

lithium fluoride

Other names:	lithium monofluoride lithium monofluoride (LiF)
Inchi:	InChI=1S/FH.Li/h1H;/q;+1/p-1
InchiKey:	PQXKHXYIUOZZFA-UHFFFAOYSA-M
Formula:	FLi
SMILES:	[Li]F
Mol. weight [g/mol]:	25.94
CAS:	7789-24-4

Physical Properties

Property code	Value	Unit	Source
ea	1.35	eV	NIST Webbook
ie	11.30	eV	NIST Webbook
tf	1117.00	K	An anion effect on the separation of AgI-containing melts using sound waves
tf	1117.00	K	Adiabatic compressibility along the two-phase saturation line for the molten (LiF + CsCl) system

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
econd	855.00	S/m	1131.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	858.00	S/m	1136.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

econd	868.00	S/m	1151.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	877.00	S/m	1169.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	880.00	S/m	1173.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	886.00	S/m	1184.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	888.00	S/m	1190.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	890.00	S/m	1194.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	892.00	S/m	1198.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	896.00	S/m	1206.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	897.00	S/m	1210.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

econd	900.00	S/m	1217.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	899.00	S/m	1221.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	905.00	S/m	1229.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	907.00	S/m	1232.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	907.00	S/m	1233.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	908.00	S/m	1237.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	911.00	S/m	1244.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	911.00	S/m	1245.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides

econd	916.00	S/m	1258.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	918.00	S/m	1267.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	918.00	S/m	1269.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
econd	923.00	S/m	1283.00	Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides
hsubt	268.20 ± 4.20	kJ/mol	1097.00	NIST Webbook
hsubt	267.80 ± 4.20	kJ/mol	1035.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.80572e+01
Coeff. B	-2.54550e+04
Coeff. C	-5.20100e+01
Temperature range (K), min.	1320.15
Temperature range (K), max.	1946.15

Sources

The Yaws Handbook of Vapor Pressure: Adiabatic compressibility along the two-phase saturation line for the molten (LiF + CsCl) system:

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>

<https://www.doi.org/10.1016/j.jct.2019.07.003>

An anion effect on the separation of AgI-containing melts using sound waves
Solubilities of Five Lithium Salts in 1-Butyl-3-methylimidazolium NIST Webbook
1-Butyl-3-methylimidazolium Tetrafluoroborate from 298.15 to 343.15 K
Ultrasound velocity in dissolving alkali halide melts:
Temperatures of Primary Crystallization and Density of the KF + Surface Energy of Molten Systems
Solubility of Carbon Dioxide in LiF-Li₂CO₃ Molten Salt System: Liquid + liquid equilibrium in mixtures of lithium fluoride with potassium and rubidium halides.
Physical Properties of the System (LiF + NaF + KF(eut.) + RbCl) in the Molten State
Thermodynamic Properties of the System (LiF + NaF + KF(eut.) + RbCl) in the Molten State
Equilibrium Properties in five different solvents and in a few ternary mixtures:

<https://www.doi.org/10.1016/j.jct.2015.03.022>
<https://www.doi.org/10.1021/acs.jced.8b00618>
<http://webbook.nist.gov/cgi/cbook.cgi?ID=C7789244&Units=SI>
<https://www.doi.org/10.1016/j.jct.2010.10.021>
<https://www.doi.org/10.1021/acs.jced.8b00157>
<https://www.doi.org/10.1016/j.tca.2016.03.033>
<https://www.doi.org/10.1021/acs.jced.6b00043>
<https://www.doi.org/10.1016/j.jct.2012.02.015>
<https://www.doi.org/10.1016/j.jct.2014.03.024>
<https://www.doi.org/10.1021/acs.jced.5b00536>
<https://www.doi.org/10.1016/j.fluid.2017.12.034>

Legend

ea: Electron affinity
econd: Electrical conductivity
hsubt: Enthalpy of sublimation at a given temperature
ie: Ionization energy
pvap: Vapor pressure
tf: Normal melting (fusion) point

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