Tetradecane, 4-methyl-

Other names: 4-Methyltetradecane
Inchi: InChI=1S/C15H32/c1-4-6-7-8-9-10-11-12-14-15(3)13-5-2/h15H,4-14H2,1-3H3
InchiKey: ITVMHPMCNRGCIY-UHFFFAOYSA-N
Formula: C15H32
SMILES: CCCCCCCCCCC(C)CCC
Mol. weight [g/mol]: 212.41
CAS: 25117-24-2

Physical Properties

Property code	Value	Unit	Source
gf	72.98	kJ/mol	Joback Method
hf	-358.21	kJ/mol	Joback Method
hfus	31.08	kJ/mol	Joback Method
hvap	48.60	kJ/mol	Joback Method
log10ws	-5.86		Crippen Method
logp	5.953		Crippen Method
mcvol	222.210	ml/mol	McGowan Method
pc	1423.99	kPa	Joback Method
rinpol	1459.66		NIST Webbook
rinpol	1459.27		NIST Webbook
rinpol	1459.71		NIST Webbook
rinpol	1460.00		NIST Webbook
rinpol	1458.66		NIST Webbook
rinpol	1458.78		NIST Webbook
rinpol	1454.00		NIST Webbook
rinpol	1460.00		NIST Webbook
rinpol	1457.00		NIST Webbook
rinpol	1462.00		NIST Webbook
rinpol	1460.20		NIST Webbook
rinpol	1454.00		NIST Webbook
rinpol	1455.00		NIST Webbook
rinpol	1460.00		NIST Webbook
rinpol	1458.78		NIST Webbook
ripol	1455.00		NIST Webbook
ripol	1455.00		NIST Webbook
tb	542.16	K	Joback Method
tc	703.93	K	Joback Method

tf	240.30 ± 2.00	K	NIST Webbook
vc	0.870	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	558.22	J/mol×K	542.16	Joback Method
cpg	577.24	J/mol×K	569.12	Joback Method
cpg	595.52	J/mol×K	596.08	Joback Method
cpg	613.07	J/mol×K	623.04	Joback Method
cpg	629.92	J/mol×K	650.00	Joback Method
cpg	646.08	J/mol×K	676.97	Joback Method
cpg	661.59	J/mol×K	703.93	Joback Method
dvisc	0.0083877	Pa×s	243.81	Joback Method
dvisc	0.0024681	Pa×s	293.53	Joback Method
dvisc	0.0010352	Pa×s	343.26	Joback Method
dvisc	0.0005409	Pa×s	392.99	Joback Method
dvisc	0.0003270	Pa×s	442.71	Joback Method
dvisc	0.0002189	Pa×s	492.43	Joback Method
dvisc	0.0001577	Pa×s	542.16	Joback Method
hvapt	55.90	kJ/mol	467.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.70664e+01
Coeff. B	-6.61313e+03
Coeff. C	-4.67500e+00
Temperature range (K), min.	398.81
Temperature range (K), max.	567.26

Sources

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
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=C25117242&Units=SI

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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume