

Arachidonic acid

Other names:	(all-Z)-5,8,11,14-Eicosatetraenoic acid 5,8,11,14-Eicosatetraenoic acid, (all-Z)- 5,8,11,14-eicosatetraenoic acid Arachidonate cis-5,8,11,14-Eicosatetraenoic acid icosa-5,8,11,14-tetraenoic acid
Inchi:	InChI=1S/C20H32O2/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20(21)22/h6-7,
InchiKey:	YZXBAPSDXZZRGB-DOFZRALJSA-N
Formula:	C20H32O2
SMILES:	CCCCC=CCC=CCC=CCC=CCCCC(=O)O
Mol. weight [g/mol]:	304.47
CAS:	506-32-1

Physical Properties

Property code	Value	Unit	Source
gf	172.66	kJ/mol	Joback Method
hf	-252.06	kJ/mol	Joback Method
hfus	54.05	kJ/mol	Joback Method
hvap	83.37	kJ/mol	Joback Method
log10ws	-6.71		Crippen Method
logp	6.217		Crippen Method
mcvol	282.900	ml/mol	McGowan Method
pc	1298.60	kPa	Joback Method
rinpol	2324.30		NIST Webbook
tb	819.69	K	Joback Method
tc	1008.60	K	Joback Method
tf	405.59	K	Joback Method
vc	1.101	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	853.31	J/mol×K	819.69	Joback Method
cpg	869.23	J/mol×K	851.18	Joback Method

cpg	884.46	J/mol×K	882.66	Joback Method
cpg	899.09	J/mol×K	914.15	Joback Method
cpg	913.19	J/mol×K	945.63	Joback Method
cpg	926.83	J/mol×K	977.12	Joback Method
cpg	940.10	J/mol×K	1008.60	Joback Method
dvisc	0.0014818	Pa×s	405.59	Joback Method
dvisc	0.0003451	Pa×s	474.61	Joback Method
dvisc	0.0001163	Pa×s	543.62	Joback Method
dvisc	0.0000501	Pa×s	612.64	Joback Method
dvisc	0.0000256	Pa×s	681.66	Joback Method
dvisc	0.0000148	Pa×s	750.67	Joback Method
dvisc	0.0000094	Pa×s	819.69	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C506321&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Measurements of Binary Diffusion Coefficient and Partition Ratio at Infinite Dilution for Linoleic Acid and Arachidonic Acid in Supercritical Carbon Dioxide:	https://www.doi.org/10.1021/je020205i
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

Legend

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
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
tc:	Critical Temperature
tf:	Normal melting (fusion) point

vc: Critical Volume

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