1-Tridecene

Other names:	1-C13H26
	N-TRIDEC-1-ENE
	Tridec-1-ene
	Tridecene-1
	«alpha»-Tridecene
	Â«alphaÂ»-Tridecene
Inchi:	InChI=1S/C13H26/c1-3-5-7-9-11-13-12-10-8-6-4-2/h3H,1,4-13H2,2H3
InchiKey:	VQOXUMQBYILCKR-UHFFFAOYSA-N
Formula:	C13H26
SMILES:	C=CCCCCCCCCCCC
Mol. weight [g/mol]:	182.35
CAS:	2437-56-1

Physical Properties

Property code	Value	Unit	Source
af	0.5980		KDB
gf	146.40	kJ/mol	KDB
hf	-186.10	kJ/mol	KDB
hfus	28.15	kJ/mol	Joback Method
hvap	65.30	kJ/mol	NIST Webbook
ie	9.38	eV	NIST Webbook
ie	9.30 ± 0.05	eV	NIST Webbook
log10ws	-5.12		Crippen Method
logp	5.093		Crippen Method
mcvol	189.730	ml/mol	McGowan Method
pc	1700.00	kPa	KDB
rinpol	1291.30		NIST Webbook
rinpol	1293.00		NIST Webbook
rinpol	1292.00		NIST Webbook
rinpol	1287.00		NIST Webbook
rinpol	219.50		NIST Webbook
rinpol	1289.00		NIST Webbook
rinpol	1289.00		NIST Webbook
rinpol	1283.00		NIST Webbook
rinpol	1283.00		NIST Webbook
rinpol	1292.00		NIST Webbook
rinpol	1293.00		NIST Webbook

rinpol	1290.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1283.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1295.00	NIST Webbook
rinpol	1281.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1284.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1294.00	NIST Webbook
rinpol	1294.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1293.00	NIST Webbook
rinpol	1295.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1292.37	NIST Webbook
rinpol	1292.16	NIST Webbook
rinpol	1292.10	NIST Webbook
rinpol	1289.22	NIST Webbook
rinpol	1289.08	NIST Webbook
rinpol	1288.97	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1291.30	NIST Webbook
rinpol	1292.20	NIST Webbook
rinpol	1291.30	NIST Webbook
rinpol	1291.50	NIST Webbook
rinpol	1291.90	NIST Webbook
rinpol	1292.10	NIST Webbook
rinpol	1291.50	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1287.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1292.20	NIST Webbook
rinpol	1291.30	NIST Webbook
rinpol	1291.50	NIST Webbook

rinpol	1291.90	NIST Webbook
rinpol	1283.00	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1288.70	NIST Webbook
rinpol	1283.00	NIST Webbook
rinpol	1284.00	NIST Webbook
rinpol	1284.00	NIST Webbook
rinpol	1283.00	NIST Webbook
rinpol	1291.90	NIST Webbook
rinpol	1288.00	NIST Webbook
rinpol	1289.00	NIST Webbook
rinpol	1290.00	NIST Webbook
rinpol	1293.00	NIST Webbook
rinpol	1289.50	NIST Webbook
rinpol	1292.00	NIST Webbook
rinpol	1283.00	NIST Webbook
ripol	1343.00	NIST Webbook
ripol	1339.40	NIST Webbook
ripol	1340.90	NIST Webbook
ripol	1337.00	NIST Webbook
ripol	1344.10	NIST Webbook
ripol	1343.90	NIST Webbook
ripol	1373.00	NIST Webbook
ripol	1337.20	NIST Webbook
ripol	1343.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1343.00	NIST Webbook
ripol	1334.00	NIST Webbook
ripol	1352.00	NIST Webbook
ripol	1341.00	NIST Webbook
ripol	1357.00	NIST Webbook
ripol	1340.00	NIST Webbook
ripol	1342.00	NIST Webbook
ripol	1332.00	NIST Webbook
ripol	1354.00	NIST Webbook
ripol	1353.00	NIST Webbook
ripol	1352.00	NIST Webbook
ripol	1351.00	NIST Webbook
ripol	1342.50	NIST Webbook

ripol	1342.00		NIST Webbook
ripol	1335.80		NIST Webbook
ripol	1331.90		NIST Webbook
ripol	1341.80		NIST Webbook
ripol	1340.80		NIST Webbook
ripol	1334.50		NIST Webbook
ripol	1331.60		NIST Webbook
ripol	1343.10		NIST Webbook
ripol	1335.50		NIST Webbook
ripol	1342.60		NIST Webbook
ripol	1334.60		NIST Webbook
ripol	1349.00		NIST Webbook
ripol	1348.00		NIST Webbook
ripol	1348.00		NIST Webbook
ripol	1347.00		NIST Webbook
ripol	1347.00		NIST Webbook
ripol	1346.00		NIST Webbook
ripol	1354.00		NIST Webbook
ripol	1353.00		NIST Webbook
ripol	1352.00		NIST Webbook
ripol	1352.00		NIST Webbook
ripol	1351.00		NIST Webbook
ripol	1343.00		NIST Webbook
ripol	1342.00		NIST Webbook
ripol	1335.00		NIST Webbook
ripol	1343.00		NIST Webbook
ripol	1342.00		NIST Webbook
ripol	1342.00		NIST Webbook
ripol	1336.00		NIST Webbook
ripol	1341.00		NIST Webbook
tb	501.00 ± 5.00	K	NIST Webbook
tb	503.00 ± 8.00	K	NIST Webbook
tb	507.00 ± 2.00	K	NIST Webbook
tb	505.90	K	KDB
tb	505.00	K	NIST Webbook
tb	506.00	K	NIST Webbook
tc	674.00	K	KDB
tf	251.00 ± 2.00	K	NIST Webbook
tf	251.00 ± 0.50	K	NIST Webbook
tf	250.10	K	KDB
tf	250.03 ± 0.06	K	NIST Webbook
tf	250.05 ± 0.50	K	NIST Webbook
tf	250.04 ± 0.04	K	NIST Webbook
tf	250.08 ± 0.03	K	NIST Webbook

tf	250.04 ± 0.05	K	NIST Webbook
tf	250.08 ± 0.03	K	NIST Webbook
vc	0.745	m3/kmol	KDB
zc	0.2258480		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	436.90	J/mol×K	493.52	Joback Method
cpg	453.93	J/mol×K	520.69	Joback Method
cpg	470.29	J/mol×K	547.87	Joback Method
cpg	485.99	J/mol×K	575.04	Joback Method
cpg	501.06	J/mol×K	602.21	Joback Method
cpg	515.52	J/mol×K	629.38	Joback Method
cpg	529.38	J/mol×K	656.56	Joback Method
dvisc	0.0010013	Pa×s	320.85	Joback Method
dvisc	0.0020407	Pa×s	277.68	Joback Method
dvisc	0.0054051	Pa×s	234.51	Joback Method
dvisc	0.0005817	Pa×s	364.01	Joback Method
dvisc	0.0003792	Pa×s	407.18	Joback Method
dvisc	0.0002683	Pa×s	450.35	Joback Method
dvisc	0.0002017	Pa×s	493.52	Joback Method
hvapt	44.98	kJ/mol	505.90	KDB
hvapt	53.90	kJ/mol	461.00	NIST Webbook
rhol	766.00	kg/m3	293.00	KDB
srf	0.03	N/m	298.20	KDB

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.50003e+01
Coeff. B	-4.56047e+03
Coeff. C	-6.57330e+01
Temperature range (K), min.	375.70
Temperature range (K), max.	536.43

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	8.60269e+01
Coeff. B	-1.02545e+04
Coeff. C	-9.94660e+00
Coeff. D	3.11629e-06
Temperature range (K), min.	250.08
Temperature range (K), max.	675.00

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
KDB:	https://www.cheric.org/files/research/kdb/mol/mol348.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2437561&Units=SI
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=348
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Infinite dilution activity coefficients, specific retention volumes and solvation thermodynamics of hydrocarbons in C78H158 branched alkane solvent:	https://www.doi.org/10.1016/j.fluid.2006.07.015

Legend

af:	Acentric Factor
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
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume

pc:	Critical Pressure
pvap:	Vapor pressure
rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume
zc:	Critical Compressibility