

Thermodynamics of Rare-Earth Compounds.

s.n - Thermodynamic study of the rare earth vapour complexes: ScAl_2Cl_9 and YAl_2Cl_9

RE	$\Delta H_{\text{f},\text{d}}^{\circ}(\text{700}^{\circ}\text{C})$ kJ mol $^{-1}$	$\Delta H^{\circ,\text{ox}}$ kJ mol $^{-1}$	$\Delta H^{\circ,\text{rel}}$ kJ mol $^{-1}$
RHABDOPHANES			
$\text{LaPO}_4 \cdot 0.804 \text{H}_2\text{O}$	203.53 ± 1.35 (9)	-342.02 ± 4.29	-2220.9 ± 4.5
$\text{CePO}_4 \cdot 0.732 \text{H}_2\text{O}$	179.56 ± 0.83 (8)	-328.23 ± 4.71	-2189.7 ± 9.4
$\text{PrPO}_4 \cdot 0.709 \text{H}_2\text{O}$	199.67 ± 0.98 (8)	-321.54 ± 6.05	-2191.7 ± 6.4
$\text{NdPO}_4 \cdot 0.746 \text{H}_2\text{O}$	210.67 ± 2.32 (6) ^a		
$\text{SmPO}_4 \cdot 0.638 \text{H}_2\text{O}$	197.10 ± 1.22 (8)	-309.60 ± 4.57	-2178.7 ± 5.1
$\text{EuPO}_4 \cdot 0.555 \text{H}_2\text{O}$	195.88 ± 0.48 (8)	-311.13 ± 4.22	-2156.8 ± 5.1
$\text{GdPO}_4 \cdot 0.533 \text{H}_2\text{O}$	191.51 ± 0.91 (10)	-303.15 ± 4.07	-2042.4 ± 4.9
$\text{HoPO}_4 \cdot 0.533 \text{H}_2\text{O}$	186.76 ± 0.92 (8)	-304.45 ± 3.96	-2119.1 ± 7.2
MONAZITES			
LaPO_4	151.26 ± 0.82 (11)	-346.11 ± 3.37	-1994.4 ± 4.3
CePO_4	112.28 ± 0.84 (10)	-315.25 ± 4.64	-1938.8 ± 9.4
PrPO_4	147.57 ± 0.06 (8)	-326.11 ± 8.13 ^b	-1935.5 ± 6.3 ^b
NdPO_4	163.31 ± 1.89 (7) ^c		
SmPO_4	144.80 ± 1.33 (9)	-308.78 ± 3.77	-1964.7 ± 5.1
EuPO_4	142.66 ± 1.15 (11)	-301.77 ± 4.36	-1957.7 ± 5.3
GdPO_4	139.98 ± 0.96 (8)	-286.90 ± 2.56	-1970.6 ± 4.9
HoPO_4	139.33 ± 0.96 (8)	-293.80 ± 2.86	-1956.1 ± 7.2

All errors in the table are propagated as two standard deviations of the mean; numbers in brackets are numbers of individual measurements.
^adrop solution enthalpy in lead borate at 800°C. Enthalpies of formation of Pr-containing rhabdophane and monazite from oxides are calculated using thermodynamic cycle from high temperature drop solution experiments with lead borate at 800°C.

Description: -

-Thermodynamics of Rare-Earth Compounds.

-Report of investigations (United States. Bureau of Mines) -- 5468 Thermodynamics of Rare-Earth Compounds.

Notes: 1

This edition was published in 1959



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Tags: #Heat #capacity #and #thermodynamic #functions #of #some #rare

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In addition, 15 mol L—1 H 3PO 4 85% Normapur was used as the source of the phosphate anions. Willit JL, Miller WE, Battles JE 1992 Electrorefining of uranium and plutonium—a literature review.

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