

2-Propenoic acid, methyl ester

Other names:	Acrylate de methyle
	Acrylic acid methyl ester
	Acrylsaeuremethylester
	CH ₂ =CHCOOCH ₃
	Curithane 103
	METHOXYCARBONYLETHYLENE
	METHYL PROPENOATE
	Methyl 2-propenoate
	Methyl acrylate
	Methyl ester acrylic acid
	Methyl ester of 2-propenoic acid
	Methyl prop-2-enoate
	Methyl propenate
	Methyl-acrylat
	Methylacrylaat
	Methylester kyseliny akrylove
	Metilacrilato
	NSC 24146
	UN 1919
	acrylic acid, methyl ester
	propenoic acid, methyl ester
Inchi:	InChI=1S/C4H6O2/c1-3-4(5)6-2/h3H,1H2,2H3
InchiKey:	BAPJBEWLBFYGME-UHFFFAOYSA-N
Formula:	C ₄ H ₆ O ₂
SMILES:	C=CC(=O)OC
Mol. weight [g/mol]:	86.09
CAS:	96-33-3

Physical Properties

Property code	Value	Unit	Source
af	0.3500		KDB
affp	825.80	kJ/mol	NIST Webbook
basg	794.80	kJ/mol	NIST Webbook
chl	-2069.40 ± 0.67	kJ/mol	NIST Webbook
gf	-163.28	kJ/mol	Joback Method
hf	-333.00	kJ/mol	NIST Webbook

hfl	-362.20	kJ/mol	NIST Webbook
hfus	7.62	kJ/mol	Joback Method
hvap	29.20	kJ/mol	NIST Webbook
hvap	29.20	kJ/mol	NIST Webbook
ie	10.72	eV	NIST Webbook
ie	9.90	eV	NIST Webbook
ie	10.74	eV	NIST Webbook
log10ws	-0.22		Estimated Solubility Method
log10ws	-0.22		Aqueous Solubility Prediction Method
logp	0.345		Crippen Method
mcvol	70.360	ml/mol	McGowan Method
nfpaf	%!d(float64=3)		KDB
nfpah	%!d(float64=2)		KDB
nfpas	%!d(float64=2)		KDB
pc	4300.00	kPa	KDB
rinpol	569.00		NIST Webbook
rinpol	625.00		NIST Webbook
rinpol	607.00		NIST Webbook
rinpol	566.00		NIST Webbook
rinpol	599.00		NIST Webbook
rinpol	607.00		NIST Webbook
rinpol	591.00		NIST Webbook
rinpol	597.00		NIST Webbook
rinpol	598.00		NIST Webbook
rinpol	602.00		NIST Webbook
rinpol	568.00		NIST Webbook
rinpol	574.00		NIST Webbook
rinpol	625.00		NIST Webbook
rinpol	625.00		NIST Webbook
rinpol	569.00		NIST Webbook
rinpol	603.00		NIST Webbook
rinpol	595.00		NIST Webbook
ripol	938.00		NIST Webbook
ripol	941.00		NIST Webbook
ripol	940.00		NIST Webbook
ripol	938.00		NIST Webbook
ripol	937.00		NIST Webbook
tb	354.10 ± 0.60	K	NIST Webbook
tb	353.70	K	NIST Webbook
tb	353.00 ± 2.00	K	NIST Webbook
tb	353.00	K	NIST Webbook
tb	353.50	K	KDB
tc	536.00	K	KDB

tf	197.50	K	NIST Webbook
tf	197.50 ± 0.20	K	NIST Webbook
tf	197.77	K	Aqueous Solubility Prediction Method
tf	196.70	K	KDB
vc	0.265	m3/kmol	KDB
zc	0.2556890		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	128.49	J/molxK	424.95	Joback Method
cpg	145.34	J/molxK	516.53	Joback Method
cpg	139.91	J/molxK	486.00	Joback Method
cpg	134.29	J/molxK	455.47	Joback Method
cpg	122.50	J/molxK	394.42	Joback Method
cpg	150.58	J/molxK	547.06	Joback Method
cpg	116.32	J/molxK	363.89	Joback Method
cpl	172.30	J/molxK	298.15	NIST Webbook
cpl	133.40	J/molxK	297.00	NIST Webbook
cpl	161.50	J/molxK	298.15	NIST Webbook
dvisc	0.0005515	Paxs	284.56	Joback Method
dvisc	0.0004102	Paxs	311.01	Joback Method
dvisc	0.0003197	Paxs	337.45	Joback Method
dvisc	0.0021165	Paxs	205.24	Joback Method
dvisc	0.0007877	Paxs	258.12	Joback Method
dvisc	0.0012203	Paxs	231.68	Joback Method
dvisc	0.0002583	Paxs	363.89	Joback Method
hfust	9.73	kJ/mol	197.50	NIST Webbook
hfust	9.73	kJ/mol	197.50	NIST Webbook
hfust	9.73	kJ/mol	197.50	NIST Webbook
hvapt	38.00	kJ/mol	291.00	NIST Webbook
hvapt	28.80	kJ/mol	318.00	NIST Webbook
hvapt	34.20	kJ/mol	335.00	NIST Webbook

