

Decane, 4-methyl-

Other names:	4-Methyldecane
Inchi:	InChI=1S/C11H24/c1-4-6-7-8-10-11(3)9-5-2/h11H,4-10H2,1-3H3
InchiKey:	DVWZKNLWPILULD-UHFFFAOYSA-N
Formula:	C11H24
SMILES:	CCCCCCC(C)CCC
Mol. weight [g/mol]:	156.31
CAS:	2847-72-5

Physical Properties

Property code	Value	Unit	Source
gf	39.30	kJ/mol	Joback Method
hf	-275.65	kJ/mol	Joback Method
hfus	20.72	kJ/mol	Joback Method
hvap	53.77	kJ/mol	NIST Webbook
log10ws	-4.19		Crippen Method
logp	4.393		Crippen Method
mcvol	165.850	ml/mol	McGowan Method
pc	1947.51	kPa	Joback Method
rinpol	1059.00		NIST Webbook
rinpol	1062.01		NIST Webbook
rinpol	1061.91		NIST Webbook
rinpol	1062.10		NIST Webbook
rinpol	1061.22		NIST Webbook
rinpol	1061.18		NIST Webbook
rinpol	1061.42		NIST Webbook
rinpol	1061.00		NIST Webbook
rinpol	1062.00		NIST Webbook
rinpol	1060.00		NIST Webbook
rinpol	1061.00		NIST Webbook
rinpol	1060.00		NIST Webbook
rinpol	1063.00		NIST Webbook
rinpol	1060.40		NIST Webbook
rinpol	1061.00		NIST Webbook
rinpol	1063.00		NIST Webbook
rinpol	1062.00		NIST Webbook
rinpol	1060.00		NIST Webbook
rinpol	1057.00		NIST Webbook

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rinpol	1062.00		NIST Webbook
rinpol	1059.00		NIST Webbook
rinpol	1061.00		NIST Webbook
rinpol	1060.00		NIST Webbook
rinpol	1062.40		NIST Webbook
rinpol	1061.91		NIST Webbook
rinpol	1061.00		NIST Webbook
rinpol	1064.00		NIST Webbook
rinpol	1054.00		NIST Webbook
rinpol	1061.00		NIST Webbook
rinpol	1060.00		NIST Webbook
rinpol	1056.00		NIST Webbook
rinpol	1058.00		NIST Webbook
rinpol	1062.40		NIST Webbook
rinpol	1064.00		NIST Webbook
rinpol	1023.00		NIST Webbook
ripol	1054.00		NIST Webbook
ripol	1005.00		NIST Webbook
ripol	1054.00		NIST Webbook
tb	460.10	K	NIST Webbook
tb	188.10 ± 0.60	K	NIST Webbook
tc	626.70	K	NIST Webbook
tf	180.40 ± 0.50	K	NIST Webbook
tf	180.25 ± 1.00	K	NIST Webbook
vc	0.645	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	360.10	J/molxK	450.64	Joback Method
cpg	376.48	J/molxK	478.16	Joback Method
cpg	392.24	J/molxK	505.68	Joback Method
cpg	407.41	J/molxK	533.20	Joback Method
cpg	421.98	J/molxK	560.73	Joback Method
cpg	435.99	J/molxK	588.25	Joback Method
cpg	449.44	J/molxK	615.77	Joback Method
dvisc	0.0002156	Paxs	450.64	Joback Method
dvisc	0.0031400	Paxs	240.72	Joback Method
dvisc	0.0105797	Paxs	198.73	Joback Method
dvisc	0.0007098	Paxs	324.69	Joback Method

dvisc	0.0004357	Paxs	366.67	Joback Method
dvisc	0.0002956	Paxs	408.65	Joback Method
dvisc	0.0013369	Paxs	282.70	Joback Method
hvapt	40.70	kJ/mol	460.10	NIST Webbook
hvapt	46.60	kJ/mol	399.50	NIST Webbook
hvapt	50.40	kJ/mol	343.00	NIST Webbook
hvapt	49.20	kJ/mol	358.00	NIST Webbook
hvapt	48.50	kJ/mol	368.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.51319e+01
Coeff. B	-4.54136e+03
Coeff. C	-2.90960e+01
Temperature range (K), min.	335.03
Temperature range (K), max.	491.54

Sources

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=C2847725&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/ci9903071

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

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