2-Propenoic acid, ethyl ester

Other names: Acrylate d'ethyle

Acrylic acid ethyl ester

Acrylic acid, ethyl ester (inhibited)

Acrylsaeureaethylester

Aethylacrylat Akrylanem etylu CH2=CHCOOC2H5

Carboset 511

ETHYL PROPENOATE
Ethoxycarbonylethylene
Ethyl 2-propenoate

Ethyl acrylate

Ethyl acrylate, inhibited

Ethyl ester of 2-propenoic acid

Ethylacrylaat Ethylakrylat

Ethylester kyseliny akrylove

Etil acrilato Etilacrilatului NCI-C50384 NSC 8263

Rcra waste number U113 acrylic acid, ethyl ester propenoic acid, ethyl ester

InChi=1S/C5H8O2/c1-3-5(6)7-4-2/h3H,1,4H2,2H3

InchiKey: JIGUQPWFLRLWPJ-UHFFFAOYSA-N

Formula: C5H8O2

SMILES: C=CC(=O)OCC

Mol. weight [g/mol]: 100.12 CAS: 140-88-5

Physical Properties

Property code	Value	Unit	Source
af	0.4000		KDB
chl	-2715.00	kJ/mol	NIST Webbook
gf	-154.86	kJ/mol	Joback Method

hf	-327.80	kJ/mol	NIST Webbook	
hf	-354.20	kJ/mol	NIST Webbook	
hf	-331.40	kJ/mol	NIST Webbook	
hfl	-367.00	kJ/mol	NIST Webbook	
hfl	-370.60	kJ/mol	NIST Webbook	
hfl	-393.40	kJ/mol	NIST Webbook	
hfus	10.21	kJ/mol	Joback Method	
hvap	39.20	kJ/mol	NIST Webbook	
hvap	39.20	kJ/mol	NIST Webbook	
ie	10.30	eV	NIST Webbook	
log10ws	-0.74		Aqueous Solubility Prediction Method	
logp	0.735		Crippen Method	
mcvol	84.450	ml/mol	McGowan Method	
nfpaf	%!d(float64=3)	,	KDB	
nfpah	%!d(float64=2)		KDB	
nfpas	%!d(float64=2)		KDB	
pc	3740.00	kPa	KDB	
rinpol	644.00	5	NIST Webbook	
rinpol	648.00		NIST Webbook	
rinpol	684.00		NIST Webbook	
rinpol	664.00		NIST Webbook	
rinpol	664.00		NIST Webbook	
rinpol	678.00		NIST Webbook	
rinpol	683.00		NIST Webbook	
rinpol	676.00		NIST Webbook	
rinpol	676.00		NIST Webbook	
rinpol	681.00		NIST Webbook	
rinpol	681.00		NIST Webbook	
rinpol	680.00		NIST Webbook	
rinpol	677.00		NIST Webbook	
rinpol	676.00		NIST Webbook	
rinpol	644.00		NIST Webbook	
rinpol	678.00		NIST Webbook	
rinpol	664.00		NIST Webbook	
rinpol	681.00		NIST Webbook	
rinpol	648.00		NIST Webbook	
rinpol	678.00		NIST Webbook	
rinpol	702.00		NIST Webbook	
ripol	992.00		NIST Webbook	
ripol	980.00		NIST Webbook	
ripol	993.00		NIST Webbook	
ripol	989.00		NIST Webbook	
ripol	992.00		NIST Webbook	
tb	372.50 ± 3.00	К	NIST Webbook	

tb	372.75	K	NIST Webbook
tb	373.00	K	NIST Webbook
tb	373.00	K	KDB
tb	373.00	K	NIST Webbook
tc	552.00	K	KDB
tf	201.15	K	NIST Webbook
tf	202.10	К	Aqueous Solubility Prediction Method
tf	201.00	K	KDB
VC	0.320	m3/kmol	KDB
ZC	0.2607630		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	191.98	J/mol×K	569.17	Joback Method
cpg	157.10	J/mol×K	417.17	Joback Method
cpg	164.59	J/mol×K	447.57	Joback Method
cpg	171.82	J/mol×K	477.97	Joback Method
cpg	178.80	J/mol×K	508.37	Joback Method
cpg	185.52	J/mol×K	538.77	Joback Method
cpg	149.35	J/mol×K	386.77	Joback Method
dvisc	0.0003338	Paxs	358.39	Joback Method
dvisc	0.0004330	Paxs	330.02	Joback Method
dvisc	0.0005898	Paxs	301.64	Joback Method
dvisc	0.0008567	Paxs	273.26	Joback Method
dvisc	0.0013568	Paxs	244.89	Joback Method
dvisc	0.0002673	Paxs	386.77	Joback Method
dvisc	0.0024241	Paxs	216.51	Joback Method
hvapt	41.40	kJ/mol	307.50	NIST Webbook
rfi	1.39990		313.15	Volumetric, Viscometric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures

rfi	1.40490		298.15	Volumetric, Viscometric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures	
rfi	1.40320		303.15	Volumetric, Viscometric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures	
rfi	1.40140		308.15	Volumetric, Viscometric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures	
rhol	915.95	kg/m3	298.15 N,N-dimethy	Densities and volumetric properties of binary mixtures of lformamide/N,N-dimeth with some alkyl acrylates at temperatures from 288.15 K to 318.15 K	nylacetamide
rhol	924.78	kg/m3	290.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	921.90	kg/m3	293.15	Thermophysical Properties of Three Compounds from the Acrylate Family	

rhal	010.01	ka/m2	20F 6F	Thormonhysical	
rhol	919.01	kg/m3	295.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	916.12	kg/m3	298.15	Volumetric Properties of 3-Methylbutyl Ethanoate with Ethyl Acrylate, Butyl Acrylate, Methyl Methacrylate, and Styrene at 25 C	
rhol	913.22	kg/m3	300.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	910.32	kg/m3	303.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	907.41	kg/m3	305.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	904.49	kg/m3	308.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	901.56	kg/m3	310.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	898.63	kg/m3	313.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	895.68	kg/m3	315.65	Thermophysical Properties of Three Compounds from the Acrylate Family	

rhol	892.73	kg/m3	318.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	889.77	kg/m3	320.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	886.80	kg/m3	323.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	883.82	kg/m3	325.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	880.83	kg/m3	328.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	877.83	kg/m3	330.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	874.83	kg/m3	333.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	871.81	kg/m3	335.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	868.78	kg/m3	338.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	921.00	kg/m3	293.00	KDB	
rhol	927.65	kg/m3	288.15	Thermophysical Properties of Three Compounds from the Acrylate Family	

rhol	930.52	kg/m3	285.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	933.39	kg/m3	283.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	936.25	kg/m3	280.65	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	939.09	kg/m3	278.15	Thermophysical Properties of Three Compounds from the Acrylate Family	
rhol	916.12	kg/m3	298.15	Thermophysical Properties of Three Compounds from the Acrylate Family	

Correlations

Information Value

Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.46709e+01
Coeff. B	-3.28201e+03
Coeff. C	-4.65160e+01
Temperature range (K), min.	274.70
Temperature range (K), max.	397.18

Information Value

Property code	pvap
Equation	$ln(Pvp) = A + B/T + C*ln(T) + D*T^2$
Coeff. A	9.87203e+01
Coeff. B	-7.84512e+03
Coeff. C	-1.25776e+01
Coeff. D	1.02128e-05

Temperature range (K), min.	201.95
Temperature range (K), max.	553.00

Sources

KDB: https://www.cheric.org/files/research/kdb/mol/mol1169.mol

https://www.doi.org/10.1016/j.jct.2011.06.011 Ultrasonic velocities, densities, and excess molar volumes of binary https://www.doi.org/10.1016/j.jct.2012.10.015

PERCEITES GT N, NOTIFICATION OF https://www.doi.org/10.1016/j.jct.2012.1 with the string of https://www.doi.org/10.1016/j.jct.2012.1 with the string of https://www.doi.org/10.1021/je301333b with the string of https://www.doi.org/10.1021/je301333b with the string of https://www.doi.org/10.1016/j.jct.2016.1 dependence of volumetric properties of https://www.doi.org/ https://www.doi.org/10.1016/j.jct.2016.10.042

http://link.springer.com/article/10.1007/BF02311772 સ્ટિલિકા**પ્રસાન પાલિકાન** methyl acrylate, or +

ethyl acrylate, or + n-butyl acrylate, or + tert-butyl acrylate, in + tert-butyl acrylate, butyl mixtures: https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1169

The Yaws Handbook of Vapor https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

Pressure: Volumetric, Viscometric, Ultrasonic, https://www.doi.org/10.1007/s10765-009-0562-x and Refractive Index Properties of Densiting and resolutions of https://www.doi.org/10.1016/j.jct.2016.08.026

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bate Mentice in the backy backy backy by bate will fail actually by backy by backy by backy back https://www.doi.org/10.1007/s10765-005-5571-9 http://pubs.acs.org/doi/abs/10.1021/ci990307l

Styrene at 25 C: Joback Method: https://en.wikipedia.org/wiki/Joback_method

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C140885&Units=SI

Legend

af: Acentric Factor

chl: Standard liquid enthalpy of combustion

Ideal gas heat capacity cpg: dvisc: Dynamic viscosity

gf: Standard Gibbs free energy of formation

hf: Enthalpy of formation at standard conditions

hfl: Liquid phase enthalpy of formation at standard conditions

hfus: Enthalpy of fusion at standard conditions

Enthalpy of vaporization at standard conditions hvap: hvapt: Enthalpy of vaporization at a given temperature

ie: Ionization energy

log10ws: Log10 of Water solubility in mol/l Octanol/Water partition coefficient logp: mcvol: McGowan's characteristic volume

nfpaf: NFPA Fire Rating nfpah:NFPA Health Ratingnfpas:NFPA Safety Rating

pc: Critical Pressurepvap: Vapor pressurerfi: Refractive Indexrhol: Liquid Density

rinpol: Non-polar retention indices

ripol: Polar retention indices

tb: Normal Boiling Point Temperature

tc: Critical Temperature

tf: Normal melting (fusion) point

vc: Critical Volume

zc: Critical Compressibility

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