

Vitamin E

Other names:

(+)-.alpha.-tocopherol
(+)-«alpha»-Tocopherol
(2R)-3,4-Dihydro-2,5,7,8-tetramethyl-2-[(4R,8R)-4,8,12-trimethyltridecyl]-2H-1-benzopyran-6-ol
(2R,4'R,8'R)-.alpha.-tocopherol
(2R,4'R,8'R)-«alpha»-Tocopherol
(All-R)-«alpha»-Tocopherol
(R,R,R)-.alpha.-tocopherol
(R,R,R)-«alpha»-Tocopherol
(all-R)-.alpha.-tocopherol
,8,12-trimethyltridecyl)-, [2R-[2R*(4R*,8R*)]]-
.alpha.-tocopherol
121854-78-2
18920-62-2
2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-6-chroman-ol
2H-1-Benzopyran-6-ol,
3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-, [2R-[2R*(4R*,8R*)]]-
3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-1-benzopyran-6-ol,
[2R-[2R*(4R*,8R*)]]-
564-49-8
5,7,8-trimethyltolcol
Almefrol
Antisterility vitamin
Aquasol E
Covi-ox
Covitol F 1000
Covitol F 1300
D-.alpha.-tocopherol
D-«alpha»-tocopherol
Denamone
E-Oil 1000
E-toplex
E-vimin
Emipherol
Endo E
Eprolin
Eprolin S
Epsilan
Epsilan-m
Esorb
Etamican
Etavit
Evion

Evipherol
Evitaminum
Ilitia
Lan-E
Med-E
Phytogermine
Profecundin
Rhenogran Ronotec 50
Spavit
Spavit E
Syntopherol
Tenox GT 1
Tocopherex
Tocopherol
Tokopharm
Vascuals
Verrol
Vi-E
Viprimol
Vita E
Vitayonon
Viteolin
[2R-2R*(4R*,8R*)]-3,4-Dihydro-2,5,7,8-tetramethyl-2-(4,8,12-trimethyltridecyl)-2H-1-benz
vitamin E.alpha.
vitaplex E
«alpha»-D-Tocopherol
«alpha»-Tocopherol
«alpha»-Tokoferol
«alpha»-Vitamin E
Inchi: InChI=1S/C29H50O2/c1-20(2)12-9-13-21(3)14-10-15-22(4)16-11-18-29(8)19-17-26-25(7)
InchiKey: GVJHHUAWPYXKBD-UHFFFAOYSA-N
Formula: C29H50O2
SMILES: Cc1c(C)c2c(c(C)c1O)CCC(C)(CCCC(C)CCCC(C)CCCC(C)C)O2
Mol. weight [g/mol]: 430.71
CAS: 59-02-9

Physical Properties

Property code	Value	Unit	Source
gf	62.29	kJ/mol	Joback Method

hf	-694.51	kJ/mol	Joback Method
hfus	56.28	kJ/mol	Joback Method
hvap	100.37	kJ/mol	Joback Method
log10ws	-9.77		Crippen Method
logp	8.840		Crippen Method
mcvol	396.590	ml/mol	McGowan Method
pc	882.09	kPa	Joback Method
rinpol	3112.00		NIST Webbook
rinpol	3142.00		NIST Webbook
rinpol	3130.00		NIST Webbook
rinpol	3142.00		NIST Webbook
rinpol	3138.00		NIST Webbook
rinpol	3149.40		NIST Webbook
rinpol	3112.00		NIST Webbook
rinpol	3149.40		NIST Webbook
rinpol	3138.00		NIST Webbook
tb	1027.02	K	Joback Method
tc	1257.43	K	Joback Method
tf	624.70	K	Joback Method
vc	1.468	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1437.29	J/mol×K	1027.02	Joback Method
cpg	1465.97	J/mol×K	1065.42	Joback Method
cpg	1495.02	J/mol×K	1103.82	Joback Method
cpg	1524.68	J/mol×K	1142.22	Joback Method
cpg	1555.22	J/mol×K	1180.63	Joback Method
cpg	1586.87	J/mol×K	1219.03	Joback Method
cpg	1619.91	J/mol×K	1257.43	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
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tbp	549.26	K	1.10	Boiling Points of Short-Chain Partial Acylglycerols and Tocopherols at Low Pressures by the Differential Scanning Calorimetry Technique
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Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C59029&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Boiling Points of Short-Chain Partial Acylglycerols and Tocopherols at Low Pressures by the Differential Scanning Calorimetry Technique:	https://www.doi.org/10.1021/je401080p
Joback Method:	https://www.doi.org/10.1021/je7005538
McGowan Method:	https://en.wikipedia.org/wiki/Joback_method
	http://link.springer.com/article/10.1007/BF02311772

Legend

cpg:	Ideal gas heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tbp:	Boiling point at given pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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