Benzene, 2-butenyl-

Other names:	1-Phenyl-2-butene
	1-Phenylbutene-2
	1-phenylbut-2-ene
	2-Butene, 1-phenyl-
	2-butenylbenzene
	4-Phenyl-2-butene
Inchi:	InChI=1S/C10H12/c1-2-3-7-10-8-5-4-6-9-10/h2-6,8-9H,7H2,1H3
InchiKey:	VUKHQPGJNTXTPY-UHFFFAOYSA-N
Formula:	C10H12
SMILES:	CC=CCc1ccccc1
Mol. weight [g/mol]:	132.20
CAS:	1560-06-1

Physical Properties

Property code	Value	Unit	Source
chl	-5672.20	kJ/mol	NIST Webbook
gf	225.95	kJ/mol	Joback Method
hf	104.02	kJ/mol	Joback Method
hfus	15.90	kJ/mol	Joback Method
hvap	40.09	kJ/mol	Joback Method
log10ws	-2.97		Crippen Method
logp	2.805		Crippen Method
mcvol	123.700	ml/mol	McGowan Method
pc	3103.64	kPa	Joback Method
rinpol	1028.00		NIST Webbook
rinpol	1028.00		NIST Webbook
rinpol	1064.00		NIST Webbook
rinpol	1024.00		NIST Webbook
rinpol	1052.00		NIST Webbook
rinpol	186.80		NIST Webbook
rinpol	1042.00		NIST Webbook
ripol	1414.00		NIST Webbook
ripol	1487.00		NIST Webbook
tb	449.20	K	NIST Webbook
tb	449.15 ± 2.00	K	NIST Webbook
tc	673.98	K	Joback Method
tf	223.80	K	Joback Method

vc	0.468	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	240.15	J/mol×K	459.04	Joback Method
cpg	305.09	J/mol×K	638.16	Joback Method
cpg	293.79	J/mol×K	602.33	Joback Method
cpg	281.69	J/mol×K	566.51	Joback Method
cpg	268.75	J/mol×K	530.69	Joback Method
cpg	254.92	J/mol×K	494.86	Joback Method
cpg	315.65	J/mol×K	673.98	Joback Method
dvisc	0.0001899	Pa×s	459.04	Joback Method
dvisc	0.0002455	Pa×s	419.83	Joback Method
dvisc	0.0003345	Pa×s	380.63	Joback Method
dvisc	0.0004895	Pa×s	341.42	Joback Method
dvisc	0.0007906	Pa×s	302.21	Joback Method
dvisc	0.0014730	Pa×s	263.01	Joback Method
dvisc	0.0034135	Pa×s	223.80	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.43653e+01
Coeff. B	-3.73490e+03
Coeff. C	-6.60140e+01
Temperature range (K), min.	331.32
Temperature range (K), max.	478.54

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1560061&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/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

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
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
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