

Acetaldehyde, hydroxy-

Other names:	2-hydroxyacetaldehyde Diose Glycoaldehyde Glycolic aldehyde HOCH ₂ CHO Methylol formaldehyde Monomethylolformaldehyde NSC 67935 glycolaldehyde glycollaldehyde hydroxyacetaldehyde
Inchi:	InChI=1S/C2H4O2/c3-1-2-4/h1,4H,2H2
InchiKey:	WGCNASOHLSPBMP-UHFFFAOYSA-N
Formula:	C ₂ H ₄ O ₂
SMILES:	O=CCO
Mol. weight [g/mol]:	60.05
CAS:	141-46-8

Physical Properties

Property code	Value	Unit	Source
gf	-270.38	kJ/mol	Joback Method
hf	-322.42	kJ/mol	Joback Method
hfus	7.31	kJ/mol	Joback Method
hvap	43.45	kJ/mol	Joback Method
log10ws	0.80		Crippen Method
logp	-0.822		Crippen Method
mcvol	46.480	ml/mol	McGowan Method
pc	6461.89	kPa	Joback Method
tb	386.00	K	Joback Method
tc	556.85	K	Joback Method
tf	215.12	K	Joback Method
vc	0.183	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	80.87	J/molxK	386.00	Joback Method
cpg	84.43	J/molxK	414.48	Joback Method
cpg	87.87	J/molxK	442.95	Joback Method
cpg	91.17	J/molxK	471.43	Joback Method
cpg	94.34	J/molxK	499.90	Joback Method
cpg	97.38	J/molxK	528.38	Joback Method
cpg	100.30	J/molxK	556.85	Joback Method
dvisc	0.0568020	Paxs	215.12	Joback Method
dvisc	0.0153215	Paxs	243.60	Joback Method
dvisc	0.0054372	Paxs	272.08	Joback Method
dvisc	0.0023481	Paxs	300.56	Joback Method
dvisc	0.0011727	Paxs	329.04	Joback Method
dvisc	0.0006542	Paxs	357.52	Joback Method
dvisc	0.0003977	Paxs	386.00	Joback Method
hvapt	70.00 ± 5.00	kJ/mol	288.50	NIST Webbook
pvap	3.70e-03	kPa	295.85	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	9.00e-03	kPa	305.10	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	9.60e-03	kPa	305.51	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K

pvap	0.03	kPa	319.50	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.03	kPa	319.84	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.04	kPa	322.38	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.05	kPa	323.64	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.06	kPa	327.73	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.10	kPa	333.04	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.15	kPa	339.32	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K

pvap	0.17	kPa	340.91	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.18	kPa	341.95	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.20	kPa	342.82	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.25	kPa	346.83	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K
pvap	0.49	kPa	355.98	Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K

Sources

Vapor Pressure Measurements of Hydroxyacetaldehyde and Hydroxyacetone in the Temperature Range (273 to 356) K: McGowan Method:

<https://www.doi.org/10.1021/je9004905>

NIST Webbook:

https://en.wikipedia.org/wiki/Joback_method

Crippen Method:

<http://link.springer.com/article/10.1007/BF02311772>

Crippen Method:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C141468&Units=SI>

<http://pubs.acs.org/doi/abs/10.1021/ci990307l>

https://www.chemeo.com/doc/models/crippen_log10ws

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

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