1-Decene

Other names:	1-C10H20
	1-n-Decene
	DECYLENE
	Dec-1-ene
	Decene-1
	Gulftene 10
	Linealene 10
	N-1-DECENE
	NSC 62122
	Neodene 10
	«alpha»-Decene
	Â«alphaÂ»-Decene
Inchi:	InChI=1S/C10H20/c1-3-5-7-9-10-8-6-4-2/h3H,1,4-10H2,2H3
InchiKey:	AFFLGGQVNFXPEV-UHFFFAOYSA-N
Formula:	C10H20
SMILES:	C=CCCCCCCCC
Mol. weight [g/mol]:	140.27
CAS:	872-05-9

Physical Properties

Property code	Value	Unit	Source
af	0.4910		KDB
aigt	508.15	K	KDB
chl	-6619.60 ± 1.80	kJ/mol	NIST Webbook
fpc	326.48	K	KDB
gf	121.10	kJ/mol	KDB
hf	-124.60	kJ/mol	NIST Webbook
hf	-124.20	kJ/mol	KDB
hf	-123.40	kJ/mol	NIST Webbook
hfl	-173.80 ± 1.90	kJ/mol	NIST Webbook
hfus	20.38	kJ/mol	Joback Method
hvap	50.50	kJ/mol	NIST Webbook
hvap	50.44	kJ/mol	NIST Webbook
hvap	50.40 ± 0.20	kJ/mol	NIST Webbook
hvap	50.43 ± 0.20	kJ/mol	NIST Webbook
ie	9.48	eV	NIST Webbook
ie	9.42 ± 0.01	eV	NIST Webbook

ie	9.59 ± 0.01	eV	NIST Webbook
ie	9.42 ± 0.01	eV	NIST Webbook
log10ws	-5.51		Aqueous Solubility Prediction Method
log10ws	-5.51		Estimated Solubility Method
logp	3.923		Crippen Method
mcvol	147.460	ml/mol	McGowan Method
nfpaf	%!d(float64=2)		KDB
pc	2220.00	kPa	KDB
pc	2220.00 ± 100.00	kPa	NIST Webbook
rhoc	238.45 ± 14.03	kg/m3	NIST Webbook
rinpol	989.50		NIST Webbook
rinpol	989.00		NIST Webbook
rinpol	988.00		NIST Webbook
rinpol	989.00		NIST Webbook
rinpol	982.00		NIST Webbook
rinpol	983.00		NIST Webbook
rinpol	982.00		NIST Webbook
rinpol	990.00		NIST Webbook
rinpol	989.20		NIST Webbook
rinpol	990.10		NIST Webbook
rinpol	982.70		NIST Webbook
rinpol	982.20		NIST Webbook
rinpol	987.00		NIST Webbook
rinpol	988.00		NIST Webbook
rinpol	990.00		NIST Webbook
rinpol	992.00		NIST Webbook
rinpol	988.00		NIST Webbook
rinpol	988.00		NIST Webbook
rinpol	992.50		NIST Webbook
rinpol	993.00		NIST Webbook
rinpol	992.00		NIST Webbook
rinpol	987.00		NIST Webbook
rinpol	993.00		NIST Webbook
rinpol	993.00		NIST Webbook
rinpol	989.20		NIST Webbook
rinpol	990.00		NIST Webbook
rinpol	990.70		NIST Webbook
rinpol	985.00		NIST Webbook
rinpol	989.20		NIST Webbook
rinpol	989.50		NIST Webbook
rinpol	990.70		NIST Webbook
rinpol	988.00		NIST Webbook
rinpol	988.74		NIST Webbook

rinpol	988.81	NIST Webbook
rinpol	988.83	NIST Webbook
rinpol	991.63	NIST Webbook
rinpol	991.76	NIST Webbook
rinpol	991.73	NIST Webbook
rinpol	988.00	NIST Webbook
rinpol	991.00	NIST Webbook
rinpol	982.00	NIST Webbook
rinpol	997.00	NIST Webbook
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rinpol	987.00	NIST Webbook
rinpol	986.00	NIST Webbook
rinpol	990.00	NIST Webbook
rinpol	991.00	NIST Webbook
rinpol	982.00	NIST Webbook
rinpol	988.60	NIST Webbook
rinpol	157.60	NIST Webbook
rinpol	153.90	NIST Webbook
rinpol	989.00	NIST Webbook
rinpol	989.00	NIST Webbook
rinpol	989.00	NIST Webbook
rinpol	988.00	NIST Webbook
rinpol	985.00	NIST Webbook
rinpol	985.10	NIST Webbook
rinpol	990.00	NIST Webbook
rinpol	982.00	NIST Webbook
rinpol	985.00	NIST Webbook
rinpol	988.00	NIST Webbook
rinpol	989.00	NIST Webbook

ripol	1035.00		NIST Webbook
ripol	1054.00		NIST Webbook
ripol	1055.00		NIST Webbook
ripol	1048.00		NIST Webbook
ripol	1050.00		NIST Webbook
ripol	1046.00		NIST Webbook
ripol	1047.00		NIST Webbook
ripol	1046.00		NIST Webbook
ripol	1051.70		NIST Webbook
ripol	1055.30		NIST Webbook
ripol	1048.50		NIST Webbook
ripol	1049.80		NIST Webbook
ripol	1051.70		NIST Webbook
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ripol	1047.00		NIST Webbook
ripol	1061.00		NIST Webbook
ripol	1020.00		NIST Webbook
ripol	1039.00		NIST Webbook
ripol	1043.00		NIST Webbook
ripol	1052.00		NIST Webbook
ripol	1054.00		NIST Webbook
sl	425.01	J/mol×K	NIST Webbook
tb	443.60	K	KDB
tc	617.00	K	KDB
tc	617.00 ± 2.00	K	NIST Webbook
tf	206.90	K	KDB
tf	207.06	K	Aqueous Solubility Prediction Method
tt	206.47 ± 0.20	K	NIST Webbook
tt	206.88 ± 0.06	K	NIST Webbook
tt	206.89 ± 0.06	K	NIST Webbook
tt	206.89 ± 0.05	K	NIST Webbook
vc	0.584	m3/kmol	NIST Webbook
vc	0.584	m3/kmol	KDB
zc	0.2527230		KDB
zra	0.25		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	299.13	J/mol×K	424.88	Joback Method
cpg	313.75	J/mol×K	452.48	Joback Method
cpg	327.80	J/mol×K	480.09	Joback Method
cpg	341.30	J/mol×K	507.69	Joback Method
cpg	354.26	J/mol×K	535.29	Joback Method
cpg	366.70	J/mol×K	562.90	Joback Method
cpg	378.63	J/mol×K	590.50	Joback Method
cpl	300.83	J/mol×K	298.15	NIST Webbook
dvisc	0.0020999	Pa×s	238.06	Joback Method
dvisc	0.0053123	Pa×s	200.70	Joback Method
dvisc	0.0006382	Pa×s	312.79	Joback Method
dvisc	0.0003070	Pa×s	387.52	Joback Method
dvisc	0.0004257	Pa×s	350.15	Joback Method
dvisc	0.0002345	Pa×s	424.88	Joback Method
dvisc	0.0010678	Pa×s	275.43	Joback Method
hfust	7.95	kJ/mol	198.30	NIST Webbook
hfust	13.81	kJ/mol	206.90	NIST Webbook
hfust	13.81	kJ/mol	206.90	NIST Webbook
hvapt	45.10	kJ/mol	402.50	NIST Webbook
hvapt	43.80	kJ/mol	414.00	NIST Webbook
hvapt	38.66	kJ/mol	443.70	KDB
rfi	1.42140		293.15	Isobaric Vapor-Liquid Equilibria of Hexane + 1-Decene and Octane + 1-Decene Mixtures
rfi	1.42139		293.15	Excess Volume of the 1-Propanol + 1-Alkene Systems in Terms of an Equation of State with Association
rhol	741.00	kg/m3	293.00	KDB
sfust	40.09	J/mol×K	198.30	NIST Webbook
sfust	66.73	J/mol×K	206.90	NIST Webbook
srf	0.02	N/m	298.20	KDB

Correlations

Information	Value
Property code	pvap

Equation	$\ln(Pvp) = A + B/(T + C)$
Coeff. A	1.48286e+01
Coeff. B	-3.90202e+03
Coeff. C	-5.78340e+01
Temperature range (K), min.	326.18
Temperature range (K), max.	467.83

Information	Value
Property code	pvap
Equation	$\ln(Pvp) = A + B/T + C*\ln(T) + D*T^2$
Coeff. A	1.10936e+02
Coeff. B	-9.75380e+03
Coeff. C	-1.41204e+01
Coeff. D	8.63327e-06
Temperature range (K), min.	206.89
Temperature range (K), max.	617.05

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Legend:

af:	Acentric Factor
aigt:	Autoignition Temperature
chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dvisc:	Dynamic viscosity
fpc:	Flash Point (Closed Cup Method)
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
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
nfpaf:	NFPA Fire Rating
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rhoc:	Critical density
rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices

sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume
zc:	Critical Compressibility
zra:	Rackett Parameter

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