

Cis-1-cyano-1,3-butadiene

Other names:	cis 2,4-pentadienenitrile (cis 1-cyano-1,3-butadiene)
Inchi:	InChI=1S/C5H5N/c1-2-3-4-5-6/h2-4H,1H2/b4-3+
InchiKey:	STSRVFAXSLNLLI-ONEGZZNKSA-N
Formula:	C5H5N
SMILES:	C=CC=CC#N
Mol. weight [g/mol]:	79.10
CAS:	2180-69-0

Physical Properties

Property code	Value	Unit	Source
gf	292.46	kJ/mol	Joback Method
hf	261.00	kJ/mol	Joback Method
hfus	9.13	kJ/mol	Joback Method
hvap	36.49	kJ/mol	Joback Method
log10ws	-1.49		Crippen Method
logp	1.252		Crippen Method
mcvol	74.090	ml/mol	McGowan Method
pc	3768.41	kPa	Joback Method
tb	416.72	K	Joback Method
tc	621.79	K	Joback Method
tf	210.57 ± 0.10	K	NIST Webbook
vc	0.302	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	122.01	J/mol×K	416.72	Joback Method
cpg	128.60	J/mol×K	450.90	Joback Method
cpg	134.77	J/mol×K	485.08	Joback Method
cpg	140.55	J/mol×K	519.26	Joback Method
cpg	145.97	J/mol×K	553.43	Joback Method
cpg	151.04	J/mol×K	587.61	Joback Method
cpg	155.79	J/mol×K	621.79	Joback Method
hvapt	41.40	kJ/mol	350.50	NIST Webbook

hvapt	40.70	kJ/mol	348.00	NIST Webbook
hvapt	38.30	kJ/mol	408.00	NIST Webbook

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2180690&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071

Legend

cpg:	Ideal gas heat capacity
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
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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