

Benzene, eicosyl-

Other names:	Eicosane, 1-phenyl- n-Eicosylbenzene 1-Phenyleicosane
Inchi:	InChI=1S/C26H46/c1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-20-23-26-24-21-19-2
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	316.65 ± 1.50	K	NIST Webbook
tf	315.15 ± 2.00	K	NIST Webbook
tf	313.90 ± 3.00	K	NIST Webbook
tf	315.45 ± 1.50	K	NIST Webbook
vc	1.383	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
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cpg	1246.67	J/mol×K	1008.69	Joback Method
cpg	1230.13	J/mol×K	977.40	Joback Method
cpg	1212.66	J/mol×K	946.11	Joback Method
cpg	1194.20	J/mol×K	914.82	Joback Method
cpg	1174.70	J/mol×K	883.54	Joback Method
cpg	1154.10	J/mol×K	852.25	Joback Method
cpg	1132.33	J/mol×K	820.96	Joback Method
dvisc	0.0013678	Paxs	409.20	Joback Method
dvisc	0.0000446	Paxs	820.96	Joback Method
dvisc	0.0000609	Paxs	752.33	Joback Method
dvisc	0.0000884	Paxs	683.71	Joback Method
dvisc	0.0001394	Paxs	615.08	Joback Method
dvisc	0.0002465	Paxs	546.45	Joback Method
dvisc	0.0005134	Paxs	477.83	Joback Method
hvapt	94.70	kJ/mol	518.50	NIST Webbook

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2398687&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method

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
hvac:	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

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