

# Cyanomethyl radical

**Inchi:** InChI=1S/C2H2N/c1-2-3/h1H2  
**InchiKey:** XSTKDMFTWATIQP-UHFFFAOYSA-N  
**Formula:** C2H2N  
**SMILES:** [CH2]C#N  
**Mol. weight [g/mol]:** 40.04  
**CAS:** 2932-82-3

## Physical Properties

Property code	Value	Unit	Source
ea	1.60 ± 0.20	eV	NIST Webbook
ea	1.51 ± 0.02	eV	NIST Webbook
ea	1.56 ± 0.01	eV	NIST Webbook
ea	1.59 ± 0.13	eV	NIST Webbook
ea	1.54 ± 0.01	eV	NIST Webbook
ea	1.53 ± 0.01	eV	NIST Webbook
gf	151.52	kJ/mol	Joback Method
hf	136.08	kJ/mol	Joback Method
hfus	4.12	kJ/mol	Joback Method
hvap	30.38	kJ/mol	Joback Method
ie	10.90 ± 0.10	eV	NIST Webbook
ie	9.90 ± 0.10	eV	NIST Webbook
ie	10.30 ± 0.02	eV	NIST Webbook
ie	10.00	eV	NIST Webbook
log10ws	-0.14		Crippen Method
logp	0.344		Crippen Method
mcvol	38.270	ml/mol	McGowan Method
pc	5168.28	kPa	Joback Method
tb	346.54	K	Joback Method
tc	536.93	K	Joback Method
tf	193.66	K	Joback Method
vc	0.165	m3/kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	51.34	J/mol×K	346.54	Joback Method
cpg	54.12	J/mol×K	378.27	Joback Method
cpg	56.64	J/mol×K	410.00	Joback Method
cpg	58.91	J/mol×K	441.73	Joback Method
cpg	60.96	J/mol×K	473.47	Joback Method
cpg	62.81	J/mol×K	505.20	Joback Method
cpg	64.49	J/mol×K	536.93	Joback Method

## Sources

<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C2932823&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C2932823&amp;Units=SI</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>ea:</b>	Electron affinity
<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>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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