

# 1,3-Cyclooctadiene, (Z,Z)-

<b>Other names:</b>	1,3-Cyclooctadiene c,c-Cycloocta-1,3-diene cis,cis-1,3-Cyclooctadiene
<b>Inchi:</b>	InChI=1S/C8H12/c1-2-4-6-8-7-5-3-1/h1-4H,5-8H2/b3-1-,4-2-
<b>InchiKey:</b>	RRKODOZNUZCUBN-CCAGOZQPSA-N
<b>Formula:</b>	C8H12
<b>SMILES:</b>	C1=CCCCC=C1
<b>Mol. weight [g/mol]:</b>	108.18
<b>CAS:</b>	3806-59-5

## Physical Properties

Property code	Value	Unit	Source
gf	84.36	kJ/mol	Joback Method
hf	84.10	kJ/mol	NIST Webbook
hfus	5.48	kJ/mol	Joback Method
hvap	35.07	kJ/mol	Joback Method
ie	8.68	eV	NIST Webbook
log10ws	-2.77		Crippen Method
logp	2.673		Crippen Method
mcvol	104.120	ml/mol	McGowan Method
pc	3782.33	kPa	Joback Method
rinpol	892.00		NIST Webbook
rinpol	889.00		NIST Webbook
rinpol	874.00		NIST Webbook
rinpol	889.00		NIST Webbook
rinpol	889.00		NIST Webbook
rinpol	886.00		NIST Webbook
rinpol	920.00		NIST Webbook
rinpol	892.00		NIST Webbook
rinpol	920.00		NIST Webbook
rinpol	904.60		NIST Webbook
rinpol	893.00		NIST Webbook
tb	413.52	K	Joback Method
tc	637.21	K	Joback Method
tf	186.02	K	Joback Method
vc	0.373	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	183.96	J/molxK	413.52	Joback Method
cpg	200.71	J/molxK	450.80	Joback Method
cpg	216.53	J/molxK	488.08	Joback Method
cpg	231.45	J/molxK	525.37	Joback Method
cpg	245.48	J/molxK	562.65	Joback Method
cpg	258.65	J/molxK	599.93	Joback Method
cpg	270.98	J/molxK	637.21	Joback Method
dvisc	0.0291355	Paxs	186.02	Joback Method
dvisc	0.0063666	Paxs	223.94	Joback Method
dvisc	0.0021612	Paxs	261.85	Joback Method
dvisc	0.0009642	Paxs	299.77	Joback Method
dvisc	0.0005156	Paxs	337.69	Joback Method
dvisc	0.0003129	Paxs	375.60	Joback Method
dvisc	0.0002081	Paxs	413.52	Joback Method

## Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	328.20	K	4.50	NIST Webbook
tbrp	328.00	K	4.50	NIST Webbook

## Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	9.18562e+00
Coeff. B	-1.77624e+03
Coeff. C	-3.20980e+01
Temperature range (K), min.	221.25
Temperature range (K), max.	490.58

# Sources

<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C3806595&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C3806595&amp;Units=SI</a>
<b>The Yaws Handbook of Vapor Pressure:</b>	<a href="https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure">https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure</a>
<b>Crippen Method:</b>	<a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</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>
<b>McGowan Method:</b>	<a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>

# Legend

<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>hfus:</b>	Enthalpy of fusion 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>mcvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>pvap:</b>	Vapor pressure
<b>rinpol:</b>	Non-polar retention indices
<b>tb:</b>	Normal Boiling Point Temperature
<b>tbrp:</b>	Boiling point at reduced pressure
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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