

# Chemical Engineering and Biotechnology Abstracts

## FILE DESCRIPTION

The **Chemical Engineering and Biotechnology Abstracts (CEABA)** database corresponds to the printed publications *Chemical Engineering* and *Biotechnology Abstracts*, which were produced jointly by The Royal Society of Chemistry and DECHEMA, the German Society for Chemical Equipment, Chemical Technology and Biotechnology. From January 2000 forward, they are produced only by DECHEMA. The three complementary databases have been combined in File 315 to provide the most comprehensive information available for chemical engineering. Records contain abstracts with chemical process and reaction engineering information, as well as bibliographic information. In addition, controlled vocabulary indexing terms, section headings, and DECHEMA classifications are included to enhance subject searching.

## SUBJECT COVERAGE

- Chemical processing
- Reaction engineering
- Engineering theory
- Laboratory experiments
- Computer applications
- Measurement and process control
- Physical and chemical property data
- Plant and personnel safety
- Chemical property data
- Environmental protection

## SOURCES

References are taken from over 500 core journals that are scanned regularly. Books, technical reports, and some press releases and conferences are also covered.

## TIPS

### USE FILE 315

to comprehensively search chemical engineering or biotechnology topics.

### USE DN=

to search DECHEMA Classification.

SELECT DN=MASS TRANSFER

### USE AE DISPLAY CODE

to display only the English language abstract.

TYPE S1/AE/ALL

### USE AG DISPLAY CODE

to display only the German language abstract.

TYPE S2/AG/ALL

## DIALOG FILE DATA

Inclusive Dates: 1963 to the present

Update Frequency: Monthly

File Size: 685,000 records as of December 2007

## CONTACT

Chemical Engineering and Biotechnology Abstracts is produced by the Gesellschaft fuer Chemische Technik und Biotechnologie e. V.(DECHEMA). Questions concerning file content should be directed to:

Dr. Karin Tiemann

DECHEMA e.V.

Information Systems and Databases

Theodor-Heuss-Allee 25

Frankfurt am Main 60486

Germany

Phone: +49-69 7564-349

Fax: +49-69 7564-418

E-Mail: tiemann@dechema.de

**File 315      Chemical Engineering and Biotechnology Abstracts**  
**SAMPLE RECORD**

DIALOG(R)File 315:ChemEng & Biotec Abs  
(c) 2007 DECHEMA. All rts. reserv.

**AX=, DT=** 511337 CEABA Accession No.: 2003-08-000775 DOCUMENT TYPE: Journal  
**/TI** Title: Recycling and regeneration of used perfluorosulfonic membranes for  
polymer electrolyte fuel cells  
**/TI** Orig. Title: Recycling und Wiederverwendung von gebrauchten  
Nafion(R)-Membranen aus Brennstoffzellen

**AU=** AUTHOR: Xu, H.-F. ; Wang, X. ; Shao, Z.-G. ; Hsing, I.-M.  
**CS=** CORPORATE SOURCE: Hong Kong Univ., Kowloon, HK  
**JN=** PUBLICATION: Journal of Applied Electrochemistry, Volume: 32, Issue: 12,  
Page(s): 1337-1340

**CD=, SN=** CODEN: JAELBJ      ISSN: 0021-891X  
**PY=** PUBLICATION YEAR: 2002  
**/AB** ABSTRACT(ENGLISH): Nafion(R) (Dupont) membranes are perfluorosulfonic  
proton conductors used in fuel cells, chlor-alkali electrolysis and  
photoelectrochemical systems. A method for the recycling and  
regeneration of used Nafion membranes based on dissolution and  
recasting is described. Dissolution was conducted using dimethyl  
sulfoxide as a solvent under atmosphere pressure at 190 Cel , followed  
by recasting at 170 Cel. The properties and performance of the recast  
membrane were studied using X-ray diffraction, electrochemical  
impedance spectroscopy and cell polarization measurements. The cell  
performance with fresh and recycled membranes was similar.

**/AB** ABSTRACTOR(ENGLISH): Peters, Alison  
ABSTRACT(GERMAN): Nafion (R) der Fa. Dupont, ein Protonen leitender  
Festelektrolyt auf Perfluorsulfonsaeurebasis findet aufgrund seiner  
guten thermischen, chemischen und mechanischen Stabilitaet verbreitet  
Anwendung in verschiedenen elektrochemischen Prozessen, z. B.  
Brennstoffzellen, Chloralkali-Elektrolyse und photochemischen  
Prozessen. Sowohl aus oekologischen als auch aus wirtschaftlichen  
Gruenden lag es nahe, mit zunehmender Verwendung nach einer brauchbaren  
Recyclingmethode fuer diesen nur schwer abbaubaren Kunststoff zu  
suchen. Fuer den Bereich der Brennstoffzellen haben die Verf.  
gebrauchtes Nafion (R) 115 bei 190 Cel unter Atmosphaerendruck in  
Dimethylsulfoxid geloest und bei 170 Cel zu einer neuen stabilen  
Membran mit guter kristalliner Struktur und hoher mechanischer  
Stabilitaet gegossen. Die Eigenschaften dieser Membran (z. B.  
Wasseraufnahme, Austauscherkapazitaet, elektrischer Widerstand) sind  
aehnlich wie bei einer fabrikneuen Membran gleichen Typs. Das  
Betriebsverhalten der mit der Recycling-Membran bestueckten  
Brennstoffzellen ist vergleichbar mit dem "frischer" Zellen.

ABSTRACTOR(GERMAN): Minz, Franz-Rudolf (formerly Bayer)  
NO. OF PAGES: 4  
NO. OF FIGURES: 4  
NO. OF TABLES: 3  
NO. OF SOURCES: 14

**/DE** DESCRIPTORS(ENGLISH): membrane ; polymer film ; recycling ; regeneration  
DESCRIPTORS(GERMAN): Brennstoffzelle ; Membrane ; Recycling ; Regeneration  
**/SH, SH=, SC=** SECTION: Diffusional Operations (Separations) (07)  
**/SH, XR=, SH=, SC=** SECTION CROSS-REFERENCE: Mechanical Operation (09 ) ; Energy Generation,  
Distribution and Use (16)  
**/DN, DN=, DC=** DECHEMA CLASSIFICATION: Plastics (3KKB); Direct energy conversion,  
energy storage (3EL); Membrane and diffusion separation processes (3PHC)

SEARCH OPTIONS

BASIC INDEX

SEARCH SUFFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
— /AB	— AB	All Basic Index Fields Abstract <sup>1</sup>	Word Segment & Word	S FUEL(W)CELL?(F)MEMBRANE? S METHYL/AB S FUEL(W)CELLS/AB S CHLORALKALI(W)ELEKTROLYSE/AB
— — /DE	AE AG DE	Abstract in English Abstract in German Descriptor <sup>1,3</sup>	Segment & Word & Phrase	S MEMBRANE/DE S POLYMER FILM/DE S BRENNSTOFFZELLE/DE
/DN	DN	DECHEMA Classification Name	Word & Phrase	S ENERGY(W)STORAGE/DN S "MEMBRANE AND DIFFUSION"?/DN
/SH	SH	Section Name <sup>2</sup>	Word & Phrase	S SEPARATIONS/SH S DIFFUSIONAL OPERATIONS?/SH
/TI	TI	Title <sup>1</sup>	Segment & Word	S FLUORO/TI S FUEL(W)CELLS/TI

<sup>1</sup> Chemical substance names are segmented in all Basic Index fields; for example, DICHLOROBENZENE is retrieved when searched as a single term or as any of the segments: DI, CHLORO, BENZENE, CHLOROBENZENE. To search complete chemical words, use /FW; e.g., to search for records discussing benzene only, S BENZENE/FW.

<sup>3</sup> Descriptors in English and German don't always overlap, so both languages should be searched..

<sup>2</sup> Section Name includes the Cross Reference Section Name. and can also be searched with SH= and XR=.

ADDITIONAL INDEXES

SEARCH PREFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
AU=	AU	Author	Phrase	S AU=WANG, X.
AV=	AV	Availability	Word	S AV=SPRINGER
AX=	AX	CEBA Abstract Number	Phrase	S AX=34-08-000775
—	AZ	DIALOG Accession Number		
BN=	BN	International Standard Book Number (ISBN)	Phrase	S BN=3-9805032-7-5
CD=	CD	CODEN	Phrase	S CD=JAELBJ
CS=	CS	Corporate Source	Word	S CS=(HONG(W)KONG(W)UNIV)
DC=	DC	DECHEMA Classification Code	Phrase	S DC=3EL
DN=	DN	DECHEMA Classification Name <sup>5</sup>	Phrase	S DN=DIRECT ENERGY CONVERSION?
DT=	DT	Document Type	Phrase	S DT=JOURNAL
JN=	JN	Journal Name <sup>7</sup>	Phrase	S JN=J. APPL. ELECTROCHEM. S JN=JOURNAL OF APPLIED ELECTROCHEM?
LA=	LA	Language	Phrase	S LA=ENGLISH
—	NF	Number of Figures <sup>4</sup>		
—	NP	Number of Pages <sup>4</sup>		
—	NS	Number of Sources <sup>4</sup>		
—	NT	Number of Tables <sup>4</sup>		
PY=	PY	Publication Year	Phrase	S PY=2001
RP=	RP	Report Number	Phrase	S RP="GKSS 97/E/22"
SC=	SC	Section Code <sup>6</sup>	Phrase	S SC=07
SH=	SH	Section Name <sup>2,5</sup>	Phrase	S SH=DIFFUSIONAL OPERATIONS?
SN=	SN	International Standard Serial Number (ISSN)	Phrase	S SN=0021-891X
UD=	—	Update	Phrase	S UD=9999
XR=	XR	Cross Reference Section Code/Name <sup>2,5,6</sup>	Phrase	S XR=09 S XR=MECHANICAL OPERATION

<sup>4</sup> Available from January 2000 forward.

<sup>5</sup> Also Searchable in the Basic Index.

<sup>6</sup> Section Code also includes the Cross-Reference Section Code XR=.

<sup>7</sup> Journal Names and Conference Information can be searched using JN=.

# File 315 Chemical Engineering and Biotechnology Abstracts

## SPECIAL FEATURES

For command descriptions, enter HELP LIMIT, HELP SORT, HELP RANK, HELP DUP online.

<b>LIMIT</b>	/ -- DIALOG Accession Number /ENG -- English Language /NONENG -- Non-English Language /YYYY -- Publication Year	S S3/500723-999999 S S3/ENG S S4/NONENG S S5/2002
<b>SORT</b>	<b>AU, CS, JN, PY, SH, TI</b>	SORT S3/ALL/JN/AU PRINT S4/5/1-23/PY
<b>RANK</b>	All phrase- and numeric-indexed fields in the Additional Indexes can be ranked. Other RANK codes include: DE, JN	RANK DE RANK AU S4
<b>RD, ID</b>	Remove duplicates (RD) or identify duplicates (ID,IDO).	RD S5

## PREDEFINED FORMAT OPTIONS

NO.	DIALOGWEB FORMAT	RECORD CONTENT
1	--	DIALOG Accession Number
2	--	Full Record except Abstract
3	Medium	Bibliographic Citation
4	--	Full Record with Tagged Fields
5	--	Full Record
6	Free	Title
7	Long	Full Record except Indexing
8	Short	Title and Indexing
9	Full	Full Record
K	--	KWIC (Key Word In Context) displays a window of text; may be used alone or with other formats

## OTHER OUTPUT OPTIONS

For an explanation, enter HELP TYPE, HELP UDF, HELP TAG online.

<b>USER DEFINED FORMATS</b>	Display codes listed in the Search Options tables can be used to customize output.	TYPE S3/TI,AU,JN,PY/ALL
<b>TAG</b>	Output can be displayed with tags identifying each display field.	TYPE S2/3/1-5 TAG
<b>DIRECT RECORD ACCESS</b>	If the accession number of a specific record is known, it can be used to display the record directly.	TYPE 103481/3 DISPLAY 046974/TI,JN PRINT 094132/2

### FOR ONLINE HELP:

See HELP FIELDS 315 for searchable fields; HELP FORMAT 315 for output formats; HELP LIMIT 315 for limits; HELP RATES 315 for cost information; HELP SORT 315 for sorts.