rfi	1.40000		298.15	Volumetric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures
rfi	1.39540		308.15	Volumetric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures
rfi	1.39790		303.15	Volumetric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures
rfi	1.39440		313.15	Volumetric, Viscometric, Ultrasonic, and Refractive Index Properties of Liquid Mixtures of Benzene with Industrially Important Monomers at Different Temperatures
rhoI	921.09	kg/m3	320.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	898.59	kg/m3	338.15	Thermophysical Properties of Three Compounds from the Acrylate Family

rhoI	905.09	kg/m3	333.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	911.53	kg/m3	328.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	914.73	kg/m3	325.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	901.85	kg/m3	335.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	917.91	kg/m3	323.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	924.25	kg/m3	318.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	927.41	kg/m3	315.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	930.55	kg/m3	313.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	933.68	kg/m3	310.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	936.80	kg/m3	308.15	Thermophysical Properties of Three Compounds from the Acrylate Family

rhoI	939.91	kg/m3	305.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	943.00	kg/m3	303.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	946.10	kg/m3	300.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	949.17	kg/m3	298.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	952.25	kg/m3	295.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	955.31	kg/m3	293.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	958.37	kg/m3	290.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	961.42	kg/m3	288.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	967.49	kg/m3	283.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	970.51	kg/m3	280.65	Thermophysical Properties of Three Compounds from the Acrylate Family

rhoI	973.52	kg/m3	278.15	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	949.17	kg/m3	298.15	Self-aggregation of liquids from biomass in aqueous solution
rhoI	947.56	kg/m3	298.15	Densities and volumetric properties of binary mixtures of N,N-dimethylformamide/N,N-dimethylacetamide with some alkyl acrylates at temperatures from 288.15 K to 318.15 K
rhoI	964.46	kg/m3	285.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	908.31	kg/m3	330.65	Thermophysical Properties of Three Compounds from the Acrylate Family
rhoI	955.98	kg/m3	293.00	KDB
sfust	49.26	J/molxK	197.50	NIST Webbook
speedsl	1139.10	m/s	308.15	Ultrasonic study of molecular interactions in binary mixtures of methyl acrylate with 1-alkanols (C4 to C10) at temperatures from (288.15 to 318.15) K
speedsl	1162.20	m/s	303.15	Ultrasonic study of molecular interactions in binary mixtures of methyl acrylate with 1-alkanols (C4 to C10) at temperatures from (288.15 to 318.15) K

speedsl	1183.60	m/s	298.15	Ultrasonic study of molecular interactions in binary mixtures of methyl acrylate with 1-alkanols (C4 to C10) at temperatures from (288.15 to 318.15) K
speedsl	1204.60	m/s	293.15	Ultrasonic study of molecular interactions in binary mixtures of methyl acrylate with 1-alkanols (C4 to C10) at temperatures from (288.15 to 318.15) K
speedsl	1226.60	m/s	288.15	Ultrasonic study of molecular interactions in binary mixtures of methyl acrylate with 1-alkanols (C4 to C10) at temperatures from (288.15 to 318.15) K
speedsl	1117.80	m/s	313.15	Ultrasonic study of molecular interactions in binary mixtures of methyl acrylate with 1-alkanols (C4 to C10) at temperatures from (288.15 to 318.15) K
speedsl	1095.70	m/s	318.15	Ultrasonic study of molecular interactions in binary mixtures of methyl acrylate with 1-alkanols (C4 to C10) at temperatures from (288.15 to 318.15) K

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$

Legend

af:	Acentric Factor
affp:	Proton affinity
basg:	Gas basicity
chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
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
hfust:	Enthalpy of fusion at a given temperature
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
nfpaf:	NFPA Fire Rating
nfpah:	NFPA Health Rating
nfpas:	NFPA Safety Rating
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rhof:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
sfust:	Entropy of fusion at a given temperature
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume
zc:	Critical Compressibility

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