

Acetic acid, trifluoro-, anhydride

Other names:	Anhydrid kyseliny trifluoroctove Bis(trifluoroacetic) anhydride Hexafluoroacetic anhydride Perfluoroacetic anhydride Trifluoroacetic acid anhydride Trifluoroacetic anhydride Trifluoroacetyl anhydride
Inchi:	InChI=1S/C4F6O3/c5-3(6,7)1(11)13-2(12)4(8,9)10
InchiKey:	QAEDZJGFFMLHHQ-UHFFFAOYSA-N
Formula:	C4F6O3
SMILES:	O=C(OC(=O)C(F)(F)F)C(F)(F)F
Mol. weight [g/mol]:	210.03
CAS:	407-25-0

Physical Properties

Property code	Value	Unit	Source
gf	-1543.22	kJ/mol	Joback Method
hf	-1677.43	kJ/mol	Joback Method
hfus	14.15	kJ/mol	Joback Method
hvap	32.91	kJ/mol	Joback Method
log10ws	-1.46		Crippen Method
logp	1.181		Crippen Method
mvol	86.850	ml/mol	McGowan Method
pc	3360.64	kPa	Joback Method
rinpol	515.00		NIST Webbook
rinpol	515.00		NIST Webbook
tb	312.80 ± 0.20	K	NIST Webbook
tb	312.70	K	NIST Webbook
tb	313.10 ± 0.50	K	NIST Webbook
tc	569.07	K	Joback Method
tf	265.31	K	Joback Method
vc	0.376	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	195.58	J/mol×K	410.24	Joback Method
cpg	202.20	J/mol×K	436.71	Joback Method
cpg	208.40	J/mol×K	463.18	Joback Method
cpg	214.18	J/mol×K	489.66	Joback Method
cpg	219.57	J/mol×K	516.13	Joback Method
cpg	224.59	J/mol×K	542.60	Joback Method
cpg	229.24	J/mol×K	569.07	Joback Method
hvapt	34.70	kJ/mol	291.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.53456e+01
Coeff. B	-2.79995e+03
Coeff. C	-5.16370e+01
Temperature range (K), min.	237.58
Temperature range (K), max.	330.68

Sources

The Yaws Handbook of Vapor Pressure:
Crippen Method:

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>
<http://pubs.acs.org/doi/abs/10.1021/ci990307l>

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=C407250&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
hvac:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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