Methane, dibromodifluoro-

Other names:	CF2Br2
	Dibromodifluoromethane
	Difluorodibromomethane
	FREON 12-B2
	Halon 1202
	UN 1941
Inchi:	InChI=1S/CBr2F2/c2-1(3,4)5
InchiKey:	AZSZCFSOHXEJQE-UHFFFAOYSA-N
Formula:	CBr2F2
SMILES:	FC(F)(Br)Br
Mol. weight [g/mol]:	209.82
CAS:	75-61-6

Physical Properties

Property code	Value	Unit	Source
dm	0.70	debye	KDB
gf	-400.60	kJ/mol	Joback Method
hf	-412.28	kJ/mol	Joback Method
hfus	7.66	kJ/mol	Joback Method
hvap	27.76	kJ/mol	Joback Method
ie	11.07 ± 0.03	eV	NIST Webbook
ie	11.18	eV	NIST Webbook
ie	10.98 ± 0.02	eV	NIST Webbook
ie	11.03 ± 0.04	eV	NIST Webbook
log10ws	-2.41		Crippen Method
logp	2.327		Crippen Method
mcvol	63.490	ml/mol	McGowan Method
pc	4130.00	kPa	KDB
rinpol	481.40		NIST Webbook
rinpol	477.00		NIST Webbook
rinpol	481.40		NIST Webbook
rinpol	477.00		NIST Webbook
rinpol	477.00		NIST Webbook
tb	298.00	K	KDB
tb	297.60	K	NIST Webbook
tc	471.30	K	KDB
tf	131.61 ± 0.05	K	NIST Webbook

tf	163.00	K	KDB
tf	126.69 ± 0.05	K	NIST Webbook
vc	0.240	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	79.88	J/mol×K	349.91	Joback Method
cpg	83.53	J/mol×K	383.51	Joback Method
cpg	86.73	J/mol×K	417.10	Joback Method
cpg	89.50	J/mol×K	450.70	Joback Method
cpg	91.88	J/mol×K	484.30	Joback Method
cpg	93.91	J/mol×K	517.90	Joback Method
cpg	95.61	J/mol×K	551.49	Joback Method
hvapt	26.10	kJ/mol	272.00	NIST Webbook
hvapt	18.60	kJ/mol	187.00	NIST Webbook
rhol	2462.00	kg/m3	288.00	KDB

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.44211e+01
Coeff. B	-2.73386e+03
Coeff. C	-1.87140e+01
Temperature range (K), min.	212.14
Temperature range (K), max.	318.82

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	4.96416e+01
Coeff. B	-4.37805e+03
Coeff. C	-5.41229e+00
Coeff. D	6.43814e-06
Temperature range (K), min.	163.05

Temperature range (K), max.	478.00

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C75616&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1503
Crippen Method:	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
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1503.mol

Legend

cpg:	Ideal gas heat capacity
dm:	Dipole Moment
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
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rhol:	Liquid Density
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

Cheméo (https://www.chemeo.com) is the biggest free database of chemical and physical data for the process industry.