Tetracosane, 9-octyl-

Other names: 9-Octyltetracosane
9-n-Octyltetracosane
Inchi: InChI=1S/C32H66/c1-4-7-10-13-16-17-18-19-20-21-22-25-28-31-32(29-26-23-14-11-8-5-
InchiKey: VAVUILHRXZVBBR-UHFFFAOYSA-N
Formula: C32H66
SMILES: CCCCCCCCCCCCCCCC(CCCCCCCC)CCCCCCCC
Mol. weight [g/mol]: 450.87
CAS: 55401-54-2

Physical Properties

Property code	Value	Unit	Source
gf	216.12	kJ/mol	Joback Method
hf	-709.09	kJ/mol	Joback Method
hfus	75.11	kJ/mol	Joback Method
hvap	86.44	kJ/mol	Joback Method
log10ws	-12.98		Crippen Method
logp	12.585		Crippen Method
mcvol	461.740	ml/mol	McGowan Method
pc	545.39	kPa	Joback Method
tb	931.12	K	Joback Method
tc	1155.67	K	Joback Method
tf	435.40	K	Joback Method
vc	1.821	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1618.39	J/mol×K	931.12	Joback Method
cpg	1647.62	J/mol×K	968.55	Joback Method
cpg	1675.03	J/mol×K	1005.97	Joback Method
cpg	1700.75	J/mol×K	1043.40	Joback Method
cpg	1724.89	J/mol×K	1080.82	Joback Method
cpg	1747.56	J/mol×K	1118.25	Joback Method
cpg	1768.88	J/mol×K	1155.67	Joback Method

dvisc	0.0009952	Pa×s	435.40	Joback Method
dvisc	0.0002905	Pa×s	518.02	Joback Method
dvisc	0.0001190	Pa×s	600.64	Joback Method
dvisc	0.0000605	Pa×s	683.26	Joback Method
dvisc	0.0000356	Pa×s	765.88	Joback Method
dvisc	0.0000232	Pa×s	848.50	Joback Method
dvisc	0.0000163	Pa×s	931.12	Joback Method
hvapt	114.80	kJ/mol	532.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.55439e+01
Coeff. B	-6.40628e+03
Coeff. C	-1.44090e+02
Temperature range (K), min.	564.00
Temperature range (K), max.	770.17

Sources

Joback Method: https://en.wikipedia.org/wiki/Joback_method

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C55401542&Units=SI

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume