TETRAMETHYLAMMONIUM CHLORIDE

Other names:	Ammonium, tetramethyl-, chloride
	Methanaminium, N,N,N-trimethyl-, chloride
	TMAC
	USAF AN-8
Inchi:	InChI=1S/C4H12N.ClH/c1-5(2,3)4;/h1-4H3;1H/q+1;/p-1
InchiKey:	OKIZCWYLBDKLSU-UHFFFAOYSA-M
Formula:	C4H12ClN
SMILES:	C[N+](C)(C)C.[Cl-]
Mol. weight [g/mol]:	109.60

Physical Properties

Property code	Value	Unit	Source
ss	190.71	J/mol×K	NIST Webbook
tf	612.87	K	Measurement and PC-SAFT modeling of solid-liquid equilibrium of deep eutectic solvents of quaternary ammonium chlorides and carboxylic acids
tf	614.70	K	Can cholinium chloride form eutectic solvents with organic chloride-based salts?

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cps	156.94	J/mol×K	298.15	NIST Webbook

Sources

Surface and Micellar Properties of Ionic Liquid 1-Dodecyl-3-methylimidazolium Bromide in Aqueous Solution in the Absence and Presence of a Series of Organic Electrolytes:	https://www.doi.org/10.1021/je5010005
Modeling solubility and acid base properties of some polar side chain amino acids in NaCl and (CH3)4NCl aqueous solutions at different ionic strengths and temperatures:	https://www.doi.org/10.1016/j.fluid.2017.11.030

Can cholinium chloride form eutectic solvents with organic chloride-based salts?:	https://www.doi.org/10.1016/j.fluid.2019.04.019
Solubility of Sodium Oxalate in Concentrated Electrolyte Solutions:	https://www.doi.org/10.1021/acs.jced.7b00690
Ammonium-Based Ionic Liquid as an Entrainer for the Separation of n-Propanol + Water and Isopropanol + Water Mixtures:	https://www.doi.org/10.1021/acs.jced.7b00523
Chemèo Relay (1.0, beta):	
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C75570&Units=SI
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
Thermodynamics of proton binding and weak (Cl-, Na+ and K+) species formation, and activity coefficients of 1,2-dimethyl-3-hydroxypyridin-4-one (deferiprone):	https://www.doi.org/10.1016/j.jct.2014.05.006
Solubility, acid-base properties and thermodynamics of interaction between three phosphonate derivatives and the main cationic components (H+, Na+, Mg2+ and Ca2+) of natural fluids:	https://www.doi.org/10.1016/j.jct.2018.03.032
Phase equilibrium of high pressure CO2 and deep eutectic solvents formed by quaternary ammonium salts and phenol:	https://www.doi.org/10.1016/j.fluid.2016.08.020
Glycerol-Based Deep Eutectic Solvents as Extractants for the Separation of MEK and Ethanol via Liquid Liquid Extraction:	https://www.doi.org/10.1021/acs.jced.5b00717
Chemèo Relay (1.0):	
Tetramethylammonium chloride + glycerol deep eutectic solvent as separation agent for organic liquid mixtures: Assessment from experimental limiting activity coefficients:	https://www.doi.org/10.1016/j.fluid.2018.06.003
Phase equilibria of phenol + toluene + quaternary ammonium salts for the separation of phenol from model oil with forming deep eutectic solvents:	https://www.doi.org/10.1016/j.fluid.2016.08.013
Vapor Pressure Osmometry Determination of the Osmotic and Activity Coefficients of Dilute Aqueous Solutions of Symmetrical Tetraalkyl Ammonium Halides at 308.15 K:	https://www.doi.org/10.1021/je400821q
Measurements of activity coefficient at infinite dilution for organic solutes in tetramethylammonium chloride + ethylene glycol deep eutectic solvent using gas-liquid chromatography:	https://www.doi.org/10.1016/j.fluid.2018.01.019
Solubility and Activity Coefficients of Acidic and Basic Nonelectrolytes in Aqueous Salt Solutions. 2. Solubility and Activity Coefficients of o-Phthalic Acid and L-Cystine in NaCl(aq), (CH3)4NCl(aq), and (C2H5)4NI(aq) at Different Ionic Strengths and at t = 25 deg C:	https://www.doi.org/10.1021/je0502039
Experimental determinations of the LLE data of systems consisting of hexane + benzene + deep eutectic solvent and prediction using the Conductor-like Screening Model for Real Solvents:	https://www.doi.org/10.1016/j.jct.2016.09.021
Measurement and PC-SAFT modeling of solid-liquid equilibrium of deep eutectic solvents of quaternary ammonium chlorides and carboxylic acids:	https://www.doi.org/10.1016/j.fluid.2017.04.007

Legend

cps:	Solid phase heat capacity
ss:	Solid phase molar entropy at standard conditions
tf:	Normal melting (fusion) point