Diphenamid

Other names:	Acetamide, N,N-dimethyl-2,2-diphenyl-
	Benzeneacetamide, N,N-dimethyl-«alpha»-phenyl-
	Benzeneacetamide, N,N-dimethyl-Â«alphaÂ»-phenyl-
	Dif 4
	Diherbid
	Dimid
	Diphenamide
	Dymid
	Enide
	Enide 50
	Enide 50W
	Fenam
	L-34314
	Lilly 34,314
	N,N-Dimethyl-2,2-diphenylacetamide
	N,N-Dimethyl-«alpha»,«alpha»-Diphenylacetamide
	N,N-Dimethyl-Â«alphaÂ»,Â«alphaÂ»-Diphenylacetamide
	N,N-Dimethyldiphenylacetamide
	Rideon
	Zarur
Inchi:	InChI=1S/C16H17NO/c1-17(2)16(18)15(13-9-5-3-6-10-13)14-11-7-4-8-12-14/h3-12,15H,
InchiKey:	QAHFOPIILNICLA-UHFFFAOYSA-N
Formula:	C16H17NO
SMILES:	CN(C)C(=O)C(c1ccccc1)c1ccccc1
Mol. weight [g/mol]:	239.31
CAS:	957-51-7

Physical Properties

Property code	Value	Unit	Source
gf	288.08	kJ/mol	Joback Method
hf	49.16	kJ/mol	Joback Method
hfus	26.38	kJ/mol	Joback Method
hvap	64.16	kJ/mol	Joback Method
log10ws	-2.98		Estimated Solubility Method
log10ws	-2.98		Aqueous Solubility Prediction Method

logp	2.907		Crippen Method
mcvol	200.330	ml/mol	McGowan Method
pc	2443.48	kPa	Joback Method
rinpol	2026.00		NIST Webbook
rinpol	2015.00		NIST Webbook
rinpol	1997.00		NIST Webbook
rinpol	1970.00		NIST Webbook
rinpol	1997.00		NIST Webbook
rinpol	2015.00		NIST Webbook
rinpol	1970.00		NIST Webbook
rinpol	2015.00		NIST Webbook
ripol	3023.00		NIST Webbook
ripol	3023.00		NIST Webbook
tb	684.71	K	Joback Method
tc	922.04	K	Joback Method
tf	407.40	K	Aqueous Solubility Prediction Method
tf	407.66 ± 0.20	K	NIST Webbook
tf	405.70 ± 0.20	K	NIST Webbook
vc	0.734	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	531.72	J/mol×K	684.71	Joback Method
cpg	548.91	J/mol×K	724.26	Joback Method
cpg	564.70	J/mol×K	763.82	Joback Method
cpg	579.20	J/mol×K	803.37	Joback Method
cpg	592.50	J/mol×K	842.93	Joback Method
cpg	604.69	J/mol×K	882.48	Joback Method
cpg	615.87	J/mol×K	922.04	Joback Method
hfust	25.43	kJ/mol	407.10	NIST Webbook
hfust	25.43	kJ/mol	402.00	NIST Webbook

Sources

Joback Method: https://en.wikipedia.org/wiki/Joback_method

Aqueous Solubility Prediction Method: http://onschallenge.wikispaces.com/file/view/AqueousDataset002.xlsx/351826032/AqueousDa

Estimated Solubility Method: http://pubs.acs.org/doi/suppl/10.1021/ci034243x/suppl_file/ci034243xsi20040112_053635.txt

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C957517&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

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
hfust:	Enthalpy of fusion at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume