

# Sodium nitrate

Other names:	nitric acid sodium salt
InChI:	InChI=1S/NO3.Na/c2-1(3)4;/q-1;+1
InchiKey:	VWDWKYIASSYTQR-UHFFFAOYSA-N
Formula:	NNaO3
SMILES:	O=[N+]([O-])O[Na]
Mol. weight [g/mol]:	84.99

## Physical Properties

Property code	Value	Unit	Source
hfus	16.06	kJ/mol	Study on preparation and thermal properties of sodium nitrate/silica composite as shape-stabilized phase change material
tf	579.05	K	Crystallization of ionic salts for calibration of differential scanning calorimeters

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
dvisc	0.0014300	Paxs	752.10	Viscosity of Molten Sodium Nitrate
dvisc	0.0027400	Paxs	599.30	Viscosity of Molten Sodium Nitrate
dvisc	0.0026580	Paxs	600.00	Viscosity of Molten Sodium Nitrate
dvisc	0.0026380	Paxs	600.30	Viscosity of Molten Sodium Nitrate
dvisc	0.0024370	Paxs	613.20	Viscosity of Molten Sodium Nitrate
dvisc	0.0021550	Paxs	640.90	Viscosity of Molten Sodium Nitrate

dvisc	0.0020500	Paxs	653.60	Viscosity of Molten Sodium Nitrate
dvisc	0.0018110	Paxs	673.20	Viscosity of Molten Sodium Nitrate
dvisc	0.0017680	Paxs	676.80	Viscosity of Molten Sodium Nitrate
dvisc	0.0017190	Paxs	691.90	Viscosity of Molten Sodium Nitrate
dvisc	0.0016270	Paxs	709.70	Viscosity of Molten Sodium Nitrate
dvisc	0.0015370	Paxs	714.60	Viscosity of Molten Sodium Nitrate
dvisc	0.0015640	Paxs	732.40	Viscosity of Molten Sodium Nitrate
dvisc	0.0028540	Paxs	590.30	Viscosity of Molten Sodium Nitrate
econd	125.10	S/m	643.00	Electrical Conductivity of LiCl-KCl-CsCl Melts
econd	120.90	S/m	633.00	Electrical Conductivity of LiCl-KCl-CsCl Melts
econd	116.50	S/m	623.00	Electrical Conductivity of LiCl-KCl-CsCl Melts
econd	112.00	S/m	613.00	Electrical Conductivity of LiCl-KCl-CsCl Melts
econd	107.60	S/m	603.00	Electrical Conductivity of LiCl-KCl-CsCl Melts
econd	103.20	S/m	593.00	Electrical Conductivity of LiCl-KCl-CsCl Melts
econd	98.70	S/m	583.00	Electrical Conductivity of LiCl-KCl-CsCl Melts

# Sources

- Enthalpies of transfer of amino acids from water to aqueous solutions of some inorganic acids and Acetone**  
**Compressibilities of Some Mineral Salts in Water: Measurement and thermodynamic modeling of the temperature dependence of vapor pressure over NaNO<sub>3</sub> Saturated Aqueous Solutions at 298.15 K**  
**Solubility and Viscosity of Aqueous NaCl and NaNO<sub>3</sub> Salt Solutions at 298.15 K in alpha-phase KCl + H<sub>2</sub>O, 2000–2500 K**  
**Activity Coefficients of Aqueous NaNO<sub>3</sub> + NaCl + H<sub>2</sub>O, NaNO<sub>3</sub> + KCl + H<sub>2</sub>O, and NaNO<sub>3</sub> + LiCl + H<sub>2</sub>O, 2000–2500 K**  
**Experimental Data and Thermodynamic Modeling of the NaCl-NaNO<sub>3</sub>-H<sub>2</sub>O System at 298.15 K**  
**Densities of the NaNO<sub>3</sub> + NaCl + H<sub>2</sub>O and NaNO<sub>3</sub> + KCl + H<sub>2</sub>O Systems and Thermodynamic Study of the NaNO<sub>3</sub>-Cd(NO<sub>3</sub>)<sub>2</sub> H<sub>2</sub>O Ternary System at 298.15 K**  
**Properties of the NaNO<sub>3</sub> + Na<sub>2</sub>CO<sub>3</sub> + H<sub>2</sub>O System**  
**Setchenov's Constants in Aqueous Solutions of Intermetallic Compounds: I-leucine-, I-asparagine-, and Glycine- $\gamma$ -Molten Sodium Nitrate Systems**  
**Activity of Water in Aqueous Solutions of Sodium Citrate and in Aqueous Sodium Chloride and the Influence on Ionic Liquid Equilibrium of 1-butanol + Watery NaNO<sub>3</sub> + H<sub>2</sub>O**  
**Coefficients for Two- and Three-Basic Amino Acids in MIBK/water**  
**liquid-liquid equilibrium: Measuring the solubility of the NaCl/H<sub>2</sub>O and NaNO<sub>3</sub>/H<sub>2</sub>O, NO<sub>3</sub>-H<sub>2</sub>O Quaternary Systems**  
**Investigation of Solid-Liquid Equilibria on the Na<sup>+</sup>/Cl<sup>-</sup>, NO<sub>3</sub><sup>-</sup>, SO<sub>4</sub><sup>2-</sup>-H<sub>2</sub>O**  
**The Influence of Temperature and H<sub>2</sub>O Temperature on the liquid-liquid equilibrium of some phenolics-water**  
**L-Phenylalanine, L-Leucine, L-Glutamic Acid, and Their Solubility and Solvation Parameters in Aqueous Media:**  
**Experimental determination of the solubility and transfer of alkyl ammonium bromides from aqueous binary and ternary mixtures of polymers and different solvents**  
**Calorimetry of Transfer of Amino Acids from Water to Aqueous Solutions of Alkaline Metal Nitrates**  
**Solubility of the NaCl-NaNO<sub>3</sub>-H<sub>2</sub>O quaternary system at 298.15 K**  
**Effects in aqueous surface-active ionic liquid**  
**Solid-Liquid Equilibrium of Aqueous Solutions of Phenol, Phenol-Cresol, and Phenol-Cresol-Carboxylic Acid Solutions with Concentration Compositions, Thermodynamic Modeling:**  
**Solubility of some phenolic compounds in aqueous alkali metal salt solutions and thermal properties of sodium nitrate/silica composite equilibrium systems**  
**Vapor-liquid equilibrium in phase change materials (solvent + salt) at low water concentrations but high ratios of salt to water: experimental results and modeling:**
- <https://www.doi.org/10.1016/j.tca.2005.10.013>  
<https://www.doi.org/10.1021/je030205y>  
<https://www.doi.org/10.1016/j.fluid.2011.05.003>  
<https://www.doi.org/10.1021/je800963g>  
<https://www.doi.org/10.1016/j.jct.2011.03.002>  
<https://www.doi.org/10.1016/j.fluid.2016.12.003>  
<https://www.doi.org/10.1021/acs.jced.8b00198>  
<https://www.doi.org/10.1021/acs.jced.5b00682>  
<https://www.doi.org/10.1021/je800638f>  
<https://www.doi.org/10.1021/acs.jced.6b00790>  
<https://www.doi.org/10.1021/acs.jced.8b00415>  
<https://www.doi.org/10.1021/acs.jced.9b00384>  
<https://www.doi.org/10.1016/j.tca.2006.04.004>  
<https://www.doi.org/10.1007/s10765-006-0119-1>  
<https://www.doi.org/10.1021/je034258r>  
<https://www.doi.org/10.1016/j.fluid.2010.09.013>  
<https://www.doi.org/10.1021/je300701m>  
<https://www.doi.org/10.1016/j.fluid.2015.11.018>  
<https://www.doi.org/10.1021/acs.jced.7b01015>  
<https://www.doi.org/10.1021/acs.jced.8b01110>  
<https://www.doi.org/10.1016/j.fluid.2011.03.018>  
<https://www.doi.org/10.1021/je1000878>  
<https://www.doi.org/10.1021/acs.jced.9b00349>  
<https://www.doi.org/10.1021/je900909s>  
<https://www.doi.org/10.1021/acs.jced.9b00363>  
<https://www.doi.org/10.1016/j.fluid.2009.12.028>  
<https://www.doi.org/10.1016/j.fluid.2018.03.002>  
<https://www.doi.org/10.1016/j.tca.2016.08.003>  
<https://www.doi.org/10.1021/je050296u>  
<https://www.doi.org/10.1021/je049707h>  
<https://www.doi.org/10.1016/j.fluid.2017.04.011>  
<https://www.doi.org/10.1016/j.jct.2014.03.001>  
<https://www.doi.org/10.1021/acs.jced.8b01193>  
<https://www.doi.org/10.1016/j.jct.2013.08.018>  
<http://webbook.nist.gov/cgi/cbook.cgi?ID=B6009950&Units=SI>  
<https://www.doi.org/10.1016/j.jct.2008.06.006>  
<https://www.doi.org/10.1016/j.tca.2015.05.023>  
<https://www.doi.org/10.1016/j.fluid.2004.07.017>

# Legend

<b>dvisc:</b>	Dynamic viscosity
<b>econd:</b>	Electrical conductivity
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>tf:</b>	Normal melting (fusion) point

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