

Carbonic acid, dimethyl ester

Other names:	CH3OCOOCH3 Dimethyl carbonate Dimethyl ester of carbonic acid Methyl carbonate Methyl carbonate ((MeO)2CO) UN 1161
Inchi:	InChI=1S/C3H6O3/c1-5-3(4)6-2/h1-2H3
InchiKey:	IEJIGPNLZYLLBP-UHFFFAOYSA-N
Formula:	C3H6O3
SMILES:	COC(=O)OC
Mol. weight [g/mol]:	90.08
CAS:	616-38-6

Physical Properties

Property code	Value	Unit	Source
affp	830.20	kJ/mol	NIST Webbook
basg	799.20	kJ/mol	NIST Webbook
gf	-364.54	kJ/mol	Joback Method
hf	-482.27	kJ/mol	Joback Method
hfus	7.50	kJ/mol	Joback Method
hvap	37.70 ± 0.20	kJ/mol	NIST Webbook
hvap	38.00 ± 0.20	kJ/mol	NIST Webbook
ie	11.00	eV	NIST Webbook
ie	11.00	eV	NIST Webbook
ie	11.20	eV	NIST Webbook
log10ws	-5.89e-03		Crippen Method
logp	0.399		Crippen Method
mcvol	66.440	ml/mol	McGowan Method
pc	4800.00 ± 300.00	kPa	NIST Webbook
pc	4800.00 ± 150.00	kPa	NIST Webbook
rhoc	342.30 ± 15.31	kg/m3	NIST Webbook
rhoc	357.61 ± 9.91	kg/m3	NIST Webbook
rinpol	620.00		NIST Webbook
tb	363.40 ± 0.40	K	NIST Webbook

tb	337.84	K	Measurement of (vapor + liquid) equilibrium for the systems {methanol + dimethyl carbonate} and {methanol + dimethyl carbonate + tetramethylammonium bicarbonate} at p = (34.43, 67.74) kPa
tb	363.50 ± 0.50	K	NIST Webbook
tb	363.46	K	VLE of the binary systems (dimethyl carbonate with 2-propanol or 2-butanol) and (diethyl carbonate with methylcyclohexane) at 101.3 kPa
tb	363.50 ± 0.50	K	NIST Webbook
tb	363.35	K	Vapour-liquid equilibrium measurements and extractive distillation process design for separation of azeotropic mixture (dimethyl carbonate + ethanol)
tb	363.36	K	Measurement and Correlation of Vapor-Liquid Equilibrium for Binary Systems of Dimethyl Carbonate with Butyl Butyrate, o-Xylene, and Cyclohexanone at 101.3 kPa
tb	363.46	K	Densities and Excess Molar Properties of Dimethyl Carbonate with Alkanes (C6 to C10) and VLE of Dimethyl Carbonate with Alkanes (C9 to C10) at 101.3 kPa
tb	363.46	K	Measurement of Isobaric Vapor - Liquid Equilibria of Dimethyl Carbonate with Acetone, 2-Butanone and 2-Pentanone at 101.3 kPa and Density and Speed of Sound at 298.15 K
tb	363.50 ± 0.50	K	NIST Webbook
tb	363.41	K	Organic Salt Effect of Tetramethylammonium Bicarbonate on Vapor-Liquid Equilibrium of the Dimethyl Carbonate + Methanol System
tb	363.60 ± 0.10	K	NIST Webbook
tb	363.70	K	NIST Webbook
tb	363.00	K	NIST Webbook
tb	363.60 ± 0.40	K	NIST Webbook
tb	363.60 ± 0.30	K	NIST Webbook

tb	363.25	K	Isobaric Vapor Liquid Equilibrium for Methanol + Dimethyl Carbonate + 1-Octyl-3-methylimidazolium Tetrafluoroborate
tc	557.00 ± 2.00	K	NIST Webbook
tc	557.00 ± 2.00	K	NIST Webbook
tf	277.06	K	Efficient determination of crystallisation and melting points at low cooling and heating rates with novel computer controlled equipment
tf	267.55 ± 0.50	K	NIST Webbook
tf	278.16	K	Solid-Liquid Equilibria in Three Binary Mixtures Containing Diphenyl Carbonate
tf	277.57	K	Vapor Pressures and Thermophysical Properties of Dimethyl Carbonate, Diethyl Carbonate, and Dipropyl Carbonate
tf	278.20	K	The solid-liquid equilibrium, excess molar volume and refractive deviation properties of binary systems containing dimethyl carbonate, anisole and phenol
tf	278.16	K	Solid-liquid equilibria and the physical properties of binary systems of diphenyl carbonate, dimethyl carbonate, methyl phenyl carbonate, anisole, methanol and phenol
vc	0.245	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	116.81	J/mol×K	366.75	Joback Method
cpg	127.04	J/mol×K	426.87	Joback Method
cpg	132.12	J/mol×K	456.93	Joback Method
cpg	142.10	J/mol×K	517.05	Joback Method
cpg	146.98	J/mol×K	547.10	Joback Method
cpg	137.14	J/mol×K	486.99	Joback Method
cpg	121.94	J/mol×K	396.81	Joback Method

cpl	164.65	J/mol×K	298.15	Isobaric molar heat capacities of the ternary system dimethyl carbonate + p-xylene + n-decane
cpl	165.51	J/mol×K	288.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure
cpl	165.92	J/mol×K	308.15	Isobaric molar heat capacities of the ternary system dimethyl carbonate + p-xylene + n-decane
cpl	164.80	J/mol×K	333.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	163.80	J/mol×K	328.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure

cpl	163.60	J/molxK	323.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	163.00	J/molxK	318.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	162.90	J/molxK	313.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	173.68	J/molxK	323.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure

cpl	159.80	J/molxK	303.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	157.90	J/molxK	298.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	156.10	J/molxK	293.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	153.20	J/molxK	288.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure

cpl	166.07	J/mol×K	293.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure
cpl	166.30	J/mol×K	308.15	Thermodynamic behaviour of the binary systems dimethyl carbonate + n-octane or n-nonane
cpl	163.61	J/mol×K	288.15	Isobaric molar heat capacities of the ternary system dimethyl carbonate + p-xylene + n-decane
cpl	164.03	J/mol×K	288.15	Thermodynamic behaviour of the binary systems dimethyl carbonate + n-octane or n-nonane
cpl	167.10	J/mol×K	298.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure
cpl	168.48	J/mol×K	303.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure

cpl	165.02	J/mol×K	298.15	Thermodynamic behaviour of the binary systems dimethyl carbonate + n-octane or n-nonane
cpl	169.72	J/mol×K	308.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure
cpl	170.83	J/mol×K	313.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure
cpl	161.70	J/mol×K	308.15	Excess Molar Enthalpies, Molar Heat Capacities, Densities, Viscosities, and Refractive Indices of Dimethyl Sulfoxide + Esters of Carbonic Acid at 308.15 K and Atmospheric Pressure
cpl	172.18	J/mol×K	318.15	Densities, Viscosities, Refractive Indices, and Heat Capacities of Poly(ethylene glycol-ran-propylene glycol) + Esters of Carbonic Acid at (293.15 and 313.15) K and at Atmospheric Pressure

dvisc	0.0003527	Paxs	343.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0005840	Paxs	298.15	Dynamic viscosities of the ternary liquid mixtures (dimethyl carbonate + methanol + ethanol) and (dimethyl carbonate + methanol + hexane) at several temperatures
dvisc	0.0006230	Paxs	293.15	Dynamic viscosities of the ternary liquid mixtures (dimethyl carbonate + methanol + ethanol) and (dimethyl carbonate + methanol + hexane) at several temperatures
dvisc	0.0005490	Paxs	303.15	Dynamic viscosities of the ternary liquid mixtures (dimethyl carbonate + methanol + ethanol) and (dimethyl carbonate + methanol + hexane) at several temperatures

dvisc	0.0004880	Paxs	313.15	Dynamic viscosities of the ternary liquid mixtures (dimethyl carbonate + methanol + ethanol) and (dimethyl carbonate + methanol + hexane) at several temperatures
dvisc	0.0006163	Paxs	293.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0006173	Paxs	293.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0005771	Paxs	298.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure

dvisc	0.0005734	Paxs	298.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0005433	Paxs	303.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0005403	Paxs	303.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0004820	Paxs	313.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0004807	Paxs	313.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure

dvisc	0.0004319	Paxs	323.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0004270	Paxs	323.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0003893	Paxs	333.15	Excess Molar Volumes and Viscosities of Binary Mixtures of Dimethyl Carbonate with Chlorobenzene, Hexane, and Heptane from (293.15 to 353.15) K and at Atmospheric Pressure
dvisc	0.0006230	Paxs	293.15	Density, Viscosity, and Speed of Sound of Dialkyl Carbonates with Cyclopentane and Methyl Cyclohexane at Several Temperatures
dvisc	0.0005840	Paxs	298.15	Density, Viscosity, and Speed of Sound of Dialkyl Carbonates with Cyclopentane and Methyl Cyclohexane at Several Temperatures

dvisc	0.0005490	Paxs	303.15	Density, Viscosity, and Speed of Sound of Dialkyl Carbonates with Cyclopentane and Methyl Cyclohexane at Several Temperatures	
dvisc	0.0005170	Paxs	308.15	Density, Viscosity, and Speed of Sound of Dialkyl Carbonates with Cyclopentane and Methyl Cyclohexane at Several Temperatures	
dvisc	0.0004880	Paxs	313.15	Density, Viscosity, and Speed of Sound of Dialkyl Carbonates with Cyclopentane and Methyl Cyclohexane at Several Temperatures	
hfust	11.58	kJ/mol	278.20	NIST Webbook	
hvapt	36.40	kJ/mol	368.50	NIST Webbook	
pvap	2.28	kPa	276.90	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates	
pvap	2.14	kPa	276.00	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates	
pvap	1.98	kPa	275.00	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates	
pvap	1.92	kPa	274.20	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates	
pvap	566.47	kPa	428.15	Measurements of isothermal vapor-liquid equilibrium of binary methanol/dimethyl carbonate system under pressure	

pvap	382.50	kPa	411.15	Measurements of isothermal vapor-liquid equilibrium of binary methanol/dimethyl carbonate system under pressure
pvap	229.39	kPa	391.15	Measurements of isothermal vapor-liquid equilibrium of binary methanol/dimethyl carbonate system under pressure
pvap	41.02	kPa	337.35	Measurements of isothermal vapor-liquid equilibrium of binary methanol/dimethyl carbonate system under pressure
pvap	2.43	kPa	277.90	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	2.84	kPa	280.70	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	3.27	kPa	283.20	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	3.85	kPa	285.80	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	4.42	kPa	288.20	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	4.98	kPa	290.80	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	5.71	kPa	293.10	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates

pvap	7.57	kPa	298.30	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	8.55	kPa	300.70	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	9.68	kPa	303.20	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	9.98	kPa	304.10	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates
pvap	2.30	kPa	277.96	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	3.12	kPa	282.06	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	4.02	kPa	286.15	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction

pvap	6.31	kPa	294.35	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	6.98	kPa	298.15	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	9.72	kPa	302.54	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	11.70	kPa	306.64	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	14.02	kPa	310.74	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction

pvap	19.82	kPa	318.15	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	23.07	kPa	323.15	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
pvap	101.30	kPa	363.35	Vapour-liquid equilibrium measurements and extractive distillation process design for separation of azeotropic mixture (dimethyl carbonate + ethanol)
pvap	101.30	kPa	363.36	Measurement and Correlation of Vapor-Liquid Equilibrium for Binary Systems of Dimethyl Carbonate with Butyl Butyrate, o-Xylene, and Cyclohexanone at 101.3 kPa
pvap	101.32	kPa	363.25	Isobaric Vapor Liquid Equilibrium for Methanol + Dimethyl Carbonate + 1-Octyl-3-methylimidazolium Tetrafluoroborate
pvap	101.32	kPa	363.41	Organic Salt Effect of Tetramethylammonium Bicarbonate on Vapor-Liquid Equilibrium of the Dimethyl Carbonate + Methanol System

pvap	10.00	kPa	293.00	Vapor-Liquid Equilibrium Data of the Binary Systems in Oxidative Carbonylation of Dimethyl Ether Synthesizing Dimethyl Carbonate
pvap	20.00	kPa	313.00	Vapor-Liquid Equilibrium Data of the Binary Systems in Oxidative Carbonylation of Dimethyl Ether Synthesizing Dimethyl Carbonate
pvap	70.00	kPa	353.00	Vapor-Liquid Equilibrium Data of the Binary Systems in Oxidative Carbonylation of Dimethyl Ether Synthesizing Dimethyl Carbonate
pvap	140.00	kPa	373.00	Vapor-Liquid Equilibrium Data of the Binary Systems in Oxidative Carbonylation of Dimethyl Ether Synthesizing Dimethyl Carbonate
pvap	154.63	kPa	377.15	Measurements of isothermal vapor-liquid equilibrium of binary methanol/dimethyl carbonate system under pressure
pvap	6.72	kPa	295.70	Vapour pressure and enthalpy of vaporization of aliphatic dialkyl carbonates

pvap	4.86	kPa	290.25	Low pressure methane solubility in lithium-ion batteries based solvents and electrolytes as a function of temperature. Measurement and prediction
rfi	1.36600		298.15	Viscosities, Ultrasonic Velocities at (288.15 and 298.15) K, and Refractive Indices at (298.15) K of Binary Mixtures of 2,4,6-Trimethyl-1,3,5-trioxane with Dimethyl Carbonate, Diethyl Carbonate, and Propylene Carbonate
rfi	1.36647		298.15	Isothermal Vapor-Liquid Equilibrium Data at T = 333.15 K and Excess Molar Volumes and Refractive Indices at T = 298.15 K for the Dimethyl Carbonate + Methanol and Isopropanol + Water with Ionic Liquids
rfi	1.35370		298.15	Bubble Temperatures of the Binary Mixtures of Dimethylcarbonate with Some Alcohols at 95.8 kPa
rfi	1.36640		298.15	Isobaric Vapor-Liquid Equilibria of Binary Mixtures of Diethyl Carbonate with Methyl Acetate, n-Propyl Acetate, or Amyl Acetate at 100.17 kPa

rfi	1.36640		298.15	Vapor-Liquid Equilibrium Data for Binary Mixtures of Dimethyl Carbonate with Methyl Acetate, Ethyl Acetate, n-Propyl Acetate, Isopropyl Acetate, n-Butyl Acetate, and Isoamyl Acetate at 93.13 kPa
rfi	1.36640		298.15	Properties of ionic liquid HMIMPF ₆ with carbonates, ketones and alkyl acetates
rfi	1.36654		298.15	Isothermal vapor-liquid equilibrium at T = 333.15 K and excess volumes and molar refractivity deviation at T = 298.15 K for the ternary mixtures {di-methyl carbonate (DMC) + ethanol + benzene} and {DMC+ ethanol + toluene}
rfi	1.36654		298.15	Isothermal vapor liquid equilibrium at 333.15K and excess molar volumes and refractive indices at 298.15K for the mixtures of di-methyl carbonate, ethanol and 2,2,4-trimethylpentane
rfi	1.36720		298.15	Liquid liquid equilibria of the system dimethyl carbonate + methanol +water at different temperatures
rhoI	1061.90	kg/m3	298.20	Liquid Phase Equilibria of Water + Formic Acid + Dimethyl Carbonate Ternary System at Several Temperatures

rhoI	1063.34	kg/m3	298.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate
rhoI	1069.92	kg/m3	293.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate
rhoI	1043.00	kg/m3	313.15	Densities, Excess Molar Volumes, Isothermal Compressibilities, and Isobaric Expansivities of Dimethyl Carbonate + Cyclohexane Systems at Temperatures from (293.15 to 313.15) K and Pressures from (0.1 to 40) MPa
rhoI	1056.50	kg/m3	303.15	Densities, Excess Molar Volumes, Isothermal Compressibilities, and Isobaric Expansivities of Dimethyl Carbonate + Cyclohexane Systems at Temperatures from (293.15 to 313.15) K and Pressures from (0.1 to 40) MPa

rhoI	1063.20	kg/m3	298.15	Densities, Excess Molar Volumes, Isothermal Compressibilities, and Isobaric Expansivities of Dimethyl Carbonate + Cyclohexane Systems at Temperatures from (293.15 to 313.15) K and Pressures from (0.1 to 40) MPa
rhoI	1069.80	kg/m3	293.15	Densities, Excess Molar Volumes, Isothermal Compressibilities, and Isobaric Expansivities of Dimethyl Carbonate + Cyclohexane Systems at Temperatures from (293.15 to 313.15) K and Pressures from (0.1 to 40) MPa
rhoI	1063.19	kg/m3	298.15	Measurement and Correlation of Vapor-Liquid Equilibria at T) 333.15 K and Excess Molar Volumes at T) 298.15 K for Ethanol + Dimethyl Carbonate (DMC), DMC + 1-Propanol, and DMC + 1-Butanol
rhoI	1044.63	kg/m3	313.15	Densities and Surface Tensions of Trimethylbenzene + Dimethyl Carbonate or + Diethyl Carbonate at 298.15 K and 313.15 K

rhoI	1062.97	kg/m3	298.15	Densities and Surface Tensions of Trimethylbenzene + Dimethyl Carbonate or + Diethyl Carbonate at 298.15 K and 313.15 K
rhoI	1063.38	kg/m3	298.15	Ebulliometric Determination of Vapor-Liquid Equilibria for Methanol + Ethanol + Dimethyl Carbonate
rhoI	1063.35	kg/m3	298.15	Excess Properties of Binary Mixtures of Esters of Carbonic Acid + Three Aryl Alcohols at 308.15 K
rhoI	1043.19	kg/m3	313.15	Densities, Viscosities, and Refractive Indices of New Mixtures of Poly(ethylene glycols) + Dialkyl Carbonates at 313.15 K
rhoI	1049.80	kg/m3	308.15	Densities, Excess Molar Volumes, Isothermal Compressibilities, and Isobaric Expansivities of Dimethyl Carbonate + Cyclohexane Systems at Temperatures from (293.15 to 313.15) K and Pressures from (0.1 to 40) MPa
rhoI	1063.10	kg/m3	298.15	Excess Molar Enthalpies for Dimethyl Carbonate with o-Xylene, m-Xylene, p-Xylene, Ethylbenzene or Ethyl Benzoate at 298.15 K and 10.2 MPa

rhoI	1063.50	kg/m3	298.15	Viscosities of Dimethyl Carbonate or Diethyl Carbonate with Alkanes at Four Temperatures. New UNIFAC-VISCO Parameters
rhoI	1063.10	kg/m3	298.15	Excess Molar Enthalpies of Dimethyl Carbonate with o-Xylene, m-Xylene, p-Xylene, Ethylbenzene, or Ethyl Benzoate at 298.15 K
rhoI	1023.03	kg/m3	328.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC
rhoI	1029.83	kg/m3	323.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC
rhoI	1036.57	kg/m3	318.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC
rhoI	1043.29	kg/m3	313.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC
rhoI	1050.00	kg/m3	308.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC
rhoI	1056.65	kg/m3	303.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC
rhoI	1063.27	kg/m3	298.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC

rhoI	1069.86	kg/m3	293.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC	
rhoI	1076.39	kg/m3	288.15	Excess Molar Volume and Viscosity Deviation of [C2mim][NTf2]/[C4mim][NTf2] + DMC/DEC	
rhoI	1063.29	kg/m3	298.15	Separation Effects of Renewable Solvent Ethyl Lactate on the Vapor Liquid Equilibria of the Methanol + Dimethyl Carbonate Azeotropic System	
rhoI	1028.40	kg/m3	323.15	Densities, Viscosities, and Refractive Indices of Dimethyl Carbonate + 1-Hexanol/1-Octanol Binary Mixtures at Different Temperatures	
rhoI	1035.60	kg/m3	318.15	Densities, Viscosities, and Refractive Indices of Dimethyl Carbonate + 1-Hexanol/1-Octanol Binary Mixtures at Different Temperatures	
rhoI	1042.50	kg/m3	313.15	Densities, Viscosities, and Refractive Indices of Dimethyl Carbonate + 1-Hexanol/1-Octanol Binary Mixtures at Different Temperatures	
rhoI	1049.80	kg/m3	308.15	Densities, Viscosities, and Refractive Indices of Dimethyl Carbonate + 1-Hexanol/1-Octanol Binary Mixtures at Different Temperatures	

rhoI	1056.20	kg/m3	303.15	Densities, Viscosities, and Refractive Indices of Dimethyl Carbonate + 1-Hexanol/1-Octanol Binary Mixtures at Different Temperatures
rhoI	1062.80	kg/m3	298.15	Densities, Viscosities, and Refractive Indices of Dimethyl Carbonate + 1-Hexanol/1-Octanol Binary Mixtures at Different Temperatures
rhoI	1069.60	kg/m3	293.15	Densities, Viscosities, and Refractive Indices of Dimethyl Carbonate + 1-Hexanol/1-Octanol Binary Mixtures at Different Temperatures
rhoI	1022.80	kg/m3	328.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1029.60	kg/m3	323.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1056.72	kg/m3	303.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate

rhoI	1036.40	kg/m3	318.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1043.10	kg/m3	313.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1049.70	kg/m3	308.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1056.40	kg/m3	303.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1063.10	kg/m3	298.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1069.70	kg/m3	293.15	Density and viscosity of four binary mixtures of [C2mmim][NTf2]/[C4mmim][NTf2] + dimethyl carbonate/diethyl carbonate
rhoI	1029.88	kg/m3	323.15	Volumetric properties of binary mixtures of ionic liquid with tributyl phosphate and dimethyl carbonate

rhoI	1036.62	kg/m3	318.15	Volumetric properties of binary mixtures of ionic liquid with tributyl phosphate and dimethyl carbonate	
rhoI	1043.44	kg/m3	313.15	Volumetric properties of binary mixtures of ionic liquid with tributyl phosphate and dimethyl carbonate	
rhoI	1050.08	kg/m3	308.15	Volumetric properties of binary mixtures of ionic liquid with tributyl phosphate and dimethyl carbonate	
rhoI	1056.63	kg/m3	303.15	Volumetric properties of binary mixtures of ionic liquid with tributyl phosphate and dimethyl carbonate	
rhoI	1063.25	kg/m3	298.15	Volumetric properties of binary mixtures of ionic liquid with tributyl phosphate and dimethyl carbonate	
rhoI	1069.83	kg/m3	293.15	Volumetric properties of binary mixtures of ionic liquid with tributyl phosphate and dimethyl carbonate	
rhoI	1030.00	kg/m3	323.15	Investigation of solute-solvent interactions in {1-butyl-3-methylimidazoliumBis(trifluoromethylsulfonyl)imide + dimethylcarbonate} mixture using physicochemical properties	

rhoI	1036.80	kg/m3	318.15	Investigation of solute-solvent interactions in {1-butyl-3-methylimidazoliumBis(trifluoromethylsulfonyl)imide + dimethylcarbonate} mixture using physicochemical properties
rhoI	1050.07	kg/m3	308.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate
rhoI	1043.39	kg/m3	313.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate
rhoI	1036.69	kg/m3	318.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate
rhoI	1029.94	kg/m3	323.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate
rhoI	1023.25	kg/m3	328.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate

rhoI	1016.32	kg/m3	333.15	Density, Excess Molar Volume and Conductivity of Binary Mixtures of the Ionic Liquid 1,2-Dimethyl-3-hexylimidazolium Bis(trifluoromethylsulfonyl)imide and Dimethyl Carbonate	
rhoI	1063.26	kg/m3	298.15	Liquid Liquid Equilibria for Ternary Mixtures of Methylphenyl Carbonate, Dimethyl Carbonate, Diphenyl Carbonate, Anisole, Methanol, Phenol, and Water at Several Temperatures	
rhoI	1050.20	kg/m3	308.15	Investigation of solute-solvent interactions in {1-butyl-3-methylimidazoliumBis(trifluoromethylsulfonyl)imide + dimethylcarbonate} mixture using physicochemical properties	
rhoI	1043.50	kg/m3	313.15	Investigation of solute-solvent interactions in {1-butyl-3-methylimidazoliumBis(trifluoromethylsulfonyl)imide + dimethylcarbonate} mixture using physicochemical properties	
rhoI	1056.80	kg/m3	303.15	Investigation of solute-solvent interactions in {1-butyl-3-methylimidazoliumBis(trifluoromethylsulfonyl)imide + dimethylcarbonate} mixture using physicochemical properties	
rhoI	1070.00	kg/m3	298.15	Low pressure carbon dioxide solubility in lithium-ion batteries based electrolytes as a function of temperature. Measurement and prediction	

rhoI	1043.37	kg/m3	313.15	Density, excess volume, and excess coefficient of thermal expansion of the binary systems of dimethyl carbonate with butyl methacrylate, allyl methacrylate, styrene, and vinyl acetate at T = (293.15, 303.15, and 313.15) K
rhoI	1056.75	kg/m3	303.15	Density, excess volume, and excess coefficient of thermal expansion of the binary systems of dimethyl carbonate with butyl methacrylate, allyl methacrylate, styrene, and vinyl acetate at T = (293.15, 303.15, and 313.15) K
rhoI	1069.79	kg/m3	293.15	Density, excess volume, and excess coefficient of thermal expansion of the binary systems of dimethyl carbonate with butyl methacrylate, allyl methacrylate, styrene, and vinyl acetate at T = (293.15, 303.15, and 313.15) K
rhoI	1022.92	kg/m3	328.15	Permittivity and density of binary systems of {dimethyl or diethyl carbonate} + n-dodecane from T=(288.15 to 328.15) K

rhoI	1036.65	kg/m3	318.15	Permittivity and density of binary systems of {dimethyl or diethyl carbonate} + n-dodecane from T=(288.15 to 328.15) K
rhoI	1050.01	kg/m3	308.15	Permittivity and density of binary systems of {dimethyl or diethyl carbonate} + n-dodecane from T=(288.15 to 328.15) K
rhoI	1056.61	kg/m3	303.15	Permittivity and density of binary systems of {dimethyl or diethyl carbonate} + n-dodecane from T=(288.15 to 328.15) K
rhoI	1063.26	kg/m3	298.15	Permittivity and density of binary systems of {dimethyl or diethyl carbonate} + n-dodecane from T=(288.15 to 328.15) K
rhoI	1061.90	kg/m3	298.20	Liquid Phase Equilibria of the Water + Acetic Acid + Dimethyl Carbonate Ternary System at Several Temperatures
rhoI	1076.43	kg/m3	288.15	Permittivity and density of binary systems of {dimethyl or diethyl carbonate} + n-dodecane from T=(288.15 to 328.15) K

rhoI	1063.24	kg/m3	298.15	Isothermal vapor-liquid equilibria at 383.15-413.15 K for the binary system methanol + dimethyl carbonate and the pressure dependency of the azeotropic point
rhoI	1063.26	kg/m3	298.15	Solid-liquid equilibria for selected binary systems containing diphenyl carbonate
rhoI	1060.87	kg/m3	298.15	Solid-liquid equilibria and thermo-physical properties of liquid electrolyte systems for lithium ion batteries
rhoI	1063.30	kg/m3	298.15	Isobaric vapor-liquid equilibria for binary mixtures from methyl methanoate, dimethoxymethane and dimethyl carbonate at 101.33 kPa
rhoI	1063.26	kg/m3	298.15	Ternary liquid-liquid equilibria and binary excess and deviation properties at constant temperature for mixtures of dimethyl carbonate, anisole, methanol, phenol and water
rhoI	1063.26	kg/m3	298.15	Isobaric vapor-liquid equilibrium at 101.3 kPa and excess properties at 298.15 K for binary mixtures of methyl phenyl carbonate with methanol or dimethyl carbonate

rhoI	1063.40	kg/m3	298.15	Vapor pressures and flash points for binary mixtures of tricyclo [5.2.1.0^(2.6)] decane and dimethyl carbonate
rhoI	1069.95	kg/m3	293.15	Permittivity and density of binary systems of {dimethyl or diethyl carbonate} + n-dodecane from T=(288.15 to 328.15) K
srf	0.03	N/m	298.15	Analysis of Surface Tension, Density, and Speed of Sound for the Ternary Mixture Dimethyl Carbonate + p-Xylene + n-Octane
srf	0.03	N/m	308.15	Surface Tension of Dialkyl Carbonates + (Alkanes or 1,4-Dimethylbenzene) and 1,4-Dimethylbenzene + Alkanes Binary Mixtures at T = 308.15 K

Datasets

Mass density, kg/m3

Temperature, K - Liquid	Pressure, kPa - Liquid	Mass density, kg/m3 - Liquid
288.15	100.00	1076.5
288.15	5000.00	1080.6
288.15	10000.00	1084.8
288.15	20000.00	1092.8
288.15	30000.00	1100.3
288.15	40000.00	1107.5
298.15	100.00	1062.9

298.15	5000.00	1068.0
298.15	10000.00	1072.1
298.15	20000.00	1080.5
298.15	30000.00	1088.5
298.15	40000.00	1095.9
308.15	100.00	1049.4
308.15	5000.00	1054.6
308.15	10000.00	1059.4
308.15	20000.00	1068.3
308.15	30000.00	1076.7
308.15	40000.00	1084.5

Reference

<https://www.doi.org/10.1016/j.jct.2012.11.011>

Temperature, K	Pressure, kPa	Mass density, kg/m3
288.15	100.00	1076.83
288.15	5000.00	1081.15
288.15	10000.00	1085.32
288.15	15000.00	1089.52
288.15	20000.00	1093.35
288.15	25000.00	1096.99
288.15	30000.00	1100.63
288.15	35000.00	1104.08
288.15	40000.00	1107.4
293.15	100.00	1070.06
293.15	5000.00	1074.62
293.15	10000.00	1078.93
293.15	15000.00	1083.01
293.15	20000.00	1087.08
293.15	25000.00	1091.03
293.15	30000.00	1094.75
293.15	35000.00	1098.34
293.15	40000.00	1101.84
298.15	100.00	1063.45
298.15	5000.00	1068.0
298.15	10000.00	1072.51
298.15	15000.00	1076.72
298.15	20000.00	1080.9
298.15	25000.00	1084.89
298.15	30000.00	1088.82
298.15	35000.00	1092.44
298.15	40000.00	1096.04
303.15	100.00	1056.61

303.15	5000.00	1061.47
303.15	10000.00	1066.02
303.15	15000.00	1070.49
303.15	20000.00	1074.79
303.15	25000.00	1078.99
303.15	30000.00	1082.9
303.15	35000.00	1086.6
303.15	40000.00	1090.4
308.15	100.00	1049.91
308.15	5000.00	1054.84
308.15	10000.00	1059.69
308.15	15000.00	1064.3
308.15	20000.00	1068.73
308.15	25000.00	1073.0
308.15	30000.00	1077.1
308.15	35000.00	1080.78
308.15	40000.00	1084.38

Reference

<https://www.doi.org/10.1016/j.jct.2019.02.011>

Pressure, kPa	Temperature, K	Mass density, kg/m3
100.00	283.15	1083.17
100.00	288.15	1076.43
100.00	293.15	1069.76
100.00	298.15	1063.1
100.00	303.15	1056.41
100.00	308.15	1049.66
100.00	313.15	1042.86
100.00	318.15	1036.04
100.00	323.15	1029.21
100.00	328.15	1022.24
5000.00	283.15	1087.33
5000.00	288.15	1080.8
5000.00	293.15	1074.22
5000.00	298.15	1067.7
5000.00	303.15	1061.17
5000.00	308.15	1054.59
5000.00	313.15	1047.94
5000.00	318.15	1041.3
5000.00	323.15	1034.63
5000.00	328.15	1027.92
10000.00	283.15	1091.39
10000.00	288.15	1085.02

10000.00	293.15	1078.58
10000.00	298.15	1072.21
10000.00	303.15	1065.82
10000.00	308.15	1059.39
10000.00	313.15	1052.91
10000.00	318.15	1046.44
10000.00	323.15	1039.95
10000.00	328.15	1033.45
15000.00	283.15	1095.34
15000.00	288.15	1089.07
15000.00	293.15	1082.76
15000.00	298.15	1076.52
15000.00	303.15	1070.29
15000.00	308.15	1064.0
15000.00	313.15	1057.67
15000.00	318.15	1051.36
15000.00	323.15	1045.04
15000.00	328.15	1038.69
20000.00	283.15	1099.13
20000.00	288.15	1093.0
20000.00	293.15	1086.83
20000.00	298.15	1080.7
20000.00	303.15	1074.59
20000.00	308.15	1068.43
20000.00	313.15	1062.22
20000.00	318.15	1056.08
20000.00	323.15	1049.91
20000.00	328.15	1043.71
25000.00	283.15	1102.79
25000.00	288.15	1096.79
25000.00	293.15	1090.73
25000.00	298.15	1084.74
25000.00	303.15	1078.74
25000.00	308.15	1072.65
25000.00	313.15	1066.6
25000.00	318.15	1060.6
25000.00	323.15	1054.58
25000.00	328.15	1048.53
30000.00	283.15	1106.39
30000.00	288.15	1100.48
30000.00	293.15	1094.5
30000.00	298.15	1088.62
30000.00	303.15	1082.75
30000.00	308.15	1076.8

30000.00	313.15	1070.82
30000.00	318.15	1064.95
30000.00	323.15	1059.07
30000.00	328.15	1053.14
35000.00	283.15	1109.85
35000.00	288.15	1104.03
35000.00	293.15	1098.19
35000.00	298.15	1092.39
35000.00	303.15	1086.6
35000.00	308.15	1080.78
35000.00	313.15	1074.93
35000.00	318.15	1069.15
35000.00	323.15	1063.39
35000.00	328.15	1057.57
40000.00	283.15	1113.17
40000.00	288.15	1107.5
40000.00	293.15	1101.74
40000.00	298.15	1096.04
40000.00	303.15	1090.35
40000.00	308.15	1084.63
40000.00	313.15	1078.87
40000.00	318.15	1073.21
40000.00	323.15	1067.56
40000.00	328.15	1061.87

Reference

<https://www.doi.org/10.1021/je0342320>

Refractive index (Na D-line)

Pressure, kPa - Liquid	Temperature, K - Liquid	Refractive index (Na D-line) - Liquid
93.00	298.15	1.3664

Reference

<https://www.doi.org/10.1021/acs.jced.7b00372>

Sources

Densities and Excess Molar Properties of Dimethyl Carbonate with Alkanes
Experimental Measurements and Correlations with Liquid-Liquid Equilibria for the Binary and Quaternary Mixtures Formed by Dialkyl Carbonates at T = 298.15 K:

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[illegible]

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<https://www.doi.org/10.1021/je020131a>
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Interactions of Volatile Organic Compounds with the Ionic Liquid **1-Ethyl-3-methylimidazolium** crystallization and melting points at low density and carbon dioxide solubility in pure and binary mixtures. Equipment: Mutual Diffusion Cells, Gas Chromatograph, Carbonate and Dimethyl Sulphate in Dichloromethane $T = (278.15 \text{ to } 338.15) \text{ K}$ on Benzyl Alcohol, ρ Density, Carbamate and Carbonate Density, mixtures of ionic liquid with 200.45 to 259.15 g/mol and 200.45 to 259.15 g/mol. Pressure: Formic Acid + Dimethyl Carbonate For binary and ternary mixtures and temperatures (vapor + liquid) equilibria for binary and ternary mixtures containing alcohols (C1 C4) and dimethyl carbonate;

<https://www.doi.org/10.1016/j.jct.2004.09.009>
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<https://www.doi.org/10.1021/je049777o>
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<https://www.doi.org/10.1021/je500422t>
<https://www.doi.org/10.1016/j.jct.2011.08.006>

affp:	Proton affinity
basg:	Gas basicity
cpg:	Ideal gas heat capacity
cpl:	Liquid phase heat capacity
dvisc:	Dynamic viscosity
gf:	Standard Gibbs free energy of formation

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hf:	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
pc:	Critical Pressure
pvap:	Vapor pressure
rfi:	Refractive Index
rhoc:	Critical density
rhof:	Liquid Density
rinpol:	Non-polar retention indices
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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