calcium oxide

Other names:	calcia
	calcium monoxide
	caloxol CP 2
	caloxol W 3
	calx
	calxyl
	desical P
	rhenosorb C
	rhenosorb F
Inchi:	InChI=1S/Ca.O
InchiKey:	ODINCKMPIJJUCX-UHFFFAOYSA-N
Formula:	CaO
SMILES:	O=[Ca]
Mol. weight [g/mol]:	56.08
CAS:	1305-78-8

Physical Properties

Property code	Value	Unit	Source
affp	1190.60	kJ/mol	NIST Webbook
basg	1162.30	kJ/mol	NIST Webbook
hfs	-634.92 ± 0.90	kJ/mol	NIST Webbook
ie	6.50 ± 0.30	eV	NIST Webbook
ie	6.66 ± 0.18	eV	NIST Webbook
ie	6.66 ± 0.18	eV	NIST Webbook
ie	7.00 ± 1.00	eV	NIST Webbook
ie	6.90 ± 0.15	eV	NIST Webbook
ie	7.00 ± 1.00	eV	NIST Webbook
ie	6.50	eV	NIST Webbook
ss	38.10 ± 0.40	J/mol×K	NIST Webbook

Sources

Thermodynamic stability of Ca3TeO6 determined by a solid electrolyte EMF method:	https://www.doi.org/10.1016/j.tca.2015.07.001
Solubility study at high phosphorus pentoxide concentration in ternary system CaCO3+P2O5+H2O at 25, 35 and 70 deg.C:	https://www.doi.org/10.1016/j.fluid.2018.09.006

Gibbs energy of formation of Ca7V4O17:	https://www.doi.org/10.1016/j.jct.2013.03.019
Experimental determination of diffusion and mass transfer of boron oxide in molten slag for metallurgical grade silicon purification:	https://www.doi.org/10.1016/j.jct.2017.11.018
Thermochemistry of diopsium calcium tetraborate octahydrate:	https://www.doi.org/10.1016/j.tca.2006.05.020
Hydrothermal synthesis, characterization and thermochemistry of Ca2[B2O4(OH)2]*0.5H2O:	https://www.doi.org/10.1016/j.tca.2005.05.018
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1305788&Units=SI
Thermodynamics of BaNd2Fe2O7(s) and BaNdFeO4(s) in the system Ba Nd Fe O:	https://www.doi.org/10.1016/j.tca.2005.12.020
Thermodynamic equilibrium in the system H2O+P2O5+CaCO3 at 25 and 70 deg C: Application for synthesis of calcium phosphate products based on calcium carbonate decomposition:	https://www.doi.org/10.1016/j.fluid.2017.10.005
Experimental determination of the liquidus of the binary system (Cu2O + Ca2CuO3) and the enthalpy of formation of Ca2CuO3 and Ca2CuO3:	https://www.doi.org/10.1016/j.jct.2014.05.012
Standard enthalpy of formation of Ca2[B4O7(OH)2]:	https://www.doi.org/10.1016/j.tca.2004.12.017
Determination of Standard Enthalpy of Vaporization and Thermal Decomposition Reactions from Derivative Thermogravimetric (DTG) Curves:	https://www.doi.org/10.1016/j.tca.2010.09.010
Standard molar enthalpy of formation of Ca2[B4O7(OH)2]:	https://www.doi.org/10.1016/j.tca.2005.03.010

Legend

affp:	Proton affinity
basg:	Gas basicity
hfs:	Solid phase enthalpy of formation at standard conditions
ie:	Ionization energy
ss:	Solid phase molar entropy at standard conditions