

1,8-dimethylphenanthrene

Other names:	Phenanthrene, 1,8-dimethyl-
Inchi:	InChI=1S/C16H14/c1-11-5-3-7-15-13(11)9-10-14-12(2)6-4-8-16(14)15/h3-10H,1-2H3
InchiKey:	LPHQUKCANLSJRU-UHFFFAOYSA-N
Formula:	C16H14
SMILES:	<chem>Cc1cccc2c1ccc1c(C)cccc12</chem>
Mol. weight [g/mol]:	206.28
CAS:	7372-87-4

Physical Properties

Property code	Value	Unit	Source
gf	380.66	kJ/mol	Joback Method
hf	210.69	kJ/mol	Joback Method
hfus	24.11	kJ/mol	Joback Method
hvap	58.75	kJ/mol	Joback Method
log10ws	-6.03		Crippen Method
logp	4.610		Crippen Method
mcvol	173.620	ml/mol	McGowan Method
pc	2555.92	kPa	Joback Method
rinpol	345.87		NIST Webbook
rinpol	345.87		NIST Webbook
rinpol	346.26		NIST Webbook
rinpol	346.90		NIST Webbook
rinpol	346.10		NIST Webbook
rinpol	345.22		NIST Webbook
rinpol	346.26		NIST Webbook
rinpol	345.20		NIST Webbook
rinpol	346.80		NIST Webbook
tb	645.06	K	Joback Method
tc	889.67	K	Joback Method
tf	399.46	K	Joback Method
vc	0.667	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	429.69	J/mol×K	645.06	Joback Method
cpg	497.31	J/mol×K	848.90	Joback Method
cpg	485.63	J/mol×K	808.13	Joback Method
cpg	473.15	J/mol×K	767.36	Joback Method
cpg	459.74	J/mol×K	726.60	Joback Method
cpg	445.30	J/mol×K	685.83	Joback Method
cpg	508.31	J/mol×K	889.67	Joback Method
dvisc	0.0004320	Paxs	645.06	Joback Method
dvisc	0.0004850	Paxs	604.13	Joback Method
dvisc	0.0005537	Paxs	563.19	Joback Method
dvisc	0.0006454	Paxs	522.26	Joback Method
dvisc	0.0007722	Paxs	481.33	Joback Method
dvisc	0.0009553	Paxs	440.39	Joback Method
dvisc	0.0012344	Paxs	399.46	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7372874&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
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
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature

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

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