

# The Merck Index Online<sup>SM</sup>

## FILE DESCRIPTION

The Merck Index Online<sup>SM</sup> is the online version of the monographs in the printed 13th Edition of *The Merck Index* (a U.S. publication, Whitehouse Station, N.J., USA), an internationally recognized, one-volume encyclopedia of chemicals, drugs, and biologicals. Each monograph in the encyclopedia (each record in the database) discusses a single chemical entity or a small group of very closely-related compounds. Updates contain material not yet available in print.

Records contain:

- chemical, common, generic and systematic names (including CAS<sup>®</sup> names)
- trademarks and associated companies
- CAS<sup>®</sup> Registry Numbers
- molecular formulae, weights and percentage composition
- capsule statements identifying compound classes and scientific significance
- chemical, biomedical and patent literature references
- physical and toxicity data
- therapeutic and commercial uses
- caution and hazard information

## SUBJECT COVERAGE

- human and veterinary drugs
- biotech drugs and monoclonal antibodies
- substances used for medical imaging
- biologicals and natural products
- plants and herbal medicines
- agricultural chemicals (including pesticides and herbicides)
- organic and inorganic chemicals used in commerce and research
- laboratory reagents and catalysts
- dyes, colors and indicators
- environmentally significant substances

## SOURCES

Records contain citations to and information from approximately 800 international chemical, biomedical, and clinical journals; patents issued by 30 countries; books; proceedings; and other standard reference works.

## TIPS

### USE FILE 304

to find concise descriptions of specific chemicals, drugs, or biologicals.

### USE NA= or /NA

to locate a substance record by its systematic name, synonym, or brand name, particularly when you don't know which kind of name you have.

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EXPAND NA=ENALAPRIL
SELECT PHENYLPROPYL/NA
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### USE MAP RN T

to create a SearchSave of the CAS<sup>®</sup>Registry Numbers for further searching in other chemistry files.

### USE MAP PN T

to create a SearchSave of cited patent numbers for further searching in patent databases.

## DIALOG FILE DATA

Inclusive Dates: Late 19th Century to the present

Update Frequency: Semi-Annual

File Size: 10,480 records as of October 2005

## CONTACT

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File 304  
SAMPLE RECORD

The Merck Index Online<sup>SM</sup>

DIALOG(R)File 304:The Merck Index Online(SM)  
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AN=,/MN,MN=,/DE,/NA,NA=,/MAIN  
RN=  
MF=,MW=

/CN,CN=,/NA,NA=,/DE

/SY,SY=,/NA,NA=,/DE

/SO,SO=

PN=  
/DERIV  
/SY,SY=,/NA,NA=,/DE

RN=  
MF=  
MW=

/SY,SY=,/NA,NA=,/DE  
/TN,TN=,/SY,SY=,  
/NA,NA=,/DE

/CO,CO=

/PP,PP=

MP=,MT=,  
OP=,OT=,  
/SY,SY=,/NA,NA=,/DE  
/TN,TN=,/SY,SY=,/NA,  
NA=,/DE

/CO,CO=

/TC,TC=

/TC,TV=

/DP,RP=

/DP,DP=

/DP,DP=,/DERIV

03599 **Monograph Name: Enalapril**

CAS REGISTRY NUMBER: 75847-73-3

MOLECULAR FORMULA: C<sub>20</sub>H<sub>28</sub>N<sub>2</sub>O<sub>5</sub> MOLECULAR WEIGHT: 376.45

MOLECULAR COMPOSITION: C 63.81%, H 7.50%, N 7.44%, O 21.25%

C.A. CHEMICAL NAME(S): (S)-1-(N-(1-(Ethoxycarbonyl)-3-phenylpropyl)-L-alanyl)-L-proline

SYNONYMS:

1-(N-((S)-1-carboxy-3-phenylpropyl)-L-alanyl)-L-proline 1'-ethyl ester

LITERATURE REFERENCES:

Angiotensin-converting enzyme (ACE) inhibitor; de-esterified in vivo to its active diacid metabolite, enalaprilat, q.v. Prepn: A. A. Patchett et al., Nature 288, 280 (1980); eidem, Eur. pat. Appl. 12,401; E. E. Harris et al., U.S. pat. 4,374,829 (1980, 1983 both to Merck & Co.). Pharmacology: D. M. Gross et al., J. Pharmacol. Exp. Ther. 216, 552 (1981); C. S. Sweet et al., ibid. 558. Bioavailability and metabolism: E. H. Ulm, Drug Metab. Rev. 14, 99 (1983). Comprehensive description: D. P. Ip, G. S. Brenner, Anal. Profiles Drug Subs. 16, 207-243 (1987). Clinical trial in congestive heart failure: Consensus Trial Study Group, N. Engl. J. Med. 316, 1429 (1987). Review of clinical experience in hypertension: H. J. Gomez et al., J. Cardiovasc. Pharmacol. 15, Suppl. 3, S26-S29 (1990); of clinical pharmacokinetics: R. J. MacFadyen et al., Clin. Pharmacokinet. 25, 274-282 (1993); of combination with hydrochlorothiazide: P. L. Malini, Adv. Ther. 10, 253-262 (1993).

PATENT INFORMATION:

EP 12401; US 4374829

DERIVATIVE INFORMATION:

**SUBSTANCE: Enalapril Maleate**

DERIVATIVE CAS RN: 76095-16-4

DERIVATIVE MOL. FORMULA: C<sub>20</sub>H<sub>28</sub>N<sub>2</sub>O<sub>5</sub>.C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>

MOL. WEIGHT: 492.52

MOL. COMPOSITION: C 58.53%, H 6.55%, N 5.69%, O 29.24%

DERIVATIVE DRUG CODES: MK-421

DERIVATIVE BRAND NAME (COMPANY): Amprace (Amrad), Bitensil (UCB), Cardiovet (Intervet), Enacard (Merck & Co.), Enaloc (Leiras), Enapren (Merck & Co.), Glioten (Bago), Hipoartel (Lasa), Innovace (Merck & Co.), Lotrial (Roemmers), Olivin (Lek), Pres (Dieckmann), Renitec (Merck & Co.), Reniten (Merck & Co.), Renivace (Banyu), Vasotec (Merck & Co.), Xanef (Merck & Co.)

DERIVATIVE PHYSICAL DATA: White to off-white crystalline powder, mp 143-144.5. Soly (g/ml): water 0.025; alcohol 0.08; methanol 0.20. (alpha)<sub>D</sub><sub>25</sub> -42.2 (c = 1 in methanol). pH (1% water) 2.6. pKa<sub>1</sub> 3.0; pKa<sub>2</sub> (25 degrees ) 5.4.

MELTING POINT: 143-144.5

OPTICAL ROTATION: (alpha)<sub>D</sub><sub>25</sub>: -42.2 (c = 1 in methanol)

**SUBSTANCE: Enalapril Mixture of maleate with hydrochlorothiazide**

DERIVATIVE BRAND NAME (COMPANY): Acesistem (Sigma-Tau), Co-Renitec (Merck & Co.), Innozide (Merck & Co.), Renacor (Merck & Co.), Vaseretic (Merck & Co.), Xynertec (Merck & Co.)

THERAPEUTIC CATEGORY: Antihypertensive.

THERAPEUTIC CATEGORY VET: In treatment of heart failure in dogs.

REFERENCE KEYS PRESENT: Clinical trial; In Vivo; Pharmacology; Prepn; Review; Patent number

DATA KEYS PRESENT: Patent number; Molecular weight; Therap. Cat.; Therap. Cat. Vet.

DATA KEYS PRESENT IN DERIVATIVE: Melting point; Optical Rotation

## SEARCH OPTIONS

## BASIC INDEX

SEARCH SUFFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
— /CN	— CN	All Basic Index Fields CA Chemical Name <sup>1,2</sup>	Word Segment & Word & Phrase	S ETHOXYCARBONYL(1W)PHENYLPROPYL S PROPYL/CN S PHENYLPROPYL(1W)ALANYL/CN S "S)-1-(N-(1-(ETHOXYCARBONYL)-3"?/CN
/CO /DE	CO DE	Company Name <sup>1</sup> Chemical Name	Word Segment & Word & Phrase	S MERCK/CO S PHENYL/DE S ENALAPRIL(W)MALEATE/DE S ENALAPRIL MALEATE/DE
/DP /EC /MN	DP MF MN	Data Present <sup>1,3</sup> Element Count <sup>2</sup> Monograph Name <sup>1</sup>	Word Phrase Segment & Word & Phrase	S MELTING(W)POINT S (C20(S)N2)/EC S CHLORIDE/MN S ENALAPRIL/MN S ANTIMONY TRICHLORIDE/MN
/NA	NA	Chemical Name <sup>1</sup>	Segment & Word & Phrase	S PHENYL/NA S ENALAPRIL(W)MALEATE/NA S ENALAPRIL MALEATE/NA
/NT /PP /SO	NT PP SO	Notes and Cautions Physical Property Information <sup>3</sup> Sources/References <sup>4</sup>	Word Word Word	S MORDANT(S)CATALYST/NT S WHITE(1W)POWDER/PP S ACADEMIC(W)PRESS/SO
/SY	SY	Synonyms Including Brand Names and Drug Codes <sup>1,2</sup>	Segment & Word & Phrase	S U(W)S(W)PAT?/SO S AL/SY, DERIV S CO(W)RENITEC/SY S CO-RENITEC/SY
/TC /TN	TC TN	Therapeutic Category <sup>6</sup> Brand Name <sup>1,2</sup>	Word Segment & Word & Phrase	S ANTIHYPERTENSIVE/TC S AL/TN S LOTRIAL/TN, DERIV S CO-RENITEC/TN

<sup>1</sup> Searchable in the Basic Index and in the Additional Indexes.  
Any numeric values are searchable in the Basic Index using the (W) operator, e.g. S 143(W)144(W)5/PP

<sup>2</sup> All chemical names are indexed as complete phrases, individual words, and chemically significant segments of words. Use /FW to restrict retrieval to the complete term, e.g., S ETHANE/FW to only select ethane as a single word rather than as a segment of a larger chemical term, such as trichloroethane.

<sup>3</sup> Searchable as /DP in the Basic Index and using DP= or RP= in the Additional Indexes.

<sup>4</sup> Includes Monograph Name (/MN, MN=), C.A. Names (/CN, CN=), Brand Names (/TN, TN=), Derivative Names (/DERIV), Drug Codes (/SY, SY=), and Synonyms (/SY, SY=).

<sup>5</sup> Also /DF.

<sup>6</sup> Searchable using /TC in the Basic Index and using TC= or TV= in the Additional Indexes.

## ADDITIONAL INDEXES

SEARCH PREFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
AN=	AN	DIALOG Accession Number	Phrase	S AN=03521
AN=	AN	THE MERCK INDEX Monograph Number	Phrase	S AN=03521
BP=	BP	Boiling Point (Celsius) <sup>1,7</sup>	Numeric	S BP=223.5
BT=	BP	Boiling Point Text <sup>1</sup>	Word	S BT=DEGREES
CN=	CN	C.A. Chemical Name <sup>1</sup>	Phrase	S CN=S)-1-(N-(1-(ETHOXYCARBONYL?
CO=	CO	Company Name <sup>1</sup>	Phrase	S CO=MERCK & CO?
DN=	DN	Relative Density <sup>1,7</sup>	Numeric	S DN=1.0000
DP=	DP	Data Present <sup>1,3</sup>	Phrase	S DP=(BOILING POINT AND MELTING POINT)
DT=	DN	Density Text <sup>1</sup>	Word	S DT=SUPERCOOLED AND DN=1.0
EC=	MF	Element Count <sup>1</sup>	Phrase	S EC=(C0020 AND H0028) S EC=N0001:N0005
FF=	FP	Flash Point (Fahrenheit) <sup>1,7</sup>	Numeric	S FF=84.2
FP=	FP	Flash Point (Celsius) <sup>1,7</sup>	Numeric	S FP=29
FT=	FP	Flash Point Text <sup>1</sup>	Word	S FT=(CLOSED(W)CUP)
LD=	LD	Lethal Dose (LD50) <sup>1</sup>	Word	S LD=(RATS AND S(W)C)
ME=	—	Molecular Elements	Phrase	S ME=CHNO
MF=	MF	Molecular Formula	Phrase	S MF=C20H28N2O5
MN=	MN	Monograph Name <sup>1</sup>	Phrase	S MN=ENALAPRIL
MP=	MP	Melting Point <sup>1,7</sup>	Numeric	S MP=144
MT=	MP	Melting Point Text <sup>1</sup>	Word	S MT=DEGREES
MW=	MW	Molecular Weight <sup>7</sup>	Numeric	S MW=376.45
NA=	NA	Chemical Name <sup>1,4</sup>	Phrase	S NA=ENALAPRIL
OP=	OP	Optical Rotation <sup>1,7</sup>	Numeric	S OP=10.1:10.9
OT=	OP	Optical Rotation Text <sup>1</sup>	Word	S OT=(ALPHA(S)22(S)546)
PN=	PN	Patent Number <sup>1</sup>	Phrase	S PN=US 4374829
PP=	PP	Physical Property Information <sup>1</sup>	Word	S PP=(OFF(W)WHITE AND POWDER)

## ADDITIONAL INDEXES (cont'd)

SEARCH PREFIX	DISPLAY CODE	FIELD NAME	INDEXING	SELECT EXAMPLES
RE=	RE	Refractive Index <sup>1,7</sup>	Numeric	S RE=1.0:1.5
RI=	RE	Refractive Index Text <sup>1</sup>	Word	S RI=(D(W)20)
RN=	RN	CAS(R) Registry Number	Phrase	S RN=75847-73-3 S RN=75847-73-3/MAIN S RN=76095-16-4/DERIV
RP=	RP	References Present <sup>1</sup>	Phrase	S RP=PHARMACODYNAMICS
SO=	SO	Bibliographic Sources <sup>6</sup>	Word	S SO=(FERGUSON(S)J(1W)CLIN(W)PHARMACOL?)
SY=	SY	Synonyms Including Brand Names and Drug Codes <sup>1</sup>	Word & Phrase	S SY=INNOVACE S SY="1-(N-((S)-1-CARBOXY-3-PHENYLPROPYL)?"
TC=	TC	Therapeutic Category <sup>1</sup>	Word	S TC=ANTIHYPERTENSIVE
TN=	TN	Brand Name <sup>1</sup>	Phrase	S TN=INNOVACE
TV=	TV	Therapeutic Category (Veterinary) <sup>1</sup>	Word	S TV=(ANABOLIC(W)STEROID)
UD=	—	Update	Phrase	S UD=9999
US=	US	Uses <sup>1</sup>	Word	S US=(MORDANT(S)LEATHER)
UT=	UV	Ultraviolet Maximum Text <sup>1</sup>	Word	S UT=ALCOHOL AND UV=235
UV=	UV	Ultraviolet Maximum <sup>1,7</sup>	Numeric	S UV=260:265
<b>DISPLAY ONLY</b>				
—	B1	Boiling Point (Derivative)		
—	C1	CA Chemical Name (Derivative)		
—	C2	Company Name (Derivative)		
—	D1	Data Present (Derivative)		
—	D2	Relative Density (Derivative)		
—	FL	Flash Point (Derivative)		
—	L1	Lethal Dose (LD50) (Derivative)		
—	M1	Molecular Composition (Derivative)		
—	M2	Molecular Formula (Derivative)		
—	M3	Melting Point (Derivative)		
—	M4	Molecular Weight (Derivative)		
—	MC	Molecular Composition		
—	N1	Chemical Names (Derivative)		
—	N2	Chemical Names, Additional (Derivative)		
—	O1	Optical Rotation (Derivative)		
—	P1	Physical Property Information (Derivative)		
—	R1	Refractive Index (Derivative)		
—	R2	CAS Registry Number (Derivative)		
—	SB	Bibliographic Sources (Derivative)		
—	SM	Synonyms (Derivative)		
—	T1	Brand Name (Derivative)		
—	UM	Ultraviolet Maximum (Derivative)		

<sup>7</sup> Numeric values can be entered in several different ways: directly as a number, e.g. S BP=100:0; or in exponential notation, e.g. S BP=1E2. Letter abbreviations are also available: K for thousand; M for million, B for billion, e.g. S BP=0.5K:1.0K. To search a range of values, use a colon between starting and ending value, e.g. S BP=78:79 OR use numeric operators (>, <, >=, and <=), e.g. S 78<=BP<=79.

**SPECIAL FEATURES**

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

<b>LIMIT</b>	/DERIV -- Information relating to the derivative data mentioned in the monograph /MAIN -- Information relating to the main monograph substance data	S S2/DERIV S S1/MAIN
<b>SORT</b>	MF, MN, RN, TC	SORT S2/ALL/MN PRINT S2/5/1-20/TC
<b>RANK</b>	All phrase- and numeric-indexed fields in the Additional Indexes can be ranked.	RANK NA RANK BP S4
<b>MAP</b>	MN, NA, PN, RN, SY	MAP RN TEMP S4 MAP SYRN TEMP S3

**PREDEFINED FORMAT OPTIONS**

NO.	DIALOGWEB FORMAT	RECORD CONTENT
1	--	DIALOG Accession Number
2	--	Full Record, except Literature References and Physical Data
3	Medium	Full Record, except Physical Data
4	--	Full Record
5	--	Full Record
6	Free	DIALOG Accession Number/Monograph Number, Monograph Name, CAS Registry Number, and Molecular Formula
7	Long	Full Record, except Literature References
8	Short	DIALOG Accession Number/Monograph Number, Monograph Name, CAS Registry Number, Molecular Formula, Therapeutic Categories, References Present, Data Present
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/MN,MF,MP,BP/1-10
<b>TAG</b>	Output can be displayed with tags identifying each display field.	TYPE S3/3/1-5 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 03521/5 DISPLAY 03521/MN,MF,MP PRINT 03521/9

**FOR ONLINE HELP:**

See HELP FIELDS 304 for searchable fields; HELP FORMAT 304 for output formats; HELP LIMIT 304 for limits; HELP RATES 304 for cost information; HELP SORT 304 for sorts.