

# Capacité calorifique standard $C_p^\circ$ (en $J.K^{-1}.mol^{-1}$ ), à 298.15 K

Substance	$\overline{C}_P^0$
H(g)	20.78
H <sub>2</sub> (g)	28.82
D <sub>2</sub> (g)	29.2
HD(g)	29.2

Groupe 0	
He(g)	20.79
Ne(g)	20.79
Ar(g)	20.79
Kr(g)	20.79
Xe(g)	20.79
Rn(g)	20.79

Groupe I	
Li(s)	24.77
Li(g)	20.79
Na(s)	28.24
Na(g)	20.79
NaO <sub>2</sub> (s)	72.13
Na <sub>2</sub> O(s)	69.12
Na <sub>2</sub> O <sub>2</sub> (s)	89.24
NaOH(s)	59.54
NaCl(s)	50.5
NaCl(g)	35.77
Na <sub>2</sub> SO <sub>4</sub> (s)	127.61
Na <sub>2</sub> SO <sub>4</sub> .10H <sub>2</sub> O(s)	587.4
Na <sub>2</sub> CO <sub>3</sub> (s)	112.3
K(s)	29.58
K(g)	20.79

Substance	$\overline{C}_P^0$
KOH(s)	64.9
KCl(s)	51.3
KNO <sub>3</sub> (s)	107.4
KMnO <sub>4</sub> (s)	117.57

Groupe II	
Mg(s)	24.89
MgO(s)	37.15
Mg(OH) <sub>2</sub> (s)	77.03
Ca(s)	25.31
CaF <sub>2</sub> (s)	67.02
CaO(s)	42.8
Ca(OH) <sub>2</sub> (s)	87.49
CaCO <sub>3</sub> (calcite)	81.88
Ca <sub>3</sub> (PO <sub>4</sub> ) <sub>2</sub> (s)	227.82

Groupe III	
B(s)	11.09
B <sub>2</sub> O <sub>3</sub> (s)	62.93
B <sub>2</sub> H <sub>6</sub> (g)	56.9
BF <sub>3</sub> (g)	50.46
Al(s)	24.35
Al <sub>2</sub> O <sub>3</sub> (corundum)	79.04

Groupe IV	
C(graphite)	8.53
C(diamant)	6.11
C(g)	20.84
CO(g)	29.14

Substance	$\overline{C}_P^0$
CH <sub>4</sub> (g)	35.31
HCHO(g)	35.4
HCO <sub>2</sub> H(l)	99.04
CH <sub>3</sub> OH(l)	81.6
CH <sub>3</sub> OH(g)	43.89
CCl <sub>4</sub> (l)	131.75
CCl <sub>4</sub> (g)	83.3
CHCl <sub>3</sub> (l)	115.5
CHCl <sub>3</sub> (g)	65.69
CS <sub>2</sub> (l)	75.7
CS <sub>2</sub> (g)	45.4
HCN(g)	35.86
C <sub>2</sub> H <sub>2</sub> (g)	43.93
C <sub>2</sub> H <sub>4</sub> (g)	43.56
C <sub>2</sub> H <sub>6</sub> (g)	52.63
CH <sub>3</sub> COOH(l)	124.3
CH <sub>3</sub> COOH(g)	66.5
C <sub>2</sub> H <sub>5</sub> OH(l)	111.46
C <sub>2</sub> H <sub>5</sub> OH(g)	65.44
(CH <sub>3</sub> ) <sub>2</sub> O(g)	64.39
C <sub>3</sub> H <sub>6</sub> (propène)(g)	63.89
C <sub>3</sub> H <sub>6</sub> (cyclopropane)(g)	55.94
C <sub>3</sub> H <sub>8</sub> (propane)(g)	73.51
C <sub>4</sub> H <sub>8</sub> (1-butène)(g)	85.65
C <sub>4</sub> H <sub>8</sub> (cis-2-butène)(g)	78.91
C <sub>4</sub> H <sub>8</sub> (trans-2-butène)(g)	87.82
C <sub>4</sub> H <sub>10</sub> (butane)(g)	97.45
C <sub>4</sub> H <sub>10</sub> (isobutane)(g)	96.82
Substance	$\overline{C}_P^0$

<b>Groupe IV ( suite)</b>	
C <sub>6</sub> H <sub>6</sub> (benzène)(g)	81.67
C <sub>6</sub> H <sub>12</sub> (cyclohexane)(g)	106.27
C <sub>6</sub> H <sub>14</sub> (hexane)(g)	143.09
C <sub>7</sub> H <sub>8</sub> (toluène)(g)	103.64
C <sub>8</sub> H <sub>18</sub> (octane)(g)	188.87
Si(s)	20
SiO <sub>2</sub> (quartz)	44.43
SiC(c, cubique)	26.86

N(g)	20.79
N <sub>2</sub> (g)	29.12
NO(g)	29.84
NO <sub>2</sub> (g)	37.2
N <sub>2</sub> O(g)	38.45
N <sub>2</sub> O <sub>3</sub> (g)	65.61
N <sub>2</sub> O <sub>4</sub> (g)	77.28
N <sub>2</sub> O <sub>5</sub> (g)	84.5
NH <sub>3</sub> (g)	35.06
N <sub>2</sub> H <sub>4</sub> (l)	98.87
N <sub>2</sub> H <sub>4</sub> (g)	49.58
HNO <sub>3</sub> (g)	53.35
NH <sub>4</sub> NO <sub>3</sub> (s)	139.3
P(s, blanc)	23.84
P(s, rouge)	21.21
P(g)	20.79
P <sub>4</sub> O <sub>10</sub> (s)	211.71
PH <sub>3</sub> (g)	37.11
<b>Substance</b>	$\overline{C_P^0}$
<b>Groupe VI</b>	
O(g)	21.91
O <sub>2</sub> (g)	29.36

OH(g)	29.89
H <sub>2</sub> O(l)	75.29
H <sub>2</sub> O(g)	33.58
H <sub>2</sub> O <sub>2</sub> (l)	89.1
H <sub>2</sub> O <sub>2</sub> (g)	33.81
S(s, rhombique)	22.64
S(s, monoclinique)	23.69
S(g)	23.67
S <sub>2</sub> (g)	32.47
SO(g)	30.16
SO <sub>2</sub> (g)	39.87
SO <sub>3</sub> (g)	50.67
H <sub>2</sub> S(g)	34.23
SF <sub>6</sub> (g)	97.28

F(g)	22.74
F <sub>2</sub> (g)	31.3
HF(g)	29.13
Cl(g)	21.84
Cl <sub>2</sub> (g)	33.91
HCl(g)	29.12
Br(g)	20.79
Br <sub>2</sub> (l)	75.69
Br <sub>2</sub> (g)	36.02
HBr(g)	29.14
BrCl(g)	34.98
I(g)	20.79
I <sub>2</sub> (s)	54.44
<b>Substance</b>	$\overline{C_P^0}$
HI(g)	29.16

<b>Métaux</b>	
Mn(s)	26.32
MnO <sub>2</sub> (s)	54.14

Fe(s)	25.1
Fe <sub>2</sub> O <sub>3</sub> (s, hématite)	103.85
Fe <sub>3</sub> O <sub>4</sub> (s, magnétite)	143.43
Cu(s)	24.44
Cu(g)	20.79
CuO(s)	42.3
Cu <sub>2</sub> O(s)	63.64
CuSO <sub>4</sub> (s)	100
CuSO <sub>4.5</sub> H <sub>2</sub> O(s)	280
Zn(s)	25.4
ZnS(s, wurtzite)	
ZnS(s, sphalérite)	46
Ag(s)	25.35
Ag(g)	20.79
Ag <sub>2</sub> O(s)	65.86
AgCl(s)	50.79
AgBr(s)	52.4
AgNO <sub>3</sub> (s)	93.05
Hg(l)	27.98
HgO(s, rouge)	44.06
Pb(s)	26.44
PbCl <sub>2</sub> (s)	77