2-Heptene, (E)-

Other names:	(E)-2-C7H14
	(E)-2-HEPTENE
	2-Heptene trans
	Heptylene-2, trans-
	TRANS-2-HEPTENE
	trans-hept-2-ene
Inchi:	InChI=1S/C7H14/c1-3-5-7-6-4-2/h3,5H,4,6-7H2,1-2H3/b5-3+
InchiKey:	OTTZHAVKAVGASB-HWKANZROSA-N
Formula:	C7H14
SMILES:	CC=CCCCC
Mol. weight [g/mol]:	98.19
CAS:	14686-13-6

Physical Properties

Property code	Value	Unit	Source
chl	-4645.83 ± 0.75	kJ/mol	NIST Webbook
chl	-4643.70 ± 0.71	kJ/mol	NIST Webbook
gf	88.28	kJ/mol	Joback Method
hf	-74.20	kJ/mol	NIST Webbook
hf	-73.10 ± 0.70	kJ/mol	NIST Webbook
hf	-74.30	kJ/mol	NIST Webbook
hf	-75.40 ± 0.70	kJ/mol	NIST Webbook
hf	-73.20 ± 0.90	kJ/mol	NIST Webbook
hfl	-109.50 ± 0.84	kJ/mol	NIST Webbook
hfl	-109.40 ± 0.63	kJ/mol	NIST Webbook
hfl	-111.70 ± 0.70	kJ/mol	NIST Webbook
hfus	14.09	kJ/mol	Joback Method
hvap	36.00	kJ/mol	NIST Webbook
log10ws	-2.61		Crippen Method
logp	2.753		Crippen Method
mcvol	105.190	ml/mol	McGowan Method
pc	2960.12	kPa	Joback Method
rinpol	699.00		NIST Webbook
rinpol	698.70		NIST Webbook
rinpol	709.00		NIST Webbook
rinpol	705.10		NIST Webbook
rinpol	698.30		NIST Webbook

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rinpol	698.20	NIST Webbook
rinpol	700.40	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	704.60	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	705.10	NIST Webbook
rinpol	698.20	NIST Webbook
rinpol	700.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	709.00	NIST Webbook
rinpol	709.00	NIST Webbook
rinpol	709.00	NIST Webbook
rinpol	709.00	NIST Webbook
rinpol	709.20	NIST Webbook
rinpol	698.60	NIST Webbook
rinpol	698.70	NIST Webbook
rinpol	705.00	NIST Webbook
rinpol	705.00	NIST Webbook
rinpol	703.00	NIST Webbook
rinpol	698.40	NIST Webbook
rinpol	698.20	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	701.60	NIST Webbook
rinpol	700.40	NIST Webbook
rinpol	700.40	NIST Webbook
rinpol	700.00	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	704.90	NIST Webbook
rinpol	698.20	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	698.70	NIST Webbook
rinpol	698.70	NIST Webbook
rinpol	716.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	704.60	NIST Webbook

rinpol	709.00	NIST Webbook
rinpol	705.00	NIST Webbook
rinpol	703.99	NIST Webbook
rinpol	703.99	NIST Webbook
rinpol	704.00	NIST Webbook
rinpol	707.00	NIST Webbook
rinpol	698.30	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	699.00	NIST Webbook
rinpol	718.00	NIST Webbook
rinpol	705.00	NIST Webbook
rinpol	704.00	NIST Webbook
rinpol	705.00	NIST Webbook
rinpol	708.00	NIST Webbook
rinpol	705.00	NIST Webbook
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rinpol	704.00	NIST Webbook
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rinpol	717.00	NIST Webbook
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rinpol	704.00	NIST Webbook
rinpol	713.00	NIST Webbook
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rinpol	707.00	NIST Webbook
rinpol	707.00	NIST Webbook
rinpol	698.00	NIST Webbook
rinpol	716.00	NIST Webbook
rinpol	705.00	NIST Webbook
ripol	768.00	NIST Webbook
ripol	766.90	NIST Webbook
ripol	763.80	NIST Webbook
ripol	768.00	NIST Webbook
ripol	778.00	NIST Webbook
ripol	735.00	NIST Webbook
ripol	778.00	NIST Webbook
ripol	766.90	NIST Webbook
ripol	764.50	NIST Webbook
ripol	766.90	NIST Webbook
ripol	764.50	NIST Webbook
ripol	763.80	NIST Webbook
ripol	767.00	NIST Webbook
ripol	766.00	NIST Webbook

ripol	764.00		NIST Webbook
ripol	770.00		NIST Webbook
ripol	763.80		NIST Webbook
tb	363.72	K	Joback Method
tc	542.80	K	Gas-Liquid Critical Temperatures of Some Alkenes, Amines, and Cyclic Hydrocarbons
tf	163.64 ± 0.02	K	NIST Webbook
tf	163.67 ± 0.01	K	NIST Webbook
tf	163.64 ± 0.06	K	NIST Webbook
tf	163.67 ± 0.04	K	NIST Webbook
tf	163.64 ± 0.02	K	NIST Webbook
vc	0.407	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	180.32	J/mol×K	363.72	Joback Method
cpg	192.00	J/mol×K	392.43	Joback Method
cpg	203.19	J/mol×K	421.15	Joback Method
cpg	213.90	J/mol×K	449.86	Joback Method
cpg	224.15	J/mol×K	478.58	Joback Method
cpg	233.95	J/mol×K	507.29	Joback Method
cpg	243.33	J/mol×K	536.01	Joback Method
dvisc	0.0017796	Pa×s	196.93	Joback Method
dvisc	0.0047393	Pa×s	163.57	Joback Method
dvisc	0.0008875	Pa×s	230.29	Joback Method
dvisc	0.0005278	Pa×s	263.64	Joback Method
dvisc	0.0003528	Pa×s	297.00	Joback Method
dvisc	0.0002558	Pa×s	330.36	Joback Method
dvisc	0.0001967	Pa×s	363.72	Joback Method
hvapt	35.30	kJ/mol	343.50	NIST Webbook
hvapt	34.60	kJ/mol	350.50	NIST Webbook

Correlations

Information	Value
Property code	pvap

Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.44203e+01
Coeff. B	-3.25895e+03
Coeff. C	-3.85220e+01
Temperature range (K), min.	269.12
Temperature range (K), max.	396.30

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	8.21159e+01
Coeff. B	-6.91154e+03
Coeff. C	-1.01464e+01
Coeff. D	8.38113e-06
Temperature range (K), min.	163.67
Temperature range (K), max.	543.00

Sources

Gas-Liquid Critical Temperatures of Some Alkenes, Amines, and Cyclic Hydrocarbons:	https://www.doi.org/10.1021/je0341357
KDB:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=215
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=215
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C14686136&Units=SI

Legend

chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
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
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