

Ethane, 1,1,2-trifluoro-

Other names:	1,1,2-trifluoroethane
	CH2FCHF2
Inchi:	InChI=1S/C2H3F3/c3-1-2(4)5/h2H,1H2
InchiKey:	WGZYQOSEVSDNI-UHFFFAOYSA-N
Formula:	C2H3F3
SMILES:	FCC(F)F
Mol. weight [g/mol]:	84.04
CAS:	430-66-0

Physical Properties

Property code	Value	Unit	Source
hf	-691.00 ± 10.00	kJ/mol	NIST Webbook
hfus	6.65	kJ/mol	Joback Method
logp	1.221		Crippen Method
mcvol	44.350	ml/mol	McGowan Method
pc	5241.00 ± 8.00	kPa	NIST Webbook
rhoc	468.95 ± 5.04	kg/m3	NIST Webbook
rhoc	549.62 ± 8.40	kg/m3	NIST Webbook
tb	278.20	K	NIST Webbook
tb	278.15 ± 0.50	K	NIST Webbook
tb	276.00 ± 3.00	K	NIST Webbook
tb	278.00	K	NIST Webbook
tc	461.60 ± 0.50	K	NIST Webbook
tc	429.80 ± 0.70	K	NIST Webbook
tf	189.00 ± 5.00	K	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	67.01	J/mol×K	242.53	Joback Method
cpg	70.81	J/mol×K	264.73	Joback Method
cpg	74.49	J/mol×K	286.93	Joback Method
cpg	78.06	J/mol×K	309.13	Joback Method
cpg	81.52	J/mol×K	331.33	Joback Method

cpg	84.88	J/mol×K	353.53	Joback Method
cpg	88.13	J/mol×K	375.73	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.35493e+01
Coeff. B	-1.93952e+03
Coeff. C	-6.08310e+01
Temperature range (K), min.	189.15
Temperature range (K), max.	296.48

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Cheméo Relay (1.0):	
Cheméo Relay (1.0, beta):	
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C430660&Units=SI

Legend

cpg:	Ideal gas heat capacity
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rhoc:	Critical density

tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point

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