Benzene, eicosyl-

Other names: Eicosane, 1-phenyl-
n-Eicosylbenzene
1-Phenyleicosane
Inchi: InChI=1S/C26H46/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-20-23-26-24-21-19-22
InchiKey: HPPLZROUJULWGU-UHFFFAOYSA-N
Formula: C26H46
SMILES: CCCCCCCCCCCCCCCCCCCCc1ccccc1
Mol. weight [g/mol]: 358.64
CAS: 2398-68-7

Physical Properties

Property code	Value	Unit	Source
gf	280.45	kJ/mol	Joback Method
hf	-343.44	kJ/mol	Joback Method
hfus	57.14	kJ/mol	Joback Method
hvap	75.75	kJ/mol	Joback Method
ie	9.30 ± 0.10	eV	NIST Webbook
log10ws	-9.81		Crippen Method
logp	9.271		Crippen Method
mcvol	353.440	ml/mol	McGowan Method
pc	873.77	kPa	Joback Method
tb	820.96	K	Joback Method
tc	1008.69	K	Joback Method
tf	312.65 ± 3.00	K	NIST Webbook
tf	315.45 ± 1.50	K	NIST Webbook
tf	313.90 ± 3.00	K	NIST Webbook
tf	316.65 ± 1.50	K	NIST Webbook
tf	315.45 ± 1.50	K	NIST Webbook
tf	315.15 ± 2.00	K	NIST Webbook
vc	1.383	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source

cpg	1246.67	J/mol×K	1008.69	Joback Method
cpg	1132.33	J/mol×K	820.96	Joback Method
cpg	1154.10	J/mol×K	852.25	Joback Method
cpg	1174.70	J/mol×K	883.54	Joback Method
cpg	1194.20	J/mol×K	914.82	Joback Method
cpg	1212.66	J/mol×K	946.11	Joback Method
cpg	1230.13	J/mol×K	977.40	Joback Method
dvisc	0.0000446	Pa×s	820.96	Joback Method
dvisc	0.0013678	Pa×s	409.20	Joback Method
dvisc	0.0005134	Pa×s	477.83	Joback Method
dvisc	0.0002465	Pa×s	546.45	Joback Method
dvisc	0.0001394	Pa×s	615.08	Joback Method
dvisc	0.0000884	Pa×s	683.71	Joback Method
dvisc	0.0000609	Pa×s	752.33	Joback Method
hvapt	94.70	kJ/mol	518.50	NIST Webbook

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

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

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C2398687&Units=SI

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

tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume