

# Phenanthrene, 3,4,5,6-tetramethyl-

<b>Other names:</b>	3,4,5,6-Tetramethylphenanthrene
<b>Inchi:</b>	InChI=1S/C18H18/c1-11-5-7-15-9-10-16-8-6-12(2)14(4)18(16)17(15)13(11)3/h5-10H,1-4
<b>InchiKey:</b>	BUSLHLOSCTVNRQ-UHFFFAOYSA-N
<b>Formula:</b>	C18H18
<b>SMILES:</b>	<chem>Cc1ccc2ccc3ccc(C)c(C)c3c2c1C</chem>
<b>Mol. weight [g/mol]:</b>	234.34
<b>CAS:</b>	7343-06-8

## Physical Properties

Property code	Value	Unit	Source
chs	-9682.45	kJ/mol	NIST Webbook
gf	378.24	kJ/mol	Joback Method
hf	160.00 ± 4.60	kJ/mol	NIST Webbook
hfs	27.00 ± 3.00	kJ/mol	NIST Webbook
hfus	28.51	kJ/mol	Joback Method
hsub	133.00	kJ/mol	NIST Webbook
hsub	133.00 ± 4.00	kJ/mol	NIST Webbook
hvap	64.53	kJ/mol	Joback Method
ie	7.50 ± 0.10	eV	NIST Webbook
log10ws	-6.98		Crippen Method
logp	5.227		Crippen Method
mcvol	201.800	ml/mol	McGowan Method
pc	2066.12	kPa	Joback Method
tb	700.78	K	Joback Method
tc	937.00	K	Joback Method
tf	447.04	K	Joback Method
vc	0.779	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	530.75	J/mol×K	700.78	Joback Method
cpg	546.98	J/mol×K	740.15	Joback Method
cpg	562.17	J/mol×K	779.52	Joback Method

cpg	576.42	J/molxK	818.89	Joback Method
cpg	589.83	J/molxK	858.26	Joback Method
cpg	602.50	J/molxK	897.63	Joback Method
cpg	614.52	J/molxK	937.00	Joback Method
dvisc	0.0010269	Paxs	447.04	Joback Method
dvisc	0.0008162	Paxs	489.33	Joback Method
dvisc	0.0006730	Paxs	531.62	Joback Method
dvisc	0.0005708	Paxs	573.91	Joback Method
dvisc	0.0004953	Paxs	616.20	Joback Method
dvisc	0.0004376	Paxs	658.49	Joback Method
dvisc	0.0003925	Paxs	700.78	Joback Method

## Sources

<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=C7343068&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C7343068&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>
<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>

## 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>hsub:</b>	Enthalpy of sublimation at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>ie:</b>	Ionization energy
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mccvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature

**tf:** Normal melting (fusion) point

**vc:** Critical Volume

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