Magnesium chloride

Other names:	magnesium dichloride
Inchi:	InChI=1S/ClH.Mg/h1H;/q;+1/p-1
InchiKey:	FOSCDBCOYQJHPN-UHFFFAOYSA-M
Formula:	ClMg
SMILES:	[Mg]Cl
Mol. weight [g/mol]:	59.76
CAS:	14989-29-8

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.44209e+01
Coeff. B	-1.54199e+04
Coeff. C	-1.12100e+02
Temperature range (K), min.	1051.15
Temperature range (K), max.	1685.15

Sources

Mean activity coefficient measurement and thermodynamic modelling of the ternary mixed electrolyte (MgCl2 + LiCl + H2O) at T = 298.15 K	https://www.doi.org/10.1016/j.jct.2015.07.049
Solid-Liquid Equilibria and Pitzer Model Simulation of the Ternary System MgCl2–NH4Cl–H2O at 298.15 K	https://www.doi.org/10.1021/acs.jced.8b00675
Determination and Modeling of MgCl2 Solubility in Methanol, Ethanol, 1-Propanol, and Their Mixtures from 283 to 343 K	https://www.doi.org/10.1021/acs.jced.5b00624
Phase Diagram and Thermodynamic Properties of the Aqueous Quaternary System Rb+, Mg2+//Cl−, Borate-H2O at 323 K	https://www.doi.org/10.1021/acs.jced.6b00024
Experimental Data and Modeling of Solution Density and Heat Capacity in the Na + K + Ca + Mg + Cl + H2O System up to 5.5 mol·kg−1 Ionic Strength: Solubility of Sodium Chloride and Sodium Sulfate Solutions at Different Temperatures	https://www.doi.org/10.1021/acs.jced.7b00553
Physicochemical properties of some electrolytes in water and aqueous solutions: Volumetric, Viscometric, and 1H NMR Studies on Caffeine, Theophylline, and Theobromine in Aqueous Solutions of MgCl2 at Temperatures T = (288.15 to 318.15) K and at Pressure p = 101.3 kPa	https://www.doi.org/10.1016/j.jct.2011.06.024
Solubilities of Imidazolium-based Ionic Liquids in aqueous salt solutions at 298.15 K	https://www.doi.org/10.1021/acs.jced.7b00520
The Yaws Handbook of Vapor Pressure	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Solubilities of imidazolium-based ionic liquids in aqueous salt solutions at 298.15 K	https://www.doi.org/10.1016/j.jct.2011.03.002
Liquid liquid equilibria for the MTBE+water + salts systems at 298.15K:	https://www.doi.org/10.1016/j.fluid.2007.04.026
Densimetric and ultrasonic characterization of pentaerythritol in water and in aqueous NaCl and MgCl2 solutions at different temperatures	https://www.doi.org/10.1016/j.jct.2012.05.033
Thermodynamics Phase Equilibria of the Aqueous Ternary Systems LiCl + MgCl2 + H2O at 348 K	https://www.doi.org/10.1021/je500700d
Solutions at different temperatures: KCl + MgCl2 + H2O at 348 K	https://www.doi.org/10.1021/acs.jced.5b00005
Effect of Inorganic Chloride Salts on Dissolution and Phase Stability of Calcium Sulfate Dihydrate in Aqueous Solutions at 278.15 K to 308.15 K:	https://www.doi.org/10.1021/je700017b
Solubility of KCl and MgCl2 in Binary Solvents Formed by Acetone and Water in the Temperature Range between (293.15 and 323.15) K:	

Viscosity and Density of the Ternary Solution of Magnesium Chloride + Sodium Chloride + Water from (298.15 to 318.15) K:	https://www.doi.org/10.1021/je100111w
Solubility of CO2 in Aqueous Solutions of CaCl2 or MgCl2 and in a Synthetic Formation Brine at Temperatures up to 423 K and Pressures up to 40 MPa:	https://www.doi.org/10.1021/je400396s
Mineral solubilities of salts in the three quaternary systems: LiCl-NaCl-MgCl2-H2O, LiCl-KCl-MgCl2-H2O and Li2SO4-K2SO4-MgSO4-H2O at 288.15 K:	https://www.doi.org/10.1016/j.jct.2018.12.011
Salt Water Phase Equilibria in Ternary Systems K+,(Mg2+), NH4+//Cl H2O at T = 298 K:	https://www.doi.org/10.1021/acs.jced.6b00981
Solid Liquid Phase Equilibria of (Mg(H2PO2)2 + NaH2PO2 + H2O) and (Mg(H2PO2)2 + MgCl2 + H2O) Systems at 323.15 K:	https://www.doi.org/10.1021/acs.jced.6b00828
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C14989298&Units=SI
Salts Effect on Isobaric Vapor-Liquid Equilibrium for the Azeotropic Mixture 2-Propanol + Water:	https://www.doi.org/10.1021/acs.jced.8b01116
Densities and apparent molar volumes of myo-inositol in aqueous solutions of alkaline earth metal salts at different temperatures:	https://www.doi.org/10.1016/j.tca.2009.01.003
Phase Equilibria in the Quaternary Systems KCl K2B4O7 K2SO4 H2O and MgCl2 MgB4O7 MgSO4 H2O at 273 K:	https://www.doi.org/10.1021/acs.jced.6b00926
Effect of NaBr, KCl, KBr, and MgCl2 on Viscosities of Aqueous Glycine and L-Alanine Solutions at 298.15 K:	https://www.doi.org/10.1021/je050048y
Densities and vapor pressures of mixed-solvent desiccant systems containing {glycol (diethylene, or triethylene, or tetraethylene glycol) + salt (magnesium chloride) + water}:	https://www.doi.org/10.1016/j.jct.2010.04.014
Water Activity and Solubility Measurements and Model Simulation of the CsCl-MgCl2-H2O Ternary System at 323.15 K:	https://www.doi.org/10.1021/acs.jced.7b00459
Effect of bivalent cation inorganic salts on isobaric vapor-liquidequilibrium of methyl acetate - methanol system:	https://www.doi.org/10.1016/j.fluid.2014.07.005
Densities of Aqueous MgCl2(aq), CaCl2(aq), KI(aq), NaCl(aq), KCl(aq), AlCl3(aq), and (0.964 NaCl + 0.136 KCl)(aq) at Temperatures Between (283 and 472) K, Pressures up to 68.5 MPa, and Molalities up to 6 mol*kg-1:	https://www.doi.org/10.1021/je2013704
Effect of Inorganic Salts on the Isobaric Vapor Liquid Equilibrium of the Ethyl Acetate Ethanol System:	https://www.doi.org/10.1021/je300886k
Thermodynamics and Phase Equilibrium of the System CsCl MgCl2 H2O at 298.15 K:	https://www.doi.org/10.1021/acs.jced.6b00952
Densities, Partial Molar Volumes, and Heat Capacities of Glycine, L-Alanine, and L-Leucine in Aqueous Magnesium Chloride Solutions at Different Temperatures:	https://www.doi.org/10.1021/je034168m
Volumetric and Viscosity Properties of MgSO4/CuSO4 in Sucrose + Water Solutions at 298.15 K:	https://www.doi.org/10.1021/je700732u
Solubilities and Modeling of Glycine in Mixed NaCl MgCl2 Solutions in a Highly Concentrated Region:	https://www.doi.org/10.1021/acs.jced.6b00403
Measurement of Mineral Solubilities in the Quaternary Systems KCl MgCl2 ZnCl2 H2O and KCl MgCl2 PbCl2 H2O at 373 K:	https://www.doi.org/10.1021/acs.jced.6b00960
Electrical Conductivity of Electrolytes Found In Natural Waters from (5 to 90) deg C:	https://www.doi.org/10.1021/je101012n
A Low-Temperature Thermodynamic Model for the Na-K-Ca-Mg-Cl System Incorporating New Experimental Heat Capacities in KCl, MgCl2, and CaCl2 Solutions:	https://www.doi.org/10.1021/acs.jced.6b00812
Solid Liquid Phase Equilibrium in the Ternary System MgSO4 + MgCl2 + H2O at 298.15 K:	https://www.doi.org/10.1021/acs.jced.7b00894
Studies on Phase Equilibria in the Quaternary Systems LiCl-KCl-MgCl2-H2O and Li2B4O7-Na2B4O7-MgB4O7-H2O at 273 K:	https://www.doi.org/10.1021/acs.jced.7b00800
Partial molar volume and partial molar isentropic compressibility study of glycine betaine in aqueous and aqueous KCl or MgCl2 solutions at temperatures, T = 288.15-318.15 K:	https://www.doi.org/10.1016/j.tca.2013.08.002
Density and vapour pressure of mixed-solvent desiccant systems (propylene glycol or dipropylene glycol or tripropylene glycol + magnesium chloride + water):	https://www.doi.org/10.1016/j.jct.2014.08.005
Dilution thermodynamics of the biologically relevant cation mixtures:	https://www.doi.org/10.1016/j.tca.2013.10.019
Solid-Liquid Phase Diagram for the System MgCl2-NH3-CH3OH at 298 K:	https://www.doi.org/10.1021/je9008359
Solid Liquid Phase Equilibria in the Ternary Systems (LiCl + MgCl2 + H2O) and (Li2SO4 + MgSO4 + H2O) at 288.15 K:	https://www.doi.org/10.1021/je500946w
Solubility of ammonium chloride in a MgCl2-NH4Cl-NH3-H2O system at 298 K: Experiments, modeling and prediction:	https://www.doi.org/10.1016/j.fluid.2014.10.014
Experimental and Modeling of Vapor Liquid Equilibria for Electrolyte Solution Systems:	https://www.doi.org/10.1021/je500623w
Heat Capacity of Several Mixed-Solvent Desiccants Containing Glycol + Water + MgCl2:	https://www.doi.org/10.1016/j.tca.2012.02.017
Solubility Equilibria in the System Mg(OH)2 - MgCl2 - H2O from 298 K to 393 K:	https://www.doi.org/10.1021/acs.jced.6b00928
Thermodynamic Equilibrium of Aqueous Two-Phase Systems Composed of [C4mim]BF4 + MgCl2/Na2WO4 + H2O at Different Temperatures:	https://www.doi.org/10.1021/acs.jced.5b01010
Salt effects in aqueous surface-active ionic liquid 1-dodecyl-3-methylimidazolium bromide solutions: Volumetric and compressibility property changes and critical aggregation concentration shifts:	https://www.doi.org/10.1016/j.jct.2014.03.001
Enthalpies of Dilution for myo-Inositol in Aqueous Alkali Metal Salt and Alkaline Earth Metal Salt Solutions:	https://www.doi.org/10.1021/je060492g
Density and Viscosity of Magnesium Chloride Solution in N-Methylacetamide over the Temperature Range from 308.15 to 328.15 K at Ambient Pressure:	https://www.doi.org/10.1021/acs.jced.9b00046
Solubility and Stability of Nesquehonite (MgCO3*3H2O) in NaCl, KCl, MgCl2, and NH4Cl Solutions:	https://www.doi.org/10.1021/je800438p
Thermodynamic Properties of Ternary Aqueous Solutions with the Common Magnesium Cation {Mg/Cl/NO3/SO4}(aq) at T) 298.15 K:	https://www.doi.org/10.1021/je7002176
Phase Equilibria in the Quaternary Systems KCl PbCl2 ZnCl2 H2O and MgCl2 PbCl2 ZnCl2 H2O at 373 K:	https://www.doi.org/10.1021/acs.jced.7b00218
Solid-liquid phase equilibria of (Mg(H2PO2)2 + H2O), (Mg(H2PO2)2 + NaH2PO2 + H2O) and (Mg(H2PO2)2 + MgCl2 + H2O) systems:	https://www.doi.org/10.1016/j.fluid.2015.11.033
Solid-liquid equilibrium in the aqueous system containing the chlorides of lithium, rubidium and magnesium at 323 K:	https://www.doi.org/10.1016/j.fluid.2014.01.037
Phase Equilibria of the Ternary Systems ZnCl2-MgCl2-H2O and ZnCl2-PbCl2-H2O at 323 K:	https://www.doi.org/10.1021/acs.jced.8b00605

Viscometric studies on saccharides in aqueous magnesium chloride solutions at T = (288.15 to 318.15) K. https://www.doi.org/10.1016/j.jct.2012.02.016

Phase Diagrams of the Quaternary System NaCl MgCl2 NH4Cl in Water at 0 and 25 deg C and Their Application: https://www.doi.org/10.1021/acs.jced.5b00639

Legend

pvap: Vapor pressure