

熱力学定数

単位: J

<<< CaO lime [sl] >>>

分子量 56.0774

相数: 2

===== 298.15 K のデータ =====

相: <c>

 $\Delta f H^\circ (298.15K) = -635.0900 \text{ kJ/mol}$ $\Delta f G^\circ (298.15K) = -604.0500 \text{ kJ/mol}$ $S^\circ (298.15K) = 39.7500 \text{ J/K} \cdot \text{mol}$

出典: 1,1

===== 熱容量・相転移データ =====

***** 相1: <c>

温度範囲: 298.15 - 3200K [mp]

 $a = 50.42 \quad b = 4.14 \quad c = -8.49 \quad d = 0 \quad e = 0$ $\Delta tr H^\circ (3200K) = 79.5000 \text{ kJ/mol}$

出典: 2<1973.6>

***** 相2: <l>

温度範囲: 3200 - 4000K

 $a = 62.76 \quad b = 0 \quad c = 0 \quad d = 0 \quad e = 0$

出典: 2<1973.6>

<<< CaCO3 calcite [s] >>>

分子量 100.0869

相数: 1

===== 298.15 K のデータ =====

相: <c1>

 $\Delta f H^\circ (298.15K) = -1206.9200 \text{ kJ/mol}$ $\Delta f G^\circ (298.15K) = -1128.8400 \text{ kJ/mol}$ $S^\circ (298.15K) = 92.9000 \text{ J/K} \cdot \text{mol}$

出典: 1,1

===== 熱容量・相転移データ =====

***** 相1: <c1>

温度範囲: 298.15 - 1150K [dp]

 $a = 104.52 \quad b = 21.92 \quad c = -25.94 \quad d = 0 \quad e = 0$

出典: 3

<<< CO2 [g] >>>

分子量 44.0095
相数: 1

===== 298.15 K のデータ =====

相: <g>

$\Delta_f H^\circ (298.15\text{K}) = -393.5090 \text{ kJ/mol}$

$\Delta_f G^\circ (298.15\text{K}) = -394.3590 \text{ kJ/mol}$

$S^\circ (298.15\text{K}) = 213.6300 \text{ J/K} \cdot \text{mol}$

出典: 1, 1

===== 熱容量・相転移データ =====

***** 相1: <g>

温度範囲: 298.15 - 2500K

$a = 39.41$ $b = 19.41$ $c = -7.07$ $d = -4.31$ $e = 0$

出典: 2<1965.9>

注: $C_p^\circ = a + (b \cdot T) \cdot 1\text{E-}3 + (c/T^{**2}) \cdot 1\text{E+}5 + (d \cdot T^{**2}) \cdot 1\text{E-}6 + (e/T^{**3}) \cdot 1\text{E+}8$

データの出典

詳細はマニュアルを参照

1. Wagman, D. D. et al; The NBS tables of chemical thermodynamic properties, selected values for inorganic and C1 and C2 organic substances in SI units; J. Phys. Chem. Ref. Data Vol.2 Supplement No. 2, (1982).
2. JANAF thermochemical tables
 - (a) Stull, D. R., Prophet, H.; 2nd ed. (1971) NSRDS-NBS-37
 - (b) Chase, M. W. et al.; J. Phys. Chem. Ref. Data 3, 311 (1974)
 - (c) Chase, M. W. et al.; J. Phys. Chem. Ref. Data 4, 1 (1975)
 - (d) Chase, M. W. et al.; J. Phys. Chem. Ref. Data 7, 793 (1978)
 - (c) Chase, M. W. et al.; J. Phys. Chem. Ref. Data 22, 695 (1982)see also Ref. 36.
3. Kubaschewski, O. and Alcock, C. B.; Metallurgical Thermochemistry 5th ed.; Pergamon, Oxford.