

# Ammonium sulfate

Other names:	ammonium sulphate
Inchi:	InChI=1S/H8N2O4S/c1-5-7(3,4)6-2/h1-2H4
InchiKey:	KTMPPTWZBSFVPI-UHFFFAOYSA-N
Formula:	H8N2O4S
SMILES:	NOS(=O)(=O)ON
Mol. weight [g/mol]:	132.14
CAS:	7783-20-2

## Physical Properties

Property code	Value	Unit	Source
gf	-596.52	kJ/mol	Joback Method
hf	-693.54	kJ/mol	Joback Method
hfus	2.85	kJ/mol	Phase transitions of some sulfur-containing ammonium salts
hvap	60.33	kJ/mol	Joback Method
log10ws	0.34		Crippen Method
logp	-1.988		Crippen Method
mcvol	70.650	ml/mol	McGowan Method
pc	10348.87	kPa	Joback Method
tb	437.08	K	Joback Method
tc	635.89	K	Joback Method
tf	339.30	K	Joback Method
vc	0.256	m3/kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	144.70	J/molxK	437.08	Joback Method
cpg	149.29	J/molxK	470.22	Joback Method
cpg	153.87	J/molxK	503.35	Joback Method
cpg	158.40	J/molxK	536.49	Joback Method
cpg	162.86	J/molxK	569.62	Joback Method
cpg	167.20	J/molxK	602.76	Joback Method

**Thermal Conductivity and Density of (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> + H<sub>2</sub>O, NH<sub>4</sub>NO<sub>3</sub> + H<sub>2</sub>O, and Na<sub>2</sub>SO<sub>4</sub> + H<sub>2</sub>O in the 0–40 wt% Range for Ternary System (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub> + Na<sub>2</sub>SO<sub>4</sub> + H<sub>2</sub>O at T = (303.15 and 313.15) K and p = 0.1 MPa:**

Refractive Indices of Sodium, Potassium, and Ammonium Sulfates in Triglycidyl Ether Solidification of 1-alkyl-3-methylimidazolium chloride ionic liquids by using inorganic and polyethylene glycol 2000 and sulphate salts as additives of the quaternary system  $K^+$ ,  $NH_4^+$ ,  $Cl^-$ ,  $SO_4^{2-}$ -H<sub>2</sub>O at Solid-liquid equilibrium:  $CO(NH_2)_2$ - $MgSO_4$ - $(NH_4)_2SO_4$ -H<sub>2</sub>O system at 0 and 25 °C:

MgF<sub>2</sub> Solubility in  $MgF_2$  + Salt + H<sub>2</sub>O Systems (Salt =  $MgSO_4$ ,  $(NH_4)_2SO_4$ ,  $NH_4Cl$ ) and phase transitions of some sulfur-containing ammonium salts: Aqueous biphasic systems involving alkylsulfate-based ionic liquids: The effect of ammonium sulfate on the solubility of amino acids in water at (298.15 and 323.15) K:

<https://www.doi.org/10.1021/je9010129>  
<https://www.doi.org/10.1016/j.jct.2015.04.004>  
<https://www.doi.org/10.1016/j.jct.2013.10.015>  
<https://www.doi.org/10.1016/j.jct.2019.03.003>  
<https://www.doi.org/10.1016/j.fluid.2017.05.002>  
[https://en.wikipedia.org/wiki/Joback\\_method](https://en.wikipedia.org/wiki/Joback_method)  
<https://www.doi.org/10.1021/acs.jced.8b00772>  
<https://www.doi.org/10.1016/j.tca.2014.08.035>  
<https://www.doi.org/10.1016/j.jct.2011.04.024>  
<https://www.doi.org/10.1016/j.jct.2008.09.019>

## Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature
<b>tf:</b>	Normal melting (fusion) point
<b>vc:</b>	Critical Volume

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