

# 2,4-Imidazolidinedione, 5,5-dimethyl-

<b>Other names:</b>	Hydantoin, 5,5-dimethyl- Dantoin DMH Dimethylhydantoin DM Hydantoin 5,5-Dimethyl-2,4-imidazolidinedione 5,5-Dimethylhydantoin T10 DMH 5,5-Dimethyl-imidazolidin-2,4-dion 5,5-Dimethylimidazolidin-2,4-dione Dantoin 736 NSC 8652
<b>Inchi:</b>	InChI=1S/C5H8N2O2/c1-5(2)3(8)6-4(9)7-5/h1-2H3,(H2,6,7,8,9)
<b>InchiKey:</b>	YIROYDNZEPTFOL-UHFFFAOYSA-N
<b>Formula:</b>	C5H8N2O2
<b>SMILES:</b>	CC1(C)NC(=O)NC1=O
<b>Mol. weight [g/mol]:</b>	128.13
<b>CAS:</b>	77-71-4

## Physical Properties

Property code	Value	Unit	Source
chs	-2577.60 ± 1.30	kJ/mol	NIST Webbook
gf	-47.48	kJ/mol	Joback Method
hf	-270.59	kJ/mol	Joback Method
hfs	-533.30 ± 1.30	kJ/mol	NIST Webbook
hfus	14.54	kJ/mol	Joback Method
hvap	47.84	kJ/mol	Joback Method
log10ws	-0.83		Crippen Method
logp	-0.396		Crippen Method
mcvol	93.550	ml/mol	McGowan Method
pc	5462.66	kPa	Joback Method
tb	562.06	K	Joback Method
tc	824.26	K	Joback Method
tf	527.41	K	Joback Method
vc	0.343	m <sup>3</sup> /kmol	Joback Method

# Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	219.78	J/mol×K	562.06	Joback Method
cpg	232.28	J/mol×K	605.76	Joback Method
cpg	244.29	J/mol×K	649.46	Joback Method
cpg	255.86	J/mol×K	693.16	Joback Method
cpg	267.03	J/mol×K	736.86	Joback Method
cpg	277.85	J/mol×K	780.56	Joback Method
cpg	288.38	J/mol×K	824.26	Joback Method

## Sources

<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>
<b>NIST Webbook:</b>	<a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C77714&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C77714&amp;Units=SI</a>

## Legend

<b>chs:</b>	Standard solid enthalpy of combustion
<b>cpg:</b>	Ideal gas heat capacity
<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>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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