Standard Heats of Formation, $\Delta H_{formation}$

Reaction[1]	Substance	ΔH_f (kJ/mol)
$Al(s) \rightarrow Al(s)$[2]	$Al(s)$	0
$2\ Al(s) + 3/2\ O_2(g) \rightarrow Al_2O_3(s)$[3]	$Al_2O_3(s)$	-1670
$C(s, graphite) \rightarrow C(s, graphite)$	$C(s, graphite)$	0
$C(s, graphite) \rightarrow C(s, diamond)$	$C(s, diamond)$	2
$C(s) + ½\ O_2(g) \rightarrow CO(g)$	$CO(g)$	-111
$C(s) + O_2(g) \rightarrow CO_2(g)$	$CO_2(g)$	-394
$C(s) + 2\ H_2(g) \rightarrow CH_4(g)$	$CH_4(g)$	-75
$C(s) + 2\ H_2(g) + ½\ O_2(g) \rightarrow CH_3OH(l)$	$CH_3OH(l)$	-239
$2\ C(s) + H_2(g) \rightarrow C_2H_2(g)$	$C_2H_2(g)$	227
$2\ C(s) + 2\ H_2(g) \rightarrow C_2H_4(g)$	$C_2H_4(g)$	52
$2\ C(s) + 3\ H_2(g) \rightarrow C_2H_6(g)$	$C_2H_6(g)$	-85
$2\ C(s) + 3\ H_2(g) + ½\ O_2(g) \rightarrow C_2H_5OH(l)$	$C_2H_5OH(l)$	-278
$Ca(s) + ½\ O_2(g) \rightarrow CaO(s)$	$CaO(s)$	-636
$Ca(s) + O_2(g) + H_2(g) \rightarrow Ca(OH)_2(s)$	$Ca(OH)_2(s)$	-987
$Ca(s) + S(s) + 2\ O_2(g) \rightarrow CaSO_4(s)$	$CaSO_4(s)$	-1433
$Cl_2(g) \rightarrow Cl_2(g)$	$Cl_2(g)$	0
$2\ Fe(s) + 3/2\ O_2(g) \rightarrow Fe_2O_3(s)$	$Fe_2O_3(s)$	-822
$H_2(g) \rightarrow H_2(g)$	$H_2(g)$	0
$H_2(g) + Cl_2(g) \rightarrow HCl(g)$	$HCl(g)$	-92
$H_2(g) + ½\ O_2(g) \rightarrow H_2O(g)$	$H_2O(g)$	-242
$H_2(g) + ½\ O_2(g) \rightarrow H_2O(l)$	$H_2O(l)$[4]	-286
$H_2(g) + S(s) \rightarrow H_2S(g)$	$H_2S(g)$	-20.
$H_2(g) + S(s) + 2\ O_2(g) \rightarrow H_2SO_4(l)$	$H_2SO_4(l)$	-811
$Hg(l) \rightarrow Hg(g)$	$Hg(g)$	59
$Mg(s) + ½\ O_2(g) \rightarrow MgO(s)$	$MgO(s)$	-602
$½\ N_2(g) + 3/2\ H_2(g) \rightarrow NH_3(g)$	$NH_3(g)$	-46
$½\ N_2(g) + 3/2\ H_2(g) + ½\ Cl_2(g) \rightarrow NH_4Cl(g)$	$NH_4Cl(s)$	-315
$N_2(g)\ (g) + ½\ O_2(g) \rightarrow N_2O(g)$	$N_2O(g)$	82
$2N_2(g)\ (g) + 2\ O_2(g) \rightarrow N_2O_4(g)$	$N_2O_4(g)$	10
$Na(s) + ½\ Cl(g) \rightarrow NaCl(s)$	$NaCl(s)$	-411
$Na(s) + ½\ O_2(g) + ½\ H_2(g) \rightarrow NaOH(s)$	$NaOH(s)$	-427
$O_2(g) \rightarrow O_2(g)$	$O_2(g)$	0
$S(s) \rightarrow S(s)$	$S(s)$	0
$S(s) + O_2(g) \rightarrow SO_2(g)$	$SO_2(g)$	-297
$S(s) + 3/2\ O_2(g) \rightarrow SO_3(g)$	$SO_3(g)$	-395

[1] This column of equations where the substances is never included in Thermodynamic tables because it assumed that the person reading the table can knows that the substances listed are being made from their elements.

[2] The common room temp form of the ΔH_f the elements are not normally listed in tables because by definition the ΔH_f would be zero. I've included them in this table however as an instructional aid.

[3] Fractional coefficients are used in the formation reactions because ΔH_f values are for one mole of the single product.

[4] Note that you release 44 kJ of extra potential energy when hydrogen and oxygen form water, $H_2O(l)$, compared to just making steam, $H_2O(g)$. This is often brought up in AP Chemistry questions.