

# Benzo[c]phenanthrene, 1,12-dimethyl-

<b>Other names:</b>	1,12-Dimethyl[4]helicene
<b>Inchi:</b>	InChI=1S/C20H16/c1-13-5-3-7-15-9-11-17-12-10-16-8-4-6-14(2)19(16)20(17)18(13)15/h
<b>InchiKey:</b>	IXANOVMMXKUEE-UHFFFAOYSA-N
<b>Formula:</b>	C20H16
<b>SMILES:</b>	<chem>Cc1cccc2ccc3ccc4cccc(C)c4c3c12</chem>
<b>Mol. weight [g/mol]:</b>	256.34
<b>CAS:</b>	4076-43-1

## Physical Properties

Property code	Value	Unit	Source
chs	-10311.30 ± 3.30	kJ/mol	NIST Webbook
gf	511.36	kJ/mol	Joback Method
hf	307.73	kJ/mol	Joback Method
hfs	154.40 ± 3.80	kJ/mol	NIST Webbook
hfus	31.10	kJ/mol	Joback Method
hvap	69.96	kJ/mol	Joback Method
log10ws	-7.84		Crippen Method
logp	5.763		Crippen Method
mcvol	210.520	ml/mol	McGowan Method
pc	2200.01	kPa	Joback Method
tb	760.54	K	Joback Method
tc	1013.66	K	Joback Method
tf	489.76	K	Joback Method
vc	0.814	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	570.63	J/mol×K	760.54	Joback Method
cpg	586.13	J/mol×K	802.73	Joback Method
cpg	600.62	J/mol×K	844.91	Joback Method
cpg	614.28	J/mol×K	887.10	Joback Method
cpg	627.28	J/mol×K	929.28	Joback Method
cpg	639.81	J/mol×K	971.47	Joback Method

cpg	652.05	J/mol×K	1013.66	Joback Method
dvisc	0.0014862	Paxs	489.76	Joback Method
dvisc	0.0012234	Paxs	534.89	Joback Method
dvisc	0.0010381	Paxs	580.02	Joback Method
dvisc	0.0009019	Paxs	625.15	Joback Method
dvisc	0.0007987	Paxs	670.28	Joback Method
dvisc	0.0007181	Paxs	715.41	Joback Method
dvisc	0.0006539	Paxs	760.54	Joback Method

## Sources

<b>Crippen Method:</b>	<a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>
<b>Joback Method:</b>	<a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>
<b>McGowan Method:</b>	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>
<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C4076431&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C4076431&amp;Units=SI</a>
<b>Crippen Method:</b>	<a href="http://pubs.acs.org/doi/abs/10.1021/ci990307l">http://pubs.acs.org/doi/abs/10.1021/ci990307l</a>

## Legend

<b>chs:</b>	Standard solid enthalpy of combustion
<b>cpg:</b>	Ideal gas heat capacity
<b>dvisc:</b>	Dynamic viscosity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfs:</b>	Solid phase enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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