2-Octene, (Z)-

Other names:	(2Z)-2-Octene
	(Z)-2-C8H16
	(Z)-2-OCTENE
	(Z)-Oct-2-ene
	2-Octene, cis-
	CIS-2-OCTENE
	cis-Octene-2
Inchi:	InChI=1S/C8H16/c1-3-5-7-8-6-4-2/h3,5H,4,6-8H2,1-2H3/b5-3-
InchiKey:	ILPBINAXDRFYPL-HYXAFXHYSA-N
Formula:	C8H16
SMILES:	CC=CCCCCC
Mol. weight [g/mol]:	112.21
CAS:	7642-04-8

Physical Properties

Property code	Value	Unit	Source
gf	96.70	kJ/mol	Joback Method
hf	-91.23	kJ/mol	Joback Method
hfus	16.68	kJ/mol	Joback Method
hvap	40.20	kJ/mol	NIST Webbook
ie	8.91 ± 0.01	eV	NIST Webbook
ie	9.10 ± 0.01	eV	NIST Webbook
log10ws	-3.02		Crippen Method
logp	3.143		Crippen Method
mcvol	119.280	ml/mol	McGowan Method
pc	2673.54	kPa	Joback Method
rinpol	812.00		NIST Webbook
rinpol	813.00		NIST Webbook
rinpol	813.00		NIST Webbook
rinpol	803.00		NIST Webbook
rinpol	817.00		NIST Webbook
rinpol	808.00		NIST Webbook
rinpol	808.00		NIST Webbook
rinpol	800.00		NIST Webbook
rinpol	804.00		NIST Webbook
rinpol	808.00		NIST Webbook
rinpol	808.00		NIST Webbook

rinpol	814.00	NIST Webbook
rinpol	811.00	NIST Webbook
rinpol	813.00	NIST Webbook
rinpol	811.00	NIST Webbook
rinpol	811.00	NIST Webbook
rinpol	811.00	NIST Webbook
rinpol	809.00	NIST Webbook
rinpol	806.00	NIST Webbook
rinpol	810.00	NIST Webbook
rinpol	815.00	NIST Webbook
rinpol	802.00	NIST Webbook
rinpol	813.00	NIST Webbook
rinpol	812.00	NIST Webbook
rinpol	800.00	NIST Webbook
rinpol	813.00	NIST Webbook
rinpol	811.20	NIST Webbook
rinpol	800.40	NIST Webbook
rinpol	803.00	NIST Webbook
rinpol	804.00	NIST Webbook
rinpol	812.00	NIST Webbook
rinpol	812.00	NIST Webbook
rinpol	812.00	NIST Webbook
rinpol	813.00	NIST Webbook
rinpol	811.00	NIST Webbook
rinpol	811.00	NIST Webbook
rinpol	811.00	NIST Webbook
rinpol	802.00	NIST Webbook
rinpol	800.80	NIST Webbook
rinpol	800.80	NIST Webbook
rinpol	803.30	NIST Webbook
rinpol	803.00	NIST Webbook
rinpol	804.00	NIST Webbook
rinpol	803.00	NIST Webbook
rinpol	811.40	NIST Webbook
rinpol	802.40	NIST Webbook
rinpol	802.00	NIST Webbook
rinpol	803.60	NIST Webbook
rinpol	802.80	NIST Webbook
rinpol	802.00	NIST Webbook
rinpol	814.00	NIST Webbook
rinpol	814.00	NIST Webbook
rinpol	813.00	NIST Webbook
rinpol	806.00	NIST Webbook
rinpol	803.00	NIST Webbook

rinpol	811.00		NIST Webbook
rinpol	810.00		NIST Webbook
ripol	877.50		NIST Webbook
ripol	882.00		NIST Webbook
ripol	884.00		NIST Webbook
ripol	878.00		NIST Webbook
ripol	878.00		NIST Webbook
ripol	882.00		NIST Webbook
ripol	882.10		NIST Webbook
ripol	882.00		NIST Webbook
ripol	866.00		NIST Webbook
ripol	872.00		NIST Webbook
ripol	866.00		NIST Webbook
ripol	862.00		NIST Webbook
ripol	863.00		NIST Webbook
ripol	866.00		NIST Webbook
ripol	872.00		NIST Webbook
ripol	881.50		NIST Webbook
ripol	877.50		NIST Webbook
ripol	882.10		NIST Webbook
ripol	877.50		NIST Webbook
ripol	881.50		NIST Webbook
ripol	877.50		NIST Webbook
ripol	882.10		NIST Webbook
tb	386.60	K	Joback Method
tc	558.45	K	Joback Method
tf	171.45 ± 1.00	K	NIST Webbook
tf	172.19 ± 0.60	K	NIST Webbook
tf	172.88 ± 0.10	K	NIST Webbook
tf	169.15 ± 1.50	K	NIST Webbook
vc	0.464	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	218.05	J/mol×K	386.60	Joback Method
cpg	230.94	J/mol×K	415.24	Joback Method
cpg	243.29	J/mol×K	443.88	Joback Method
cpg	255.11	J/mol×K	472.53	Joback Method
cpg	266.43	J/mol×K	501.17	Joback Method
cpg	277.26	J/mol×K	529.81	Joback Method

cpg	287.62	J/mol×K	558.45	Joback Method
dvisc	0.0052396	Pa×s	174.84	Joback Method
dvisc	0.0019294	Pa×s	210.13	Joback Method
dvisc	0.0009470	Pa×s	245.43	Joback Method
dvisc	0.0005559	Pa×s	280.72	Joback Method
dvisc	0.0003675	Pa×s	316.01	Joback Method
dvisc	0.0002641	Pa×s	351.31	Joback Method
dvisc	0.0002015	Pa×s	386.60	Joback Method
hvapt	37.80	kJ/mol	378.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.42526e+01
Coeff. B	-3.24699e+03
Coeff. C	-6.09750e+01
Temperature range (K), min.	293.48
Temperature range (K), max.	424.13

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	9.40490e+01
Coeff. B	-7.90585e+03
Coeff. C	-1.18595e+01
Coeff. D	8.88566e-06
Temperature range (K), min.	290.15
Temperature range (K), max.	426.15

Sources

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

KDB: https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=250

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7642048&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=250

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
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
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