

Table 1. Thermodynamic properties of cerium oxides and sulfides [15-18]

Compound	ΔH_f° ^a (kJ mol ⁻¹)	ΔS_f° ^a (J mol ⁻¹ K ⁻¹)	A ^b	B	C
CeS	-456.3	78.2	52.53	13.55	-5.90
Ce ₃ S ₄	-1651.9	255.1	167.74	39.64	-
Ce ₂ S ₃	-1187.7	180.2	124.87	12.71	-
Ce ₂ O ₃	-1820.8	150.6	107.77	41.40	-9.20
CeO _{1.72}	-995.3	69.0	58.34	19.86	-7.53
CeO _{1.83}	-1033.0	67.7	60.72	18.90	-6.36
CeO ₂	-1089.4	62.3	64.78	17.69	-7.61
Ce ₂ O ₂ S ^c	-1667.8	150.6	113.46	31.83	-3.05

^a Reference state: naturally occurring elements at 298 K and 1 atm.

^b $C_p(T) = A + B \times 10^{-3}T + C \times 10^5 T^{-2}$ (J mol⁻¹ K⁻¹)

^c estimated