

# Deuterium cation

<b>Inchi:</b>	InChI=1S/p+1/i/hD
<b>InchiKey:</b>	GPRLSGONYQIRFK-DYCDLGHISA-N
<b>Formula:</b>	D+
<b>SMILES:</b>	[H+]
<b>Mol. weight [g/mol]:</b>	2.01
<b>CAS:</b>	14464-47-2

## Physical Properties

Property code	Value	Unit	Source
gf	53.88	kJ/mol	Joback Method
hf	68.29	kJ/mol	Joback Method
hfus	-0.88	kJ/mol	Joback Method
hvap	15.30	kJ/mol	Joback Method
log10ws	0.68		Crippen Method
logp	0.113		Crippen Method
mcvol	8.710	ml/mol	McGowan Method
pc	7406.07	kPa	Joback Method
tb	198.00	K	Joback Method
tc	339.04	K	Joback Method
tf	122.50	K	Joback Method
vc	0.018	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	-10.08	J/mol×K	198.00	Joback Method
cpg	-4.12	J/mol×K	315.53	Joback Method
cpg	-4.82	J/mol×K	292.03	Joback Method
cpg	-5.74	J/mol×K	268.52	Joback Method
cpg	-6.92	J/mol×K	245.01	Joback Method
cpg	-8.36	J/mol×K	221.51	Joback Method
cpg	-3.65	J/mol×K	339.04	Joback Method
dvisc	0.0000007	Paxs	198.00	Joback Method
dvisc	0.0000005	Paxs	185.42	Joback Method

dvisc	0.0000004	Paxs	172.83	Joback Method
dvisc	0.0000003	Paxs	160.25	Joback Method
dvisc	0.0000002	Paxs	147.67	Joback Method
dvisc	0.0000002	Paxs	135.08	Joback Method
dvisc	0.0000001	Paxs	122.50	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=C14464472&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C14464472&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>

## 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>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
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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