

4-(Trifluoromethyl)benzoyl chloride

Other names:	p-Trifluoromethylbenzoyl chloride Benzoyl chloride, 4-(trifluoromethyl)- «alpha», «alpha», «alpha»-Trifluoro-p-toluoyl chloride p-Toluoyl chloride, «alpha», «alpha», «alpha»-trifluoro- p-Trifluoromethyl benzoic acid chloride
Inchi:	InChI=1S/C8H4ClF3O/c9-7(13)5-1-3-6(4-2-5)8(10,11)12/h1-4H
InchiKey:	OXZYBOLWRXENKT-UHFFFAOYSA-N
Formula:	C8H4ClF3O
SMILES:	O=C(Cl)c1ccc(C(F)(F)F)cc1
Mol. weight [g/mol]:	208.56
CAS:	329-15-7

Physical Properties

Property code	Value	Unit	Source
gf	-603.18	kJ/mol	Joback Method
hf	-708.79	kJ/mol	Joback Method
h _{fus}	17.75	kJ/mol	Joback Method
h _{vap}	43.72	kJ/mol	Joback Method
log ₁₀ ws	-3.46		Crippen Method
logp	3.084		Crippen Method
m _{cvol}	118.940	ml/mol	McGowan Method
pc	3228.31	kPa	Joback Method
tb	499.98	K	Joback Method
tc	708.00	K	Joback Method
tf	302.90	K	Joback Method
vc	0.473	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
c _{pg}	244.85	J/mol×K	499.98	Joback Method
c _{pg}	254.75	J/mol×K	534.65	Joback Method
c _{pg}	263.88	J/mol×K	569.32	Joback Method
c _{pg}	272.28	J/mol×K	603.99	Joback Method

cpg	280.00	J/mol×K	638.66	Joback Method
cpg	287.08	J/mol×K	673.33	Joback Method
cpg	293.57	J/mol×K	708.00	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	351.50 ± 0.50	K	2.10	NIST Webbook
tbrp	351.50 ± 0.50	K	2.10	NIST Webbook

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
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=C329157&Units=SI

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
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
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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