Ethanone, 2,2-dimethoxy-1,2-diphenyl-

Other names:	«alpha»,«alpha»-Dimethoxy-«alpha»-phenylacetophenone
	2,2-Dimethoxy-2-phenylacetophenone
	Benzil dimethyl ketal
	DMPA
	Photocure 51
	2,2-Dimethoxy-1,2-diphenylethanone
	Irgacure 651
	1,2-Diphenyl-2,2-dimethoxyethanone
	2,2-Dimethoxyphenylacetophenone
	2-Phenyl-2,2-dimethoxyacetophenone
	Benzil dimethyl acetal
	Benzil mono(dimethyl acetal)
	Benzil mono(dimethyl ketal)
	Esacure KB 1
	IR 651
	IRG 651
	Irgacure 621
	Irgacure 641
	Irgacure E 651
	Irgacure I 651
	Kayacure BDMK
	KB 1
	Lucirin BDK
	Photomer 51
	«alpha»,«alpha»-Dimethoxydeoxybenzoin
	Irgacure 651 (2,2-Dimethoxy-2-phenylacetophonone)
	2,2-dimethoxy-1,2-diphenylethan-1-one
Inchi:	InChI=1S/C16H16O3/c1-18-16(19-2,14-11-7-4-8-12-14)15(17)13-9-5-3-6-10-13/h3-12H,1
InchiKey:	KWVGIHKZDCUPEU-UHFFFAOYSA-N
Formula:	C16H16O3
SMILES:	COC(OC)(C(=O)c1ccccc1)c1ccccc1
Mol. weight [g/mol]:	256.30
CAS:	24650-42-8

Physical Properties

Property code	Value	Unit	Source

gf	-27.42	kJ/mol	Joback Method
hf	-286.28	kJ/mol	Joback Method
hfus	21.84	kJ/mol	Joback Method
hvap	66.03	kJ/mol	Joback Method
log10ws	-3.42		Crippen Method
logp	3.015		Crippen Method
mcvol	202.090	ml/mol	McGowan Method
pc	2393.53	kPa	Joback Method
rinpol	1874.00		NIST Webbook
rinpol	1874.00		NIST Webbook
tb	714.32	K	Joback Method
tc	957.06	K	Joback Method
tf	338.50 ± 0.80	K	NIST Webbook
vc	0.747	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	547.98	J/mol×K	714.32	Joback Method
cpg	564.18	J/mol×K	754.78	Joback Method
cpg	578.98	J/mol×K	795.23	Joback Method
cpg	592.47	J/mol×K	835.69	Joback Method
cpg	604.71	J/mol×K	876.15	Joback Method
cpg	615.78	J/mol×K	916.60	Joback Method
cpg	625.76	J/mol×K	957.06	Joback Method
dvisc	0.0010332	Pa×s	419.73	Joback Method
dvisc	0.0005381	Pa×s	468.83	Joback Method
dvisc	0.0003171	Pa×s	517.93	Joback Method
dvisc	0.0002048	Pa×s	567.03	Joback Method
dvisc	0.0001418	Pa×s	616.12	Joback Method
dvisc	0.0001037	Pa×s	665.22	Joback Method
dvisc	0.0000791	Pa×s	714.32	Joback Method
hfust	20.86	kJ/mol	338.50	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=C24650428&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume