparation)
      (biodegradable polymer manuf. with recombinant self-lysis
       microorganism)

L3  ANSWER 2 OF 135  CAPLUS  COPYRIGHT 2004 ACS on STN
TI  Production of polyhydroxyalkanoates from food wastes using a
    two stage fermentation process
IT  26063-00-3P , Poly(3-hydroxybutyrate)
    RL: BMF (Bioindustrial manufacture) ; BIOL (Biological
    study);
    PREP (Preparation)
      (prodn. of polyhydroxyalkanoates from food wastes using two
       stage fermn. process)
```

Use POLYLINK to find additional CAS Registry Numbers for the polymer.

Additional answers include monomer-based registrations (e.g., answer 7) and structure repeating unit (SRU)-based registrations (e.g., answer 6).

Enter CAplus.

Search the Registry L-number (L2) to find all references indexed with the CAS Registry Number for the substance. Append L2 with a slash and a role code for a precise search on biosynthetic preparation (BPN) or bio-industrial manufacture (BMF) of the substance. Restrict answers to a range of publication years.

Display answers in the HITRN format to see the hit CAS Registry Number, the role indexing (RL), and the text phrase.

=> **S (POLYHYDROXYLBUTYR? OR POLY(S)HYDROXYBUTYR?) AND NONINDEXED/FS**
L4 142 (POLYHYDROXYLBUTYR? OR
POLY(S)HYDROXYBUTYR?) AND NONINDEXED/FS

=> **D ALL**

L1 ANSWER 1 OF 142 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:132320 CAPLUS Full-text
ED Entered STN: 18 Feb 2004
TI In vitro enzymatic synthesis of **poly-**(β)**-hydroxybutyric** acid
AU Burns, Kristi; Lane, Jennifer; Thompson, Jeremy; Lubarsky, Michael; May, Sheldon
CS School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, USA
SO Abstracts, 55th Southeast Regional Meeting of the American Chemical Society, Atlanta, GA, United States, November 16-19, 2003 (2003), 177 Publisher: American Chemical Society, Washington, D. C.
CODEN: 69EUCH
DT Conference; Meeting Abstract
LA English
AB **Poly-**(β)**-hydroxybutyric** acid (PHB) is a biodegradable, thermoplastic, stereoregular, biopolyester produced as a carbon storage source by certain bacteria challenged by nutrient limitation. While production of PHB for industrial applications is generally accomplished via large-scale fermns., in vitroenzymic synthesis have the potential to afford considerable advantages over bacterial systems such as increasing the flexibility of alternate substrates leading to the synthesis of novel chiral polymers. Reported herein, is the in vitroenzymic synthesis of PHB, utilizing the three-enzyme pathway from the bacteria Ralstonia eutrophus. An efficient HPLC method was developed for baseline-separated detection of CoASH, acetyl-CoA, acetoacetyl-CoA, and β-hydroxybutyryl-CoA within 33 min. Using this HPLC methodol. and by sequentially adding each enzyme, reaction time courses were generated to clearly illustrate each step in the three-enzyme pathway for PHB synthesis, and to determine the stoichiometric relationships between the CoA-containing metabolites. The deficiency of the metabolite acetoacetyl-CoA was explored through HPLC spiking expts. Furthermore, we report the first metabolic model developed specifically for analyzing in vitroenzymic PHB synthesis. These tools facilitate an appreciation for the interactions between the kinetics and thermodn. that govern each of the reactions during PHB synthesis.

Extend the search to recent references that have not yet been completely indexed. Search names or name fragments for the substance in the nonindexed file segment (FS).

Searching CAS Registry Numbers for monomers in Registry

In Registry, each polymer is identified by its own CAS Registry Number in the RN field. Each monomer making up a polymer has its own record and is identified by its own CAS Registry Number in the CRN field. When you know the specific monomers used to prepare a polymer, you can search the CAS Registry Numbers for the monomers in the Component Registry Number (/CRN) field to locate polymers formed from those specific monomers.

Find literature on the polymeric compositions of ethylene, propylene, and dicyclopentadiene

```
=> FILE REGISTRY

=> S ETHYLENE/CN
L1          1 ETHYLENE/CN

=> D RN

L1   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS
RN  74-85-1  REGISTRY

=> S PROPYLENE/CN
L2          1 PROPYLENE/CN

=> D RN

L2   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS
RN  115-07-1  REGISTRY

=> S DICYCLOPENTADIENE/CN
L3          1 DICYCLOPENTADIENE/CN

=> D RN

L3   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2004 ACS
RN  77-73-6  REGISTRY

=> S 74-85-1/CRN AND 115-07-1/CRN AND 77-73-6/CRN
L4        184 74-85-1/CRN AND 115-07-1/CRN AND 77-73-6/CRN
```

Enter Registry.

Search the name of each monomer in the Chemical Name (/CN) field.

Display the CAS Registry Number (RN) for each monomer.

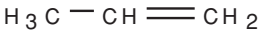
Search the CAS Registry Number for each monomer in the Component Registry Number (/CRN) field.

=> **D L4**

L4 ANSWER 1 OF 184 REGISTRY COPYRIGHT 2004 ACS
RN 438625-13-9 REGISTRY
CN 2-Propenoic acid, 2-methyl-, 1,2-ethanediyl ester, polymer with ethene, 1-propene and 3a,4,7,7a-tetrahydro-4,7-methano-1H-indene (9CI) (CA INDEX NAME)
MF (C10 H14 O4 . C10 H12 . C3 H6 . C2 H4)x
CI PMS
PCT Polyacrylic, Polyolefin, Polyother
SR CA
LC STN Files: CA, CAPLUS

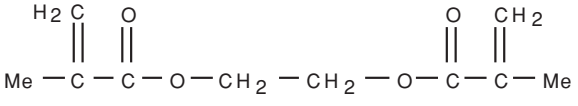
CM 1

CRN 115-07-1
CMF C3 H6



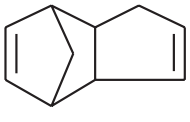
CM 2

CRN 97-90-5
CMF C10 H14 O4



CM 3

CRN 77-73-6
CMF C10 H12



CM 4

CRN 74-85-1
CMF C2 H4

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

Display substance information. Answers are copolymers formed from the specific monomers searched. Other monomers may also be included. Each monomer is identified by its own CAS Registry Number (CRN), the component molecular formula (CMF), and its structure. Because the number of components was not specified, answers include copolymers of three or more monomers.

Searching polymer class terms in Registry

You can easily search for broad classes of polymers by using polymer class terms in Registry. Polymer class terms are assigned to polymers in Registry by analyzing the types of linkages in the polymer backbone. You can search polymer class terms in the /PCT field of Registry.

The following polymer class terms are available:

Amino resin
Chloropolymer
Double strand
Epoxy resin
Fluoropolymer
Manual component
Manual registration
Phenolic resin
Polyacetylene
Polyacrylic
Polyamic acid
Polyamic acid formed
Polyamide
Polyamide formed
Polyamine
Polyamine formed
Polyanhydride
Polyanhydride formed
Polyazomethine
Polyazomethine formed
Polybenzimidazole
Polybenzimidazole formed
Polybenzoxazole
Polybenzoxazole formed
Polycarbodiimide
Polycarbodiimide formed
Polycarbonate
Polycarbonate formed
Polycyanurate
Polycyanurate formed
Polyester
Polyester formed
Polyether
Polyether formed
Polyhydrazide
Polyhydrazide formed
Polyimide
Polyimide formed
Polyionene
Polyionene formed
Polyisocyanurate
Polyisocyanurate formed
Polyketone
Polyketone formed
Polynucleotide
Polyolefin
Polyother
Polyother only
Polyphenyl
Polyphenyl formed
Polyphosphazene
Polyphosphazene formed
Polyquinoxaline
Polyquinoxaline formed
Polystyrene
Polysulfide
Polysulfide formed
Polysulfonamide
Polysulfonamide formed
Polysulfone
Polysulfone formed
Polythioester
Polythioester formed
Polythioether
Polythioether formed
Polyurea
Polyurea formed
Polyurethane
Polyurethane formed
Polyvinyl

Find references to liquid crystalline polyazomethines

```
=> FILE REGISTRY

=> S POLYAZOMETHINE/PCT
L1      5602 POLYAZOMETHINE/PCT

=> FILE CAPLUS

=> S L1 (S) LIQ? CRYST?
L2      183 L1 (S) LIQ? CRYST?

=> D TI HITRN 8

L2   ANSWER 8 OF 183  CAPLUS  COPYRIGHT 2004 ACS on STN
TI   Thermal and morphological properties of main chain liquid
     crystalline polymers
IT   106781-48-0  133518-11-3
     RL: PEP (Physical, engineering or chemical process); PRP
     (Properties); PYP
     (Physical process); PROC (Process)
        (thermal and morphol. properties of main chain liq. cryst.
        polymers)

=> S (?POLYAZOMETHIN? OR POLY(A)AZOMETHIN? OR
     AZOMETHIN? ?POLYMER?) (S) LIQ? CRYST?
L3      145 (?POLYAZOMETHIN? OR POLY(A)AZOMETHIN? OR
            AZOMETHIN? ?POLYMER?) (S) LIQ? CRYST?

=> S L2 OR L3
L4      241 L2 OR L3

=> D HIT 1

L4   ANSWER 1 OF 241  CAPLUS  COPYRIGHT 2004 ACS on STN
IT   INDEXING IN PROGRESS
IT   Elongation at break
     Glass transition temperature
       Liquid crystals, polymeric
     Polymer morphology
     Tensile strength
     Thermal stability
        (structural modifications and fiber processing of hydroxy-
        functionalized mesogenic polyazomethines)
```

Enter Registry.

Search the polymer class term in the /PCT field.

Enter CAplus.

Search the Registry L-number in CAplus. Use the (S) proximity operator to restrict terms to the same index entry.

Use the HITRN format to view only the hit CAS Registry Numbers for the indexed substances and their index entries.

Expand the substance search by searching text terms for the class of compounds in the Basic Index. Use left truncation, e.g., ?POLYMER, to retrieve all prefixed terms, e.g., COPOLYMER. Use the (S) proximity operator to restrict terms to the same sentence, the title, or the same index entry.

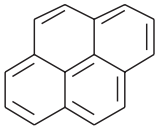
Searching structures in Registry

Most polymers in Registry have structures that you can search using complete structures or structure fragments.

You can conduct a structure search on the entire CAS Registry File or on a subset of the file. Polymer class terms are especially useful in defining a subset for polymer searches.

Find references to polyesters containing a pyrene structural fragment

```
=> FILE REGISTRY

=>
Uploading C:\Program Files\stnexp\Queries\pyrene.str
```



```
L1        STRUCTURE UPLOADED

=> S L1 SAM SSS
SAMPLE SEARCH INITIATED
SAMPLE SCREEN SEARCH COMPLETED -   9351 TO ITERATE
10.7% PROCESSED    1000 ITERATIONS            50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE    **COMPLETE**
                        BATCH     **COMPLETE**
PROJECTED ITERATIONS:      181228 TO   192812
PROJECTED ANSWERS:          19719 TO    23669

L2            50 SEA SSS SAM L1

=> S POLYESTER/PCT
L3      169860 POLYESTER/PCT

=> S L1 SUBSET=L3 SAM SSS
SAMPLE SUBSET SEARCH INITIATED
SAMPLE SUBSET SCREEN SEARCH COMPLETED -    35 TO
ITERATE

100.0% PROCESSED      35 ITERATIONS                 7 ANSWERS
SEARCH TIME: 00.00.01

PROJECTIONS (WITHIN SPECIFIED SUBSET):  ONLINE
**COMPLETE**
PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET):
346 TO     1054
PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET):
7 TO      298

L4           7 SEA SUB=L3 SSS SAM L1
```

Enter Registry.

Create the structure online with the STRUCTURE command or upload the structure created offline with STN Express or STN on the Web.

Conduct a sample (SAM) substructure (SSS) search on the structure (L1).

Create an L-number answer set to define a subset of the file with the polymer class term of polyester.

Conduct a sample structure search on the subset defined by the L-number answer set for polyesters (L3).

```
=> S L1 SUBSET=L3 SSS FULL
FULL SUBSET SEARCH INITIATED
FULL SUBSET SCREEN SEARCH COMPLETED -    577 TO
ITERATE

100.0% PROCESSED     577 ITERATIONS              76 ANSWERS
SEARCH TIME: 00.00.01

L5          76 SEA SUB=L3 SSS FUL L1
```

Conduct a full search on the subset.

```
=> POLYLINK L5
L6          83 POLYLINK L5
```

Conduct a POLYLINK search.

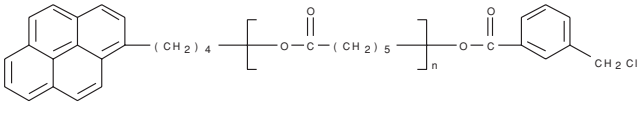
```
=> FILE CAPLUS
```

Enter CAplus and search the L-number answer set from Registry (L6).

```
=> S L6
L7          66 L6
```

```
=> D 10 BIB HITSTR

L7    ANSWER 10 OF 66  CAPLUS  COPYRIGHT 2004 ACS on STN
AN    2002:638317  CAPLUS Full-text
DN    137:170013
TI    Making telechelic oligomers, and making block copolymers
IN    Gagne, Michel R.; Korn, Michael R.
PA    USA
SO    U.S. Pat. Appl. Publ., 20 pp., Division of U. S. Ser. No. 234,
      622, abandoned. CODEN: USXXCO
DT    Patent
LA    English
FAN.CNT 1
      PATENT NO.      KIND  DATE       APPLICATION NO.  DATE
      ----------------  -------  --------  ------------------------  --------
PI    US 2002115793   A1   20020822  US 2001-965939    20010927
PRAI  US 1998-72078P  P    19980121
      US 1999-234622  B3   19990121
OS    MARPAT 137:170013
IT    243844-77-1P
      RL: IMF (Industrial manufacture); PREP (Preparation)
         (intermediate; caprolactone ring-opening for manuf. of
          telechelic oligomer intermediate and block copolymers)
RN    243844-77-1  CAPLUS
CN    Poly[oxy(1-oxo-1,6-hexanediyl)], a-[4-(1-pyrenyl)butyl]-w-[[3-
      (chloromethyl)benzoyl]oxy]- (9CI)  (CA INDEX NAME)
```

Use the BIB HITSTR format to view the bibliographic information and the index entry with the structure diagram and the index name for the hit CAS Registry Number.

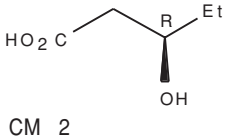


Searching for patents on a polymer

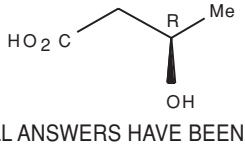
In searching for patents on a specific polymer, you can take advantage of in-depth indexing of specific compounds with CAS Registry Numbers in CAS files. In addition, with the TRANSFER command, you can easily extend the search to find related patents in other patent files. With TRANSFER you can extract patent and application numbers from the CAplus answer set and automatically search them in other files. Patent documents with the same patent numbers can then be removed as duplicates.

Find patents on the preparation of a biodegradable polymer known as Biopol

```
=> FILE REGISTRY

=> S BIOPOL/CN
L1          1 BIOPOL/CN

=> D SCAN

L1   1 ANSWERS   REGISTRY  COPYRIGHT 2004 ACS on STN
IN   Pentanoic acid, 3-hydroxy-, (3R)-, polymer with (3R)-3-
     hydroxybutanoic acid, isotactic (9CI)
MF   (C5 H10 O3 . C4 H8 O3)x
CI   PMS, COM

     CM   1

Absolute stereochemistry.
```




```
     CM   2

Absolute stereochemistry.
```




```
ALL ANSWERS HAVE BEEN SCANNED

=> FILE CAPLUS; S L1/PREP AND PATENT/DT
L2          19 L1/PREP AND PATENT/DT
```

Enter Registry.

Search the trade name in the Chemical Name (/CN) field to find the CAS Registry Number for Biopol.

SCAN the answer to verify substance information.

Enter CAplus.

Search the L-number answer set from Registry (L1) to find all documents indexed with the CAS Registry Number for Biopol. Append the L-number with /PREP to restrict answers to those on the preparation of Biopol. Restrict answers to patent documents (PATENT/DT).

```
=> FILE WPINDEX USPATFULL

=> TRANSFER
ENTER L# (L2) OR ?:L2
ENTER ANSWER NUMBERS, RANGES (1-), OR ?:1-
ENTER DISPLAY FIELDS (TI) OR ?:PN, APPS
L3        TRANSFER L2 1- PN, APPS :     205 TERMS
L4         34 FILE WPINDEX
L5         24 FILE USPATFULL

TOTAL FOR ALL FILES
L6       58 L3

=> SET DUPORDER FILE
SET COMMAND COMPLETED

=> DUP REM L2 L6
L7        54 DUP REM L2 L6 (23 DUPLICATES REMOVED)
            ANSWERS '1-18' FROM FILE CAPLUS
            ANSWERS '19-33' FROM FILE WPINDEX
            ANSWERS '34-50' FROM FILE USPATFULL

=> D 20

L7    ANSWER 20 OF 54  WPINDEX  COPYRIGHT 2004
      THOMSON DERWENT on STN DUPLICATE 8
AN    2001-440121 [47]   WPINDEX Full-text
CR    1998-086981 [08]; 1999-526207 [44]; 1999-570778 [48]; 2000-
      542240 [49]
DNC   C2001-132901
TI    New plant extracts comprising polyhydroxyalkanoate polymer,
      e.g. polyhydroxybutyrate, having a single mode molecular
      weight distribution, for producing biodegradable molded
      materials, films, coatings and in drug release applications.
DC    A23 A82 A92 B07 C06 D16 G02
IN    ASRAR, J; MITSKY, T A; SHAH, D T
PA    (MONS) MONSANTO CO
CYC   1
PI    US 6228623    B1 20010508 (200147)*   97p   C12P007-02  <--
ADT   US 6228623 B1 CIP of US 1996-614877 19960303 , CIP of US
      1996-628039 19960404 , CIP of US 1996-673388 19960628 ,
      Div ex US 1997-912205 19970815 , US 1999-440400
      19991115
FDT   US 6228623 B1 CIP of US 5942660, CIP of US 5958745, CIP
      of US 5959179, Div ex US 6091002
PRAI  US 1997-912205   19970815 ; US 1996-614877   19960303 ;
      US 1996-628039   19960404 ; US 1996-673388   19960628 ;
      US 1999-440400   19991115
IC    ICM  C12P007-02
      ICS  C12P007-04; C12P007-18; C12P007-62
```

Enter other patent files.

Enter TRANSFER and answer the prompts.

The following steps are automatically performed by TRANSFER:

- *patent and application numbers are selected from each answer in the CAplus answer set*
- *extracted numbers are searched in the other patent files*
- *an L-number answer set is created for each file and for the total set*

Enter SET DUPORDER FILE to group answers together in file order.

Remove patent duplicates with DUP REM.

Display answers.

Searching for patents on a class of polymers

In searching for patents on classes of polymers, you can use file-specific indexing terms. For example, CAS Registry Numbers as well as subject indexing terms for classes of polymers are available in CAS files. In some patent files, e.g., WPIDS or IFICDB, access to special indexing is available only to subscribers.

You can also conduct searches on classes of polymers by using terms in the Basic Index of each file.

What companies have the greatest number of patents issued since 2003 on photographic or optical applications of polyimides?

```
=> FILE CAPLUS WPINDEX

=> S (POLYIMIDE? OR POLY (A) IMIDE? OR IMIDE? POLYMER?)
   (S) (OPTIC? OR PHOTO?) AND P/DT AND PY.B>2002
L1        314 FILE CAPLUS
L2        251 FILE WPINDEX

TOTAL FOR ALL FILES
L3        565 (POLYIMIDE? OR POLY (A) IMIDE? OR IMIDE?
                POLYMER?) (S) (OPTIC? OR PHOTO?) AND P/DT
                AND PY.B>2002

=> SET DUPORDER FILE
SET COMMAND COMPLETED

=> DUP REM L3
L4        484 DUP REM L3 (81 DUPLICATES REMOVED)
              ANSWERS '1-314' FROM FILE CAPLUS
              ANSWERS '315-484' FROM FILE WPINDEX

=> ANALYZE L4
ENTER ANSWER NUMBER OR RANGE (1-):1-
ENTER DISPLAY CODE (FILEDEFAULT) OR ?:PA
L5        ANALYZE L4 1- PA :    409 TERMS
```

Enter the patent files in which you want to search.

Enter the search terms. Restrict answers to recent patent documents.

An L-number answer set is created for each file and the total set.

Remove duplicates.

Enter ANALYZE and answer the prompts.

```
=> D TOP20
L5        ANALYZE L4 1- PA :    409 TERMS

TERM #   # OCC  # DOC  % DOC PA
----------  ----------  ---------  ----------------
    1        17      17   3.51 NITTO DENKO CORP JAPAN
    2        14      14   2.89 HITACHI CHEMICAL DU PONT
                                  MICRO SYSTEM CO LTD JAPAN
    3        13      13   2.69 TORAY INDUSTRIES INC JAPAN
    4        12      12   2.48 MITSUI CHEMICALS INC JAPAN
    5        11      11   2.27 KANEGAFUCHI CHEMICAL
                                  INDUSTRY CO LTD JAPAN
    6        10      10   2.07 KYOCERA CHEMICAL CORP JAPAN
    7        10      10   2.07 USA
    8         8       8   1.65 PHOTON X INC USA
    9         7       7   1.45 CENTRAL GLASS CO LTD JAPAN
   10         7       7   1.45 SUMITOMO BAKELITE CO LTD
                                  JAPAN
   11         6       6   1.24 HITACHI CHEMICAL CO LTD JAPAN
   12         5       5   1.03 ASAHI KASEI CORPORATION
                                  JAPAN
   13         5       5   1.03 CYTEC TECHNOLOGY CORP
   14         5       5   1.03 INT BUSINESS MACHINES CORP
   15         5       5   1.03 JAPAN
   16         5       5   1.03 RICOH CO LTD JAPAN
   17         5       5   1.03 SAMSUNG ELECTRONICS CO LTD
   18         5       5   1.03 SEIKO EPSON CORP
   19         5       5   1.03 TOPPAN PRINTING CO LTD JAPAN
   20         5       5   1.03 TOYOBO CO LTD JAPAN
```

Display the 20 most frequently occurring terms.

Searching for business news on a polymer

In searching for business and news information on specific polymers, use trade names and other names, as well as CAS Registry Numbers, when available.

Find information on commercial applications of Biopol

```
=> FILE PROMT CBNB CIN NLDB BIOBUSINESS
FILES 'PROMT, CBNB, CIN, NLDB, BIOBUSINESS' ENTERED

=> S 80181-31-3 OR BIOPOL
L1        204 FILE PROMT
L2        180 FILE CBNB
L3         48 FILE CIN
L4         63 FILE NLDB
L5         46 FILE BIOBUSINESS

TOTAL FOR ALL FILES
L6        544 80181-31-3 OR BIOPOL

=> D KWIC 2

L6  ANSWER 2 OF 544  PROMT  COPYRIGHT 2004 Gale Group
    on STN

AB  Expanding its current range of polyhydroxyalkanoate (PHA)
    products, Metabolix, Inc., of Cambridge, Mass., has purchased
    the Biopol (environmentally friendly performance plastics made
    from renewable resources) assets of St. Louis-based Monsanto.
    Terms of the transaction were not disclosed..  .  .
```

Enter the business files in which you want to search.

Search any names as well as the CAS Registry Number for the polymer. An L-number answer set is created for each file and the total set.

Display answers in the KWIC format to see hit terms in context, i.e., 20 words on either side.

Searching for business news on a class of polymers

Searches for business and news information on a class of polymers can be done in the Basic Index of the business files on STN. Use the proximity operators for precision. Use a cluster of files with the INDEX command to find which files contain information on your topic, before searching in the files.

Provide an overview of recent business news on the flexible plastics produced with metallocene catalyst technology

```
=> SET CLUSTER
ENTER CLUSTER NAME OR (?):.POLYNEWS
ENTER LIST OF FILE NAMES OR (?):PROMT CBNB PLASNEWS
INVESTEXT
MORE FILES, (NONE) OR ?:NONE
CLUSTER '.POLYNEWS' DEFINED AS 'PROMT, CBNB,
PLASNEWS, INVESTEXT'
SET COMMAND COMPLETED

=> INDEX .POLYNEWS

=> S METALLOCENE# (S) (POLYMER# OR PLASTIC#) AND
   PY>2002
     35   FILE PROMT
     38   FILE CBNB
      2   FILE INVESTEXT

3 FILES HAVE ONE OR MORE ANSWERS,    4 FILES SEARCHED
IN STNINDEX

L1   QUE METALLOCENE# (S) (POLYMER# OR PLASTIC#) AND
PY>2002

=> FILE HITS
FILES 'CBNB, PROMT, INVESTEXT' ENTERED AT 12:35:05 ON 18
FEB 2004

=> S L1
L2        38 FILE CBNB
L3        35 FILE PROMT
L4         2 FILE INVESTEXT

TOTAL FOR ALL FILES
L5        75 L1
```

Define a customized cluster of files that you want to use.

Enter INDEX followed by the cluster name.

Enter your search statement. Each file in the index list is scanned. If the file contains answers, the number of answers is displayed with the file name. A query L-number is created.

Enter the files in which answers (HITS) are found.

Search the INDEX query (L1). An L-number answer set is created for each file and the total set. L-numbers for the files are sorted in the order of hit frequency.

=> **D L2 HIT 2-3**

L2 ANSWER 2 OF 38 CBNB COPYRIGHT 2004 EI on STN
PD 20040126
CN **metallocene polymers**

L2 ANSWER 3 OF 38 CBNB COPYRIGHT 2004 EI on STN
PD 20040112
AB Atofina has extended its range of second generation Finacene **metallocene polymers** with the launch of 8 new grades of a different molecular structure than conventional linear polyethylenes. Their fluidity index ranges from 0.3-8.5 g.10 min and their density from 0.927 to 0.96. They can be used to make the finest packaging without any loss of performance. This means they offer users savings on raw materials and processing, faster processing speeds and lower transport costs. They would also reduce environmental taxes on packaging. The new products are made in Antwerp where the number of production lines may be increased if demand is high. Atofina has also launched a new functional polyolefin (a vinyl ethylene acetate copolymer) called Evatane 42-60 for inks that is very soluble and eliminates adherence problems. It is transparent and has low viscosity. The product is made at Atofina's Mont site in France and is designed for the Asian market.

=> **D L3 HIT 1**

L3 ANSWER 1 OF 35 PROMT COPYRIGHT 2004 Gale Group on STN

SO Rubber World, (Nov 2003) Vol. 229, No. 2, pp. 18(5).
ISSN: ISSN: 0035-9572.
TX The use and advantages of constrained geometry catalyst (CGC) technology for the commercial production of EPDM and other ethylene-[alpha]-olefin copolymers in solution processes has been well documented (refs. 15 and 16). Gas-phase EPDM production has been further advanced by combining the proven CGC technology with the gas-phase process. Carbon black is an integral part of the gas-phase EPDM process. CGC gas-phase EPDM is characterized by its granular form, low odor and fast mixing behavior without the limitations of previous Ziegler-Natta based gas-phase EPDMs. A new third generation **metallocene** EPDM product line based on these combined technologies was introduced to the marketplace in 2002 under the trade name Nordel MG hydrocarbon rubbers (ref. 14). This article will concentrate on the key attribute of the base **polymer** consistency for this new third generation **metallocene** EPDM, as well as the uniformity of the granular products.

Display answers from any L-number answer set created.

Searching for properties

PLASPEC and PDLCOM contain detailed property information for polymers and plastics. PLASPEC includes numeric data for mechanical, thermal, electrical, and flammability properties as well as processing and physical characteristics of plastics. PDLCOM contains test data on the chemical compatibility and the environmental stress crack resistance of plastics. General information on properties of plastics and polymers may also be found in the business and news files, e.g., PLASNEWS.

Find properties and the producer of a plastic known as EM 802-009

```
=> INDEX PLASPEC PDLCOM PLASNEWS

=> S EM 802 009 OR EM 802009 OR EM802009
        1   FILE PLASPEC
        2   FILE PLASNEWS

  2 FILES HAVE ONE OR MORE ANSWERS,   3 FILES
  SEARCHED IN STNINDEX

L1   QUE EM 802 009 OR EM 802009 OR EM802009

=> FILE HITS
FILES 'PLASNEWS, PLASPEC' ENTERED

=> S L1
L2          2 FILE PLASNEWS
L3          1 FILE PLASPEC

TOTAL FOR ALL FILES
L4          3 L1

=> D L3 FA

L3   ANSWER 1 OF 1  PLASPEC  COPYRIGHT 2004 BCI on STN

Code        Field Name
=======+============================

AN          Accession Number

    Material Information

APP         Application
CHTP        Chemical Type
CN          Chemical Trade Name
FN          Family Name
FDA         FDA Approved
FDANO       FDA Approval Number
FEAT        Features
GDE         Grade
MATCL       Material Class
SUPP        Supplier
```

Use INDEX with the files with property information.

Search the name and its possible variants in the Basic Index. Each file in the index list is scanned. If the file contains answers, the number of answers is displayed with the file name. A query L-number is created.

Enter the files in which answers (HITS) are found.

Search the INDEX query (L1).

Display a list of available fields (FA) to see what kind of properties are available for a given plastic.

```
    Processing/Physical Characteristics

DEN       Density
DEN.TX    Density Temperature Text
HZE       Haze
MLTI      Melt Index
MLTI.DIR  Melt Index Direction
PRTP      Process Type

    Mechanical Properties

ELONY     Elongation at Yield
TSB       Tensile Strength at Break

    Thermal Properties

              (none)

    Electrical Properties

              (none)

=> D L3 ALL

L3   ANSWER 1 OF 1  PLASPEC  COPYRIGHT 2004 BCI on STN

Database: PLASPEC/Manufacturer's Data   AN: 400-20088
Material Class:            Thermoplastic
Family Name:               Ethyl methacrylate copolymer
Chemical Type:             Copolymer
Trade Name and Grade:      Acrythene EM  802 -009
Resin Form:                pellets
Supplier:                  Quantum Chemical, USI Div.
Application:               Medical; Packaging
FDA Approved:              yes
FDA Approval Number:       21CFR177.1340/21CFR175.105
Features:                  Low gel; Transparent; Good drawdown;
                           Low-temperature properties

    Processing/Physical Characteristics

Process Type:              Extrusion; Coextrusion
Density:                   0.939 g/cm**3 at ambient temperature
Melt Index:                2 g/10 min in machine direction
Haze:                      6%

    Mechanical Properties

Tensile Strength at Break: 4.3E+03 psi
Elongation at Yield:       300%
```

Display ALL of the record or selected fields.

Searching for regulatory information

The CHEMLIST® file (Regulated Chemicals Listing) contains information about chemical substances listed on national and international chemical inventories and regulatory lists. Chemical and trade names are searched in the Chemical Name (/CN) field.

I have a trade name Alathon 704 for a polymer. What is its chemical composition? Is it listed on any inventory?

```
=> FILE CHEMLIST

=> S ALATHON 704/CN
L1          1 ALATHON 704/CN

=> D

L1  ANSWER 1 of 1  CHEMLIST  COPYRIGHT (C) 2004 ACS on
    STN
AN  15411  CHEMLIST
RN  9010-86-0
CN  2-Propenoic acid, ethyl ester, polymer with ethene (TSCA, DSL,
    ENCS, AICS, PICCS)
                              .
                              .
                              .
Acrylic acid ethyl ester, polymer with ethylene
      Alathon 704
    Bakelite DFDA 5182
                              .
                              .
                              .

FS  AUSTRALIA: AICS;  CANADA: DSL;  JAPAN: ENCS;  KOREA:
    ECL;  PHILIPPINES: PICCS;  USA: TSCA
CBI Public
RLN ENCS No.: 6-19X
    ECL Serial No.: KE-29512
INV On TSCA Inventory
    January 2003 Inventory Tape.
      EPA Flags:
        XU  Exempt from Update Rule
    On DSL
      Supplement to Canada Gazette, Part I, January 26, 1991.
    On ENCS
      Unlisted chemical name.  For ENCS chemical class or
      category name, refer to ENCS No. 6-19.
    On AICS
      Australian Inventory of Chemical Substances, June 1996 Ed.
    On ECL
      Korean Existing Chemicals List, January 1997.
    On PICCS
      Philippines Inventory of Chemicals and Chemical Substances,
      2000.
FA  RN    CAS Registry Number
    RLN   Regulatory List Number
    INV   Inventory Status
```

Enter CHEMLIST.

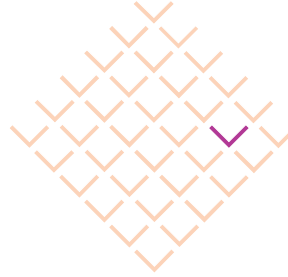
Search the trade name in the /CN field.

Enter D to display the record in the default format, which includes substance identification (up to 50 names), inventory status (INV), a list of available fields (FA), and fields containing hit terms.

For more information

To find information on:	Refer to:
STN file content and search and display options	STN Database Summary Sheets at: http://www.cas.org/ONLINE/DBSS/dbsslist.html or enter HELP DIRECTORY at an arrow prompt in the file for a list of online help messages.
STN commands	Mastering STN Commands at: http://www.cas.org/training/stncommands/ or enter HELP followed by a command name at an arrow prompt, e.g., HELP ANALYZE.
ANALYZE command	ANALYZE and TABULATE Quick Reference Card at: http://www.cas.org/ONLINE/QR/analyzetabulate.pdf or enter HELP ANALYZE at an arrow prompt.
CAS roles	CAS Roles Quick Reference Card at: http://www.cas.org/ONLINE/QR/casroles.pdf
Patent searching on STN	Patent Searching on STN Quick Reference Guide at: http://www.cas.org/ONLINE/QRGUIDES/patent.pdf
POLYLINK command	STNote 30: Enhanced Polymer Searching in REGISTRY at: http://www.cas.org/ONLINE/STN/STNOTES/stnotes30.pdf or enter HELP POLYLINK at an arrow prompt.
Polymer Class Terms in Registry	Polymer Class Terms Search Aid, which may be ordered from the STN User Documentation Order Form at: http://www.cas.org/ONLINE/STN/docform.pdf
Searching for CAS Registry Numbers in Registry	How to Search for CAS Registry Numbers in the CAS Registry File Quick Reference Card at: http://www.cas.org/ONLINE/QR/rn.pdf
TRANSFER command	Crossfile Searching with the TRANSFER Command Quick Reference Card at: http://www.cas.org/ONLINE/QR/transfer.pdf

STN Contact Information



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E-mail: helpdesk@fiz-karlsruhe.de
Internet: www.stn-international.de

In Japan

STN
c/o Japan Association for International Chemical Information (JAICI)
Nakai Building
6-25-4 Honkomagome, Bunkyo-ku
Tokyo 113-0021, Japan
Phone: 81 3-5978-3601 (Technical Service)
81 3-5978-3621 (Customer Service)
Fax: 81 3-5978-3600
E-mail: helpdesk@jaici.or.jp (Technical Service)
cas-stn@jaici.or.jp (Customer Service)
Internet: www.jaici.or.jp

or

STN
c/o Japan Science and Technology Agency (JST)
5-3 Yonbancho, Chiyoda-ku
Tokyo 102-8666, Japan
Phone: 81 3-5214-8402
Fax: 81 3-5214-8420
E-mail: helpdesk@mr.jst.go.jp
Internet: pr.jst.go.jp/db/STN/index.html

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