Heats of Formation of Common Atmospheric Chemicals

*** multiply by 4.184 for kJ/mol ***

The following data are adapted mainly from CODATA (1984), although a few entries have been updated.

MOLECULE	$DH_f(298)$ (kcal/mol)	MOLECULE	$DH_f(298)$ (kcal/mol)	MOLECULE	$DH_f(298)$ (kcal/mol)	MOLECULE	$DH_f(298)$ (kcal/mol)
H	52.1	CH_3O	3.5	HSO	-1±2	CCl_3	19.0
H_2	0.00	CH_3O_2	3.8±2	HSO_3	-92±2	CCl_4	-22.9
O	59.57	CH_2OH	-6.2	CS	85	$CHCl_3$	-24.7
$O(^1D)$	104.9	CH_3OH	-48.0	CS_2	28.0	CH_2Cl	28
O_2	0.00	CH_3OOH	-31.3	CH_3S	33±2	CH_2Cl_2	-22.9
$O_2(^1$-DELTA)	22.5	CH_3ONO	-15.6	CH_3SCH_3	-8.9	CH_3Cl	-19.6
$O_2(^1$-SIGMA)	37.5	CH_3ONO_2	-28.6	CH_3SSCH_3	-5.8	ClCO	-15.0
O_3	34.1	$CH_3O_2NO_2$	-10.6±2	OCS	-34	$COCl_2$	-52.6
HO	9.3	C_2H	135	F	18.98	CFCl	7.4±3.2
HO_2	3±1	C_2H_2	54.35	F_2	0.00	CH_2F	-7.9±2
H_2O	-57.81	C_2H_3	68.1	HF	-65.34	$CHCl_2$	23.5
H_2O_2	-32.6	C_2H_4	12.45	HOF	-23.4±1	$CFCl_2$	-22
N	113.00	C_2H_5	28.4	FO	26±2	$CFCl_3$	-66.4
N_2	0.00	C_2H_6	-20.0	FO_2	12±3	CF_2Cl	-64.3
NH	82.0	CH_2CN	58.6	FONO	-15.2	CF_2Cl_2	-117.5
NH_2	45.3	CH_3CN	19.1	FNO_2	-25.4	CF_3Cl	-169.7
NH_3	-10.98	CH_2CO	-14.23	$FONO_2$	2.4	$CHFCl_2$	-67.7
NO	21.57	CH_3CO	-5.8	CF_2	-44±2	CHF_2Cl	-115.0
NO_2	7.9	CH_3CHO	-39.7	CF_3	-112±1	COFCl	-102.0
NO_3	17±1	C_2H_5O	-4.1	CF_4	-223.0	C_2Cl_4	-2.971
N_2O	19.61	CH_2CH_2OH	-13.2	FCO	-41±14	C_2HCl_3	-4.56
N_2O_3	19.8	C_2H_5OH	-56.2	COF_2	-151.7	CH_2CCl_3	18.1
N_2O_4	2.2	CH_3CO_2	-49.6	Cl	28.9	CH_3CCl_3	-34.51
N_2O_5	2.7	$C_2H_5O_2$	-1.8	Cl_2	0.00	Br	26.74
HNO	23.8	CH_3OOCH_3	-30.0	HCl	-22.07	Br_2	7.388
HNO_2	-19.0	C_3H_5	39.4	ClO	24.4	HBr	-8.674
HNO_3	-32.3	C_3H_6	4.8	ClOO	22.5±1	HOBr	-14.0
HO_2NO_2	-11±2	n-C_3H_7	22.6±2	OClO	23±2	BrO	29.5±0.1
CH	142.0	i-C_3H_7	18.2±2	$ClOO_2$	>13.4	BrNO	19.63
CH_2	92.3	C_3H_8	-24.84	ClO_3	37	$BrONO_2$	10.1±1.5
CH_3	35.1	C_2H_5CHO	-44.8	Cl_2O	19.5	BrCl	3.499
CH_4	-17.88	CH_3COCH_3	-51.9	Cl_2O_2	31±5	CH_2Br_2	-2.7
CN	104.0	CH_3CHCH_2OH	-18.0	HOCl	-18.6±3	CH_2Br	40.2
HCN	32.3	S	66.22	ClNO	12.4	CH_3Br	-8.20
NCO	38	S_2	30.72	$ClNO_2$	3.0	$CHBr_2$	44.4
CO	-26.42	HS	34±1	ClONO	19.8	I	25.52
CO_2	-94.07	H_2S	-4.93	$ClONO_2$	6.3	I_2	14.92
HCO	9.0	SO	1.2	FCl	-12.1	HI	6.334
CH_2O	-25.0	SO_2	-70.96	CCl	120±5	IO	26.6±0.8
HCOOH	-90.5	SO_3	-94.6	CCl_2	56.9±5	INO	26.80
						INO_2	15.9±